Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219

Dominion Energy

BY CERTIFIED U.S. MAIL

Aug 1, 2023

Mr. James E. Kyle
Air Permit Manager
Piedmont Regional Office
Virginia Department of Environmental Quality
4949-A Cox Road
Glen Allen, VA 23060

**RE: Chesterfield Power Station (Reg. No. 50396)
Chesterfield Energy Reliability Center Project
Supplemental Revision to Prevention of Significant Deterioration Permit Application**

Dear Mr. Kyle:

Virginia Electric and Power Company d/b/a Dominion Energy (Dominion) operates the Chesterfield Power Station (Facility), an electric generating station located in Chesterfield County, Virginia under VA DEQ Title V Operating Permit No. PRO50396. Dominion is proposing, subject to relevant regulatory approval(s), to construct the Chesterfield Energy Reliability Center (CERC) at the Facility consisting of the installation of new simple-cycle combustion turbines (SCCT) and associated equipment. Dominion is providing this submission as a supplemental revision to the Prevention of Significant Deterioration (PSD) permit application dated December 13, 2019.

CERC will involve the construction of four (4) new General Electric SCCTs identified as ES-33, ES-34, ES-35, and ES-36, and will trigger review under the PSD program for CO, $PM_{2.5}$, VOC, and GHG. PSD avoidance for all other New Source Review (NSR) pollutants will be achieved through emissions netting, operation of proposed air pollution control equipment, and permit limits. The PSD and minor NSR application for the CERC project is included with this submission.

The original PSD application and application fee were submitted to DEQ on December 13, 2019; however, no final permit was issued. Therefore, Dominion understands that no additional application fee is due because this submission updates material already timely filed with DEQ.

If you have any questions regarding this submittal, please contact T.R Andrake at (804) 839-2760 or via email at thomas.r.andrake@dominionenergy.com.

Sincerely,

Molly A. Parker

Molly A. Parker
VP, Environmental & Sustainability

cc: Alison Sinclair, VA DEQ

Air Permit Application for the Chesterfield Energy Reliability Center

ECT No. 230413-0700

VIRGINIA ELECTRIC AND POWER COMPANY
Chesterfield County, Virginia

Revision 1
July 2023

ECT
7208 Falls of Neuse Road, Suite 102
Raleigh, NC 27615
www.ectinc.com

Document Review

The dual signatory process is an integral part of Environmental Consulting & Technology, Inc.'s (ECT's) Document Review Policy No. 9.03. ECT documents undergo technical/peer review prior to dispatching these documents to an outside entity.

This document has been authored and reviewed by the following employees:

Josh Ralph	Adam George, P.E.
Author	Peer Review
Joshua Ralph	[signature]
Signature	Signature
July 31, 2023	July 31, 2023
Date	Date

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List of Acronyms and Abbreviations

°F	degree Fahrenheit
$\mu g/m^3$	microgram per cubic meter
AAQS	ambient air quality standards
AERMAP	AERMOD terrain preprocessing program
AERMET	AERMOD meteorological preprocessing program
AERMIC	AMS/EPA Regulatory Model Improvement Committee
AERMOD	AERMIC model
AIG	AERMOD Implementation Guide
ARP	Acid Rain Program
BACT	Best Available Control Technology
BAL	Resource and Demand Balancing
BEEST	Providence Engineering and Environmental Group, LLC, BEEST suite
bhp	brake-horsepower
BPIP	Building Profile Input Program
BPIPPRM	BPIP for PRIME
BSER	best system of emissions reduction
Btu/kWh	British thermal unit per kilowatt-hour
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CAM	compliance assurance monitoring
CCS	carbon capture and sequestration
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPS	Chesterfield Power Station
CSAPR	Cross-State Air Pollution Rule
CT	combustion turbine
DOE	U.S. Department of Energy
Dominion	Dominion Energy Services, Inc.
ECT	Environmental Consulting & Technology, Inc.
EJ	Environmental Justice
EOR	enhanced oil recovery
EPA	U.S. Environmental Protection Agency
FBN	chemically fuel bound nitrogen
FR	Federal Register

List of Acronyms and Abbreviations (Continued, Page 2 of 4)

ft	foot
fps	foot per second
Fuel Oil	No. 2 fuel oil with 15 ppm or less sulfur in accordance with ASTM D396
g/bhp-hr	grams per brake-horsepower-hour
GAQM	Guideline for Air Quality Models
GCP	good combustion practices
GeoTIFF	geospatial tagged image file format
GEP	good engineering practice
GHG	greenhouse gas
gr/100 dscf	grain per 100 dry standard cubic feet
GWP	global warming potential
H_2 fuel blend	Natural gas/hydrogen fuel blend with up to 10% hydrogen
H_2O	water
H_2SO_4	sulfuric acid
H8H	highest, eighth-highest
HAP	hazardous air pollutant
HHV	higher heating value
HP	high-pressure
hr/yr	hour per year
HRSG	heat recovery steam generator
IP	intermediate-pressure
ISO	International Organization for Standardization
km	kilometer
kWe	kilowatt-electric
LAER	lowest achievable emissions rate
lb	pound
lb CO_2/MWh	pound of carbon dioxide per megawatt-hour
lb/hr	pound per hour
lb/lb-mol	pound per pound-mole
lb/MMBtu	pound per million British thermal units
lb/MMcf	pound per million cubic feet
lb/MWh	pound per megawatt-hour
LLE	Low Load Emergency
LP	low-pressure
MACT	maximum achievable control technology
MECL	minimum emissions compliance load
MMBtu/hr	million British thermal units per hour

List of Acronyms and Abbreviations (Continued, Page 3 of 4)

MRLC	Multi-Resolution Land Characteristics Consortium
MW	Megawatt
MWe	Megawatt-electric
N_2	molecular nitrogen
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NED	National Elevation Dataset
NERC	North American Electric Reliability Corporation
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NETL	National Energy Technology Laboratory
NH_3	ammonia
NLCD92	USGS National Land Cover Data 1992
NMHC	nonmethane hydrocarbon
NNSR	nonattainment new source review
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSCR	nonselective catalytic reduction
NSPS	new source performance standards
NSR	new source review
O_2	oxygen gas
PJM	PJM Interconnect
PM	particulate matter
PM_{10}	particulate matter less than or equal to 10 micrometers
$PM_{2.5}$	particulate matter less than or equal to 2.5 micrometers
ppb	part per billion
ppm	part per million
ppmv	part per million by volume
ppmvd	parts per million by volume, dry basis
PRIME	plume rise model enhancements
project	Chesterfield Energy Reliability Center
PSD	prevention of significant deterioration
psia	pound per square inch absolute
PTE	potential to emit
RACT	reasonably available control technology
RBLC	RACT/BACT/LAER Clearinghouse
RH	relative humidity
RMP	risk management program
SAAC	significant ambient air concentration

List of Acronyms and Abbreviations (Continued, Page 4 of 4)

scf/lb-mol	standard cubic foot per pound-mole
scf/MMBtu	standard cubic foot per million British thermal units
SCCT	simple cycle combustion turbine
SCR	selective catalytic reduction
SECARB	Southeast Regional Carbon Sequestration Partnership
SER	significant emissions rate
SF_6	sulfur hexafluoride
SIL	significant impact level
SIP	state implementation plan
SNCR	selective noncatalytic reduction
SO_2	sulfur dioxide
SO_3	sulfur trioxide
tpy	ton per year
TSP	total suspended particulate
USGS	U.S. Geological Survey
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VOC	volatile organic compound

1.0 Introduction

Virginia Electric and Power Company, d/b/a Dominion Energy Virginia (Dominion, formerly d/b/a Dominion Virginia Power), is proposing to install the Chesterfield Energy Reliability Center (CERC) to be located on an approximate 94-acre parcel located within the James River Industrial Center in Chesterfield County, Virginia, adjacent to the existing Chesterfield Power Station (CPS). The CERC project will consist of four dual fuel simple-cycle combustion turbines (SCCT) firing primarily pipeline quality natural gas, as well as having the capability to fire No. 2 fuel oil with a maximum sulfur content of 15 ppm (fuel oil). Additionally, the SCCTs will be capable of operating on an advanced gaseous fuel blend consisting of natural gas with up to 10% hydrogen (H_2 fuel blend). One benefit of combusting H_2 fuel blend is the reduction in air emissions – especially greenhouse gas (GHG) emissions. The purpose and design of the CERC project is to respond quickly with reliable, dispatchable power generation to the grid when needed by the PJM Regional Transmission Operator (RTO)[1]. This includes during high demand periods, seasonal peaks, and extreme temperature events, as well as when intermittent generation resources (such as solar and wind) are unavailable or insufficient to meet customer needs. The proposed CERC dual-fuel SCCTs are focused on supporting the clean energy transition while also optimizing reliability and economics for our system customers.

PJM continues to add significant amounts of both solar and wind renewable generation capacity to its grid. Those resources are intermittent, in the sense that they depend on the availability of energy sources that fluctuate. While renewable generation reduces GHG emissions at the system-wide level, solar and wind capacity is operationally undependable with significant day-ahead and intra-day energy production variability, volatility, and intermittency. For grid stability and reliability, generating resources are required to be available to respond rapidly to changes in generation from both the renewable sources and normal changes in power demand. Failure to match generation to demand leads to frequency deviations in the interconnection, which, if severe enough, can cause customer load interruption or generators to trip offline through automated, protective action. To ensure reliability of the bulk power system, the North American Electric Reliability Corporation (NERC) has established operational requirements that must be adhered to by all responsible parties (including

[1] PJM is an RTO that is part of the Eastern Interconnection grid operating an electric transmission system serving parts of Virginia, Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, West Virginia, and the District of Columbia.

Dominion and PJM), such as NERC Resource and Demand Balancing (BAL) standards. This project is designed specifically to help meet these operational requirements.

The proposed CERC SCCT units will help address PJM needs for peak firing capacity with the ability of coming online quickly. The project is being designed and permitted to follow market demand. The proposed General Electric 7FA.05 gas turbines will have a nominal power output of 250 MW-electric per turbine.

The simple-cycle turbines will be equipped with dry low-NO_x (DLN) burners, which will reduce nitrogen oxides (NO_x) emissions when combusting natural gas or H_2 fuel blend; water injection will be utilized when combusting fuel oil, to reduce NO_x emissions. In addition, a selective catalytic reduction (SCR) system will be installed to further reduce emissions of NO_x, as well as an oxidation catalyst to further reduce emissions of carbon monoxide (CO) and volatile organic compounds (VOC). Good combustion practices (GCP) and the use of clean burning fuels will reduce emissions of all pollutants including NO_x, CO, particulate matter (PM), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2), sulfuric acid mist (H_2SO_4), VOC, and Greenhouse Gas Pollutants (GHGs).

Dominion is also proposing to add black start capability to CERC with the four (4) new SCCTs and six (6) new 3,500 kilowatt-electric (kWe) (nominal) fuel oil-fired emergency generators. The SCCTs are configured to startup using electrical power provided by the grid. In the event of electrical grid failure, the emergency generators will provide the required electrical power to start up a SCCT. During black start events, each of the proposed SCCTs will have the ability to operate in low load emergency (LLE) mode, which is defined as emergency operation below minimum emission compliance load (MECL) to restore the electrical grid. One of the SCCTs could operate in LLE mode during a period of grid restoration and would continue LLE mode operation until system restoration is achieved.

The proposed project will also include the following ancillary equipment:

- One natural gas-fired fuel gas heater nominally rated at 18.8 MMBtu/hr.
- One nominal 190 bhp emergency firewater pump operating on fuel oil.

The proposed CERC project, as indicated above, will be located on adjacent/adjoining property to the CPS, thus co-located and considered single source with CPS. The CERC project will be considered a "major modification" under Title I of the Clean Air Act (CAA). Dominion is applying to the Virginia Department of Environmental Quality (VDEQ) for a prevention of significant deterioration (PSD) and minor stationary source air construction permit, as required by VDEQ. VDEQ has a U.S. Environmental Protection Agency (EPA) state implementation plan (SIP)-approved PSD and minor stationary source air construction permit program.

This application addresses the permitting requirements specified by VDEQ under the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution, Title 9, Agency 5, Chapter 80, found in the Virginia Administrative Code (VAC) at 9 VAC 5-80.

1.1 Applicant Information

To facilitate VDEQ's review of this document, Dominion's permitting contact is identified below. VDEQ should contact this individual if additional information or clarification is required during their review process. The permitting contact information is as follows:

T.R. Andrake
Environmental Consultant
Dominion Energy Services, Inc.
DEES – Corporate Air Programs
120 Tredegar Street
Richmond, VA 23219
804-839-2760
Thomas.R.Andrake@dominionenergy.com

1.2 Project Location

The proposed CERC project will be constructed in Chesterfield County approximately 4 miles northeast of Chester, Virginia, on approximate 94-acre parcel of property in the James River Industrial Center adjacent to the existing CPS which is located at 500 Coxendale Road as shown in Figure 1-1 and Figure 1-2. The proposed CERC project location is currently undeveloped, consisting of open pasture, mixed forest, and planted pine. Appendix D presents a detailed site plan of the proposed modification.

1.3 Facility Classification

There are two major classification criteria for the proposed project, one related to its industrial character and the other to its potential to emit (PTE) air pollutants. The designation of the facility under each of these is reviewed in the following subsections.

1.3.1 Industrial Classification Code

The United States government has devised the Standard Industrial Classification (SIC) code system, a method for grouping business activities according to their participation in the national commerce system. The system is based on classifying activities into major groups defined by the general character of a business operation. For example, electric, gas, and sanitary services, which include power production, are defined as a major group. Each major group is given a unique two-digit number for identification. Power production activities have been assigned a major group code "49."

To provide more detailed identification of a particular operation, an additional two-digit code is appended to the major group code. In the case of power generation facilities, the two-digit code is "11" to define the type of production involved.

The proposed project is classified under the SIC code system as a major group of 49, electric, gas, and sanitary services, and then electric services of 11, or SIC 4911.

The North American Industry Classification System was introduced as a replacement for SIC codes in 1997. This system's organization is similar to SIC codes. Under this system, this facility would be classified as 221112, Fossil Fuel Electric Power Generation.

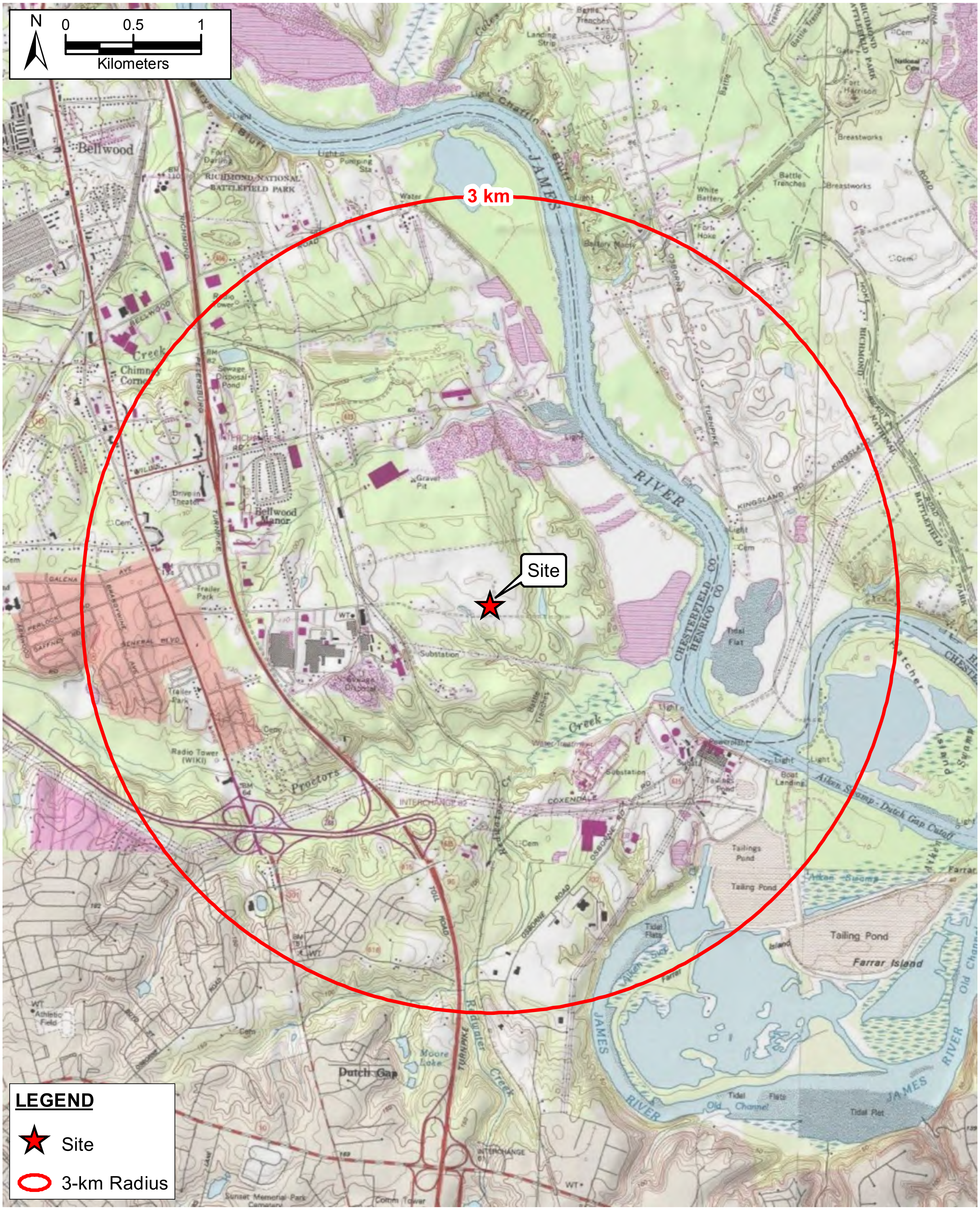

FIGURE 1-1.
PROJECT LOCATION AND TOPOGRAPHY

Sources: Esri Basemap USGS Topographic Quadrangles, ECT 2019.

ECT Environmental Consulting & Technology, Inc.

FIGURE 1-2.
PROJECT LOCATION AERIAL

Environmental Consulting & Technology, Inc.

Sources: Esri Basemap Imagery, ECT 2019.

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1.3.2 Air Quality Source Designation

With respect to air quality, new and existing industrial sources are classified as either major or minor sources based on their PTE of regulated air contaminants. This classification is also affected in part by whether the area in which the source is located is in attainment with national ambient air quality standards (NAAQS). EPA classifies an area as attainment or nonattainment on a pollutant-by-pollutant basis depending on what the concentration of each pollutant in the ambient air is relative to the standard for that pollutant. The area in which the proposed project is located is designated as attainment for all NAAQS in which EPA has issued a designation under Section 107 of the CAA.

CPS is considered a major stationary source. A major modification is defined as any physical change or change in the method of operation of a major stationary source that would result in a significant emission increase of a regulated NSR pollutant, and a significant net emission increase of that pollutant from the major stationary source. Based on the requested operational profile while combusting natural gas, H_2 fuel blend and fuel oil, the proposed CERC project will be classified as a major modification for some pollutants but not all and thus subject to review under PSD and stationary source (i.e., minor New Source Review (NSR)) permitting regulations.

1.4 Document Organization

The balance of this document is divided into sections that address each component of the PSD and stationary source air quality review process for the proposed project. The following list provides an overview of the contents of each of the remaining sections:

- Section 2.0: Process Description—General description of the primary simple-cycle combustion turbines as well as a description of auxiliary and supporting equipment.
- Section 3.0: Emissions Summary—Detailed summary of potential air emissions occurring during normal steady state operations and startup/shutdown that will occur at the project site subsequent to completion of project construction and development.
- Section 4.0: Applicable Requirements and Standards—Discussion of applicable state and federal air regulations. The focus of this section will be on establishing which regulations are directly applicable to the proposed SCCTs and the ancillary equipment and how compliance will be demonstrated.

- Section 5.0: Control Technology Review—Detailed evaluation of control technologies. Project emissions are projected to be significant for $PM_{2.5}$, CO, VOCs, and greenhouse gases (GHGs). As such, a "five-step, top down" best available control technology (BACT) analysis for these pollutants has been provided for each emissions unit. This section also includes minor source BACT determinations for NO_x, PM, PM_{10}, SO_2 and H_2SO_4, in accordance with the requirements of Virginia's minor NSR program.
- Section 6.0: PSD Class II Modeling Procedures—Summary of the dispersion modeling methodology and the manner in which the predicted impacts will be compared to the applicable standards. Specifically, this section discusses the modeling input data and various modeling scenarios evaluated.
- Section 7.0: Results of the Class II Area Significant Impact Level Analysis—Results of the Class II area significant impact analysis performed for the project.
- Section 8.0: Class II Cumulative Impact Assessment Results—Results of the Class II area air dispersion analysis performed for the project. This section compares predicted impacts to applicable standards to demonstrate the project will not cause or contribute to a NAAQS or PSD increment predicted exceedance.
- Section 9.0: Other Air Quality Issues—Supplemental information regarding potential impacts of the project. Specifically, this section discusses the potential for impacts to growth, soils, and vegetation and to the visibility of PSD Class I and Class II areas. This section also compares predicted impacts to Virginia's air toxics significant ambient air concentrations (SAACs).
- Section 10.0: Site Suitability and Environmental Justice—Summary of evaluation of the site's suitability, including environmental justice considerations, for the proposed project.
- Section 11.0: References—List of the documents relied upon during preparation of this document.
- Appendices—Permit application forms, emissions calculations, supporting BACT information, figures and diagrams, dispersion modeling files on computer disc, and supplemental materials supporting the information presented herein:

    - Appendix A—Application Forms
    - Appendix B—Emissions Calculations

- Appendix C—Control Technology Review from EPA's Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emissions Rate (LAER) Clearinghouse (RBLC) Database
- Appendix D—Plot Plan
- Appendix E—Air Dispersion Modeling Files
- Appendix F—Background Emissions Inventory
- Appendix G—Air Quality Impacts, Contour Map
- Appendix H—Site Suitability and Environmental Justice Evaluation

2.0 Process Description

2.1 Overall Description

Dominion plans to modify the existing Chesterfield Power Station in Chesterfield County, Virginia, with the construction of four General Electric 7FA.05 SCCTs as part of the CERC project. The key elements of the proposed project include:

- Four (4) nominal 250 megawatt-electric (MWe) General Electric 7FA.05 SCCTs with SCR and oxidation catalyst, capable of firing the following fuels:
    1. 100% natural gas
    2. fuel oil.
    3. H_2 fuel blend (up to 10%)
- One (1) natural gas-fired fuel gas heater nominally rated at 18.8 MMBtu/hr.
- Six (6) nominal 3,500-kWe emergency generators operating on fuel oil.
- One (1) nominally rated 190-bhp emergency firewater pump operating on fuel oil.

The proposed CERC project will have a nominal generating capacity of 1,000 MWe at International Organization for Standardization (ISO) conditions (59ºF, 14.7 psia, and 60% RH). The project will employ BACT to minimize emissions of $PM_{2.5}$, CO, VOC, and GHG as required by Virginia's major source PSD program. The project will also employ BACT to minimize emissions of NO_x, PM, PM_{10}, SO_2, and H_2SO_4, as required by Virginia's minor NSR program.

2.2 Major Facility Components

The primary sources of pollutants associated with the proposed project are the General Electric 7FA.05 SCCTs. Other sources of pollutants associated with the proposed project include one fuel gas heater, six emergency generators, one emergency firewater pump, natural gas piping components, fuel oil storage tanks, and sixteen circuit breakers containing sulfur hexafluoride (SF_6). The following subsections provide brief descriptions of the major components of the project.

2.2.1 Simple-Cycle Turbines

The proposed project includes the construction and operation of four General Electric 7FA.05 SCCTs. The SCCTs will be dual-fueled, primarily firing pipeline-quality natural gas, with fuel oil as secondary source when natural gas is unavailable or during a black start condition. The SCCTs will also have the capability of firing a H_2 fuel blend. To qualify as a capacity performance resource in the PJM Interconnect (PJM), the unit must be capable of sustained, predictable operation that allows the resource to be available throughout the entire delivery year to provide needed energy and reserves whenever PJM determines. The SCCTs will meet this condition by having the capability of combusting fuel oil with adequate onsite fuel oil storage. Dominion is considering various means of delivering hydrogen to the site to support the combustion of H_2 fuel blend in the SCCTs. If the hydrogen delivery method chosen results in additional sources of air emissions, Dominion will revise this application to include these emission sources.

Combustion turbines (CTs) are heat engines that convert latent fuel energy into work using compressed hot gas as the working medium. CTs deliver mechanical output by means of a rotating shaft used to drive an electrical generator, thereby converting a portion of the engine's mechanical output to electrical energy. Ambient air is first filtered and then compressed in the CT compressor section. The CT compressor increases the pressure of the intake combustion air stream which also raises its temperature. During warm days (typically 60 degrees Fahrenheit [°F] or greater), the CT inlet ambient air can be cooled by evaporative cooling prior to entering the CT compressor stage, thus providing denser air for combustion and increasing the power output. The compressed combustion air is then combined with the fuel in the CT's high pressure (HP) combustor and burned to produce hot exhaust gases. These HP, hot exhaust gases enter the CT turbine section and expand to turn the turbine rotor to produce rotary shaft power, which is used to drive an electric generator as well as the CT compressor. The CT exhaust gases will then pass through the SCR and oxidation catalyst before being discharged to the atmosphere through a stack.

The CTs will also be capable of using wet compression for additional power output. During fuel oil operation, water is injected directly into the CT compressor section to increase mass of the intake air and thus power output. Demineralized water will be used for the evaporative cooling and wet injection processes. During some operational conditions, the temperature of the fuel gas will be increased by the use of a natural gas-fired fuel gas heater to prevent condensation in the CT fuel gas system.

The General Electric 7FA.05 model combustion turbine has a nominal electric power output of 250 MWe at ISO conditions. NO_x emissions are controlled via lean premix, dry low-NO_x combustors, when operating on natural gas or H_2 fuel blend and are controlled via water injection when operating on fuel oil. SCR will be used to further control NO_x emissions from the SCCTs, and oxidation catalyst will control CO and VOC emissions.

Minimum emissions compliance load (MECL), is defined as the minimum load at which the combustion turbine can operate and remain in compliance with permitted emission limits. Since the MECL, expressed as a percentage of the base load, varies based on ambient temperature, there is no single numerical percent load that can define MECL across ambient operating conditions.

Potential emissions from the SCCTs will be based on the maximum emissions, on a pollutant-by-pollutant basis, based on three separate annual operating scenarios. Annual operating scenario 1 will be based on 3,240 hours per year per turbine (hr/yr/turbine) of normal operation while combusting 100% natural gas and startup/shutdown (SUSD) emissions based on natural gas only. Annual operating scenario 2 will be based on operating 3,240 hr/yr/turbine of normal operation while combusting H_2 fuel blend and SUSD emissions based on natural gas only. Alternate operating scenario 3 will be based on operating 2,490 hr/yr/turbine of normal operation while combusting 100% natural gas and 750 hr/yr/turbine while combusting fuel oil and SUSD emissions based on natural gas and fuel oil.

The number of SUSD for the four turbines in aggregate will be limited to 2,000 startups per year and 2,000 shutdowns per year. This is equivalent to but not limited to 500 startups and 500 shutdowns for each CT per year with up to 120 startups and 120 shutdowns per year while firing fuel oil. This will be based on a 12-month rolling average. Since the SCCTs are designed to minimize time at SUSD events (30 minutes for startups and 15 minutes for shutdown), this will result in approximately 1,500 hr/yr of additional operation due to SUSD events for the four turbines. The SCCTs will only be capable of starting up on either 100% natural gas or fuel oil. The SCCTs will not be capable of starting up while combusting H_2 fuel blend. Potential SUSD emissions, therefore, only reflect combusting 100% natural gas or fuel oil. In addition, potential air emissions during SUSD events have conservatively not included emission reduction associated with either the SCR or oxidation catalyst.

The SCCTs will also be capable of operating in LLE mode, which is defined as extended operations at low loads below MECL, for the purpose of electrical grid restoration. The six emergency generators will be used not only to supply the electrical power to start one SCCT in LLE mode but will also have the capability of providing electrical power to the site. This SCCT will continue to operate at continuously varying loads in LLE mode to stabilize the grid voltage. Operation of the SCCT in LLE mode to restore and stabilize the grid is considered an emergency mode and therefore, hours of operation will not be limited and are not included in the 3,240 hours/year proposed limit for normal operation. Operation of the turbines in LLE mode will be tested annually to demonstrate availability in that mode and that testing will be included in the 3,240 hours/year proposed limit for normal operation.

The SCCTs will be subject to the applicable requirements of New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart KKKK (for Stationary Combustion Turbines), Subpart TTTT (for Electric Generating Units), NSPS Subpart A (General Provisions), and National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart YYYY (for Stationary Combustion Turbines) and NESHAP Subpart A, (General Provisions).

2.2.2 Fuel Gas Heater

The proposed project will utilize one fuel gas heater nominally rated at 18.8 MMBtu/hr. The heater will consist of two burners, with a separate exhaust stack for each burner, and will be used to heat the incoming natural gas fuel to prevent freezing of the gas regulating valves under certain gas system operating conditions. The heater will fire natural gas exclusively and use low-NO_x burners to control NO_x emissions. The heater will be permitted to operate 8,760 hours per year and will be capable of supporting any of the turbines. The fuel gas heater will be subject to the applicable requirements of NSPS 40 CFR Part 60 Subpart Dc (for Small Industrial-Commercial-Institutional Steam Generating Units) and NESHAP 40 CFR Part 63 Subpart DDDDD, (for Industrial, Commercial and Institutional Boilers and Process Heaters at Major Sources).

2.2.3 Diesel-fired Emergency Generators

The proposed project will include six nominal 3,500-kWe emergency generators that will be powered by diesel engines operating on fuel oil. The emergency diesel generators will provide power in emergency situations when electrical power is not available from the grid. The emergency diesel generators are also intended to provide power for a black start scenario. The emergency diesel generators will not be used for peak shaving or non-emergency power. Each emergency generator will be operated up to 100 hr/yr for non-emergency operation including maintenance checks and readiness testing. Operating hours during emergencies are not limited. Potential emissions for each emergency generator have been based on operating each generator 500 hours per year, based on EPA guidance that has been adopted by VDEQ. The diesel-fired emergency generators will be subject to the applicable requirements of NSPS 40 CFR Part 60 Subpart IIII (for Compression-Ignition Reciprocating Internal Combustion Engines), NSPS Subpart A (General Provisions), NESHAP 40 CFR Part 63 Subpart ZZZZ (for Stationary Reciprocating Internal Combustion Engines), and NESHAP Subpart A (General Provisions).

2.2.4 Diesel-fired Emergency Firewater Pump

The proposed project will include a nominal 190-bhp, diesel-fired emergency firewater pump engine to be used for water supply in the event of an on-site fire. The firewater pump engine will be limited to 100 hr/yr for routine testing and maintenance. Operating hours during emergencies are not limited. Potential emissions have been based on operating 500 hours per year, based on EPA guidance that has been adopted by VDEQ.

The diesel-fired emergency firewater pump engine will be subject to the applicable requirements of NSPS 40 CFR Part 60 Subpart IIII (for Compression-Ignition Reciprocating Internal Combustion Engines), NSPS Subpart A (General Provisions), NESHAP 40 CFR Part 63 Subpart ZZZZ (for Stationary Reciprocating Internal Combustion Engines).

2.2.5 Natural Gas Piping Components

The proposed project will include on-site natural gas piping and components including valves, flanges and relief valves associated with that piping. Small amounts of natural gas could potentially leak from these components, emitting VOCs and methane (CH_4) into the atmosphere. In addition, small quantities of natural gas will be released from the fuel system during maintenance inspection activities. Methane is considered a GHG. A conservative estimate of natural gas piping components has been provided, along with an estimate of the potential VOC and GHG emissions from those components as well as from maintenance and inspection activities.

2.2.6 Circuit Breakers

The proposed project will include sixteen switchyard circuit breakers, each circuit breakers will contain 224 pounds (lb) of sulfur hexafluoride (SF_6). SF_6 is considered a GHG and is used as an electrical insulating gas within each circuit breaker. Based on the above individual circuit breaker capacities, the project's total SF_6 capacity will be 3,584 lb. SF_6 emissions have been based on a standard leak rate of 0.5 percent annually. Each circuit breaker will be equipped with a local density indicator to continuously monitor pressure/density and will provide an alarm for loss of gas.

2.2.7 Fuel Gas System

Natural gas will be delivered to the plant boundary. The natural gas companies that potentially will be supplying the natural gas for the project will provide natural gas with a sulfur content up to 0.4 grains per 100 dry standard cubic feet (gr/100 dscf) based on an annual average. To account for variability in the natural gas sulfur content on a short-term basis, hourly emissions have been based on 1.0 gr/100 dscf.

2.2.8 Fuel Oil Storage Tanks

The project will include a new 12-million gallon fuel oil storage tank to supply fuel oil for the SCCTs. Each emergency generator will be equipped with an integral 3,500-gallon fuel oil storage tank. The diesel-fired emergency firewater pump will be equipped with a 500-gallon fuel oil storage tank. Fuel oil deliveries to the facility will occur via barge or tanker truck for the 12-million gallon fuel oil storage tank and by tanker truck for the other storage tanks.

3.0 Project Emissions Summary

This section presents a summary, organized by emissions sources, of project emissions and a discussion of the methodology used to calculate emissions. Within each emissions source subsection, the methods used to calculate potential emissions are discussed followed by a summary of the emissions estimates for each specific emissions source.

As indicated previously, the project consists of the following sources of air emissions:

- Four (4) nominal 250-MWe General Electric 7FA.05 SCCTs capable of combusting 100% natural gas, fuel oil, or H_2 fuel blend.
- One (1) natural gas-fired fuel gas heaters nominally rated at 18.8 MMBtu/hr.
- Six (6) nominal 3,500-kWe emergency generators operating on fuel oil.
- One (1) nominal 190-bhp emergency firewater pump operating on fuel oil.
- Fuel oil storage tanks.
- Circuit breakers containing SF_6 insulating gas.
- Fugitive emissions (natural gas piping components, maintenance activities, and truck traffic).

Emissions and emission calculation procedures used in determining the potential emissions from the project are based on information provided by the CT manufacturer, other equipment vendor data, emissions limitations specified by applicable NSPS or NESHAP regulations, emissions factors documented in EPA's "Compilation of Air Pollution Emissions Factors, AP-42," and proposed BACT emissions limits. Annual operational limitations have been accounted for where appropriate while estimating potential annual emissions.

Appendix A provides the applicable VDEQ forms. Appendix B presents detailed potential emission calculations for each emissions source. Potential emissions for the SCCTs are presented for each annual operating scenario based on each SCCT operating for 3,240 hours per year of normal operation including 750 hours per year firing fuel oil. The SCCTs will be equipped with SCR and oxidation catalyst to control NO_x, CO, and VOC emissions. Additionally, potential emissions include emissions based on each SCCT operating for 500 SUSD events which equates to an additional 1,500 hr/yr of operation for all four SCCTs during SUSD events. The potential emissions were compared to the PSD Significant Emission Rates to assess applicability of PSD requirements.

For purposes of assessing applicability to Virginia minor NSR permitting requirements, uncontrolled emissions must be calculated and compared to the thresholds listed in 9 VAC5-80-1105(D). Uncontrolled emissions from the combustion turbines are based on operating 8,760 hr/yr on either natural gas, fuel oil, or H_2 fuel blend, and assuming a natural gas sulfur content of 1 gr/100 scf. Uncontrolled emissions from emergency engines can be based on operating 500 hr/yr/per engine based on federal guidance adopted by DEQ. These uncontrolled emissions are discussed in more detail in Section 3.6.

3.1 Simple Cycle Combustion Turbine: Maximum Hourly Emission Rates

The following subsections present maximum hourly and annual emissions for the SCCTs during normal operations and SUSDs. Appendix B provides additional details, such as emissions and flow calculations at various loads, ambient temperatures, and with and without evaporative cooling.

3.1.1 Normal Operation Scenarios

Table 3-1 provides a summary of the maximum hourly emission rates for each mode of normal operation for natural gas, H_2 fuel blend, and fuel oil-firing. Performance and emissions data for twenty-two separate SCCT operating cases was provided by the CT manufacturer for natural gas, H_2 fuel blend, and fuel oil operation. These cases include ambient temperatures ranging from -10 deg. F to 107 deg. F, with and without evaporative cooling. For operating cases where the SCCTs are combusting natural gas or H_2 fuel blend, the SCCT load ranges from MECL to maximum power or 100% load. For operating cases where the SCCTs are combusting fuel oil, the SCCT load ranges from 50% load to maximum power or 100% load.

3.1.2 Startup and Shutdown

Startup and shutdown events for the project are defined as follows:

- Startup—Operations occurring between first flame and compliance with the steady-state emissions limit. Specifically:
    - Natural Gas Startup—A startup when firing natural gas is defined as the operations occurring between first flame until the SCCT reaches MECL with all steady-state emission limits.

  - Fuel Oil Startup—A startup when firing fuel oil is defined as the operations occurring between first flame until the SCCT reaches compliance with all steady-state emission limits (assumed to occur at 50% steady-state load).
  - Note: The SCCTs will not be capable of starting up on H_2 fuel blend.

- Shutdown—
  - Natural Gas/H_2 Fuel Blend Shutdown—Operations occurring between MECL and flame-out of the SCCT.
  - Fuel Oil Shutdown—Operations occurring between 50% load and flame-out of the SCCT.

Each startup event is expected to be 30 minutes. This is the amount of time required for the turbine to reach steady state conditions even though the units can start producing power in approximately 10 minutes for a quick start or 21 minutes for a slow start. Each shutdown is expected to be 15 minutes.

Table 3-1. Hourly Emissions per Turbine during Normal Operations*

Pollutant	Maximum Hourly Emissions (lb/hr)		
	100% Natural Gas-Firing	**H_2 fuel blend-Firing**	**Fuel Oil-Firing**
NO_x	23.3	23.0	47.9
CO	11.3	11.2	11.7
VOC	3.2	3.2	6.7
PM (filterable)	11.9**	11.8**	24.0
$PM_{10}/PM_{2.5}$ (total)	19.7**	19.5**	45.0
SO_2	8.2**	8.1**	4.5
H_2SO_4	5.6**	5.5**	3.0
Lead	1.2E-03	1.2E-03	3.4E-02
GHGs (expressed as CO_2e)***	286,380	283,390	401,195

*See Appendix B, Tables B-1 through B-3 for a summary of the CT manufacturer operating cases which includes hourly emission data at various ambient temperatures, loads, with and without evaporative cooling and with SCR and oxidation catalyst controls.
** Based on maximum natural gas short-term sulfur content of 1.0 gr S/100 scf and H_2SO_4 formation from operation of the SCR

*** Includes contribution from methane (CH_4) and nitrous oxide (N_2O)
Source: General Electric, 2023.

Table 3-2 summarizes emissions during SUSD events. NO_x, CO, PM_{10}/$PM_{2.5}$, and VOC emissions were provided by the CT manufacturer. PM SUSD emissions were calculated based on the total PM_{10}/$PM_{2.5}$ emissions provided by the CT manufacturer and the maximum ratio of filterable to total PM emissions during normal operation. The total amount of fuel combusted during a SUSD event was also provided by the CT manufacturer. The total fuel combusted was used to estimate SO_2, H_2SO_4, and GHG emissions during SUSD events. (See Tables B-4, B-12, B-13, and B-14 for detailed SO_2, H_2SO_4, and GHG SUSD emissions.) These SUSD emissions conservatively assume no emission control due to the SCR or oxidation catalyst.

Table 3-2. SCCT Durations, Emissions during Startup and Shutdown Events (Per SCCT)

	Natural Gas		Fuel Oil	
	Startup	Shutdown*	Startup	Shutdown
Duration (min)	30	15	30	15
Pollutant	**Emission Rate (lb/event)**			
NO_x	52	20	143	62
CO	366	152	1036	246
VOC	65	31	101	47
PM	2	1	10	5
PM_{10}	4	2	21	10
$PM_{2.5}$	4	2	21	10
SO_2	4	1	2	1
H_2SO_4	2	1	1	1
CO_2	133,819	34,904	186,431	48,626
Fuel	**Fuel Consumption Rate (MMBtu/event)**			
Natural Gas/Fuel Oil	1,031	269	1,031	269

*Shutdown emissions are for shutdown on natural gas or H_2 fuel blend.

Source: General Electric, 2023.

3.1.3 LLE Mode of Operation

Operation in LLE mode will only occur in an actual emergency, i.e., when there is a failure of the electrical grid, and during annual testing to demonstrate availability. In the event a black start is required, the CERC emergency generators will operate at full load until one SCCT can be started up in LLE mode. This SCCT will operate in continuously varying loads in LLE mode in order to stabilize and restore the electrical grid. Emissions associated with the annual testing are accounted for in the annual emission limits for the SCCTs.

3.2 Simple Cycle Combustion Turbine: Potential Annual Emissions

SCCT fuel firing rates and emissions rates vary as a function of operating load and ambient temperature. In addition, emissions rates of some pollutants (e.g., NO_x and CO) can be higher during startups and shutdowns as compared to normal operation, while emissions of other pollutants are typically higher during normal full-power operation (e.g., PM). Operation of the SCCT results in different emission rates for hazardous air pollutants (HAPs) as well. Therefore, to develop reasonable, yet conservative, estimates of potential emissions from the project, three potential annual operating scenarios were evaluated, encompassing the expected range of operating assumptions and numbers of startups and shutdowns to satisfy expected electricity demand from the SCCTs. The three operating scenarios evaluated were:

- Scenario 1—Potential emissions based on each SCCT operating 3,240 hours per year of normal operation on natural gas only and 500 startups and 500 shutdowns on natural gas only.
- Scenario 2 – Potential emission based on each SCCT operating 3,240 hours per year of normal operation on H_2 fuel blend and 500 startups on natural gas only and 500 shutdowns on H_2 fuel blend only.
- Scenario 3—Potential emissions based on each SCCT operating 3,240 hours per year of normal operation, 2,490 hr/yr on natural gas and 750 hr/yr on fuel oil, and 500 startups and 500 shutdowns, 380 on natural gas and 120 on fuel oil.

While Scenario 3 produces the maximum emissions for each criteria pollutant, neither Scenario 1, 2 or 3 produces the maximum emissions for every HAP; therefore, maximum emissions were based on Scenario 3 for each criteria pollutant and the highest of either scenario for each individual HAP.

Maximum emissions from the operating scenarios were calculated and are proposed to establish annual emissions limits. Tables 3-3 and 3-4 present the annual emissions (tpy) of regulated NSR pollutants and HAPs, respectively.

Table 3-3. SCCT Potential Annual Emissions (Total for Four Units)

	SCCT Potential Annual Emissions (tpy)			
Pollutant	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Potential Emissions**
NO_x	223.08	221.14	291.88	291.88
CO	591.12	590.48	774.96	774.96
VOC	116.74	116.74	134.49	134.49
PM (filterable)	51.17	50.78	79.00	79.00
$PM_{10}/PM_{2.5}$ (total)	98.06	97.42	150.21	150.21
SO_2	26.45	24.91	27.62	27.62
H_2SO_4	17.90	17.29	18.63	18.63
Lead	0.0083	0.0082	0.062	0.062
CO_2	2,008,033	1,988,656	2,194,773	2,194,733
Methane	37.8	37.4	55.4	55.4
Nitrous oxide	3.8	3.7	8.2	8.2
GHG Mass	2,006,003	1,986,645	2,191,014	2,191,014
CO_2e	2,008,033	1,988,656	2,194,773	2,194,773

Note: CO_2 = carbon dioxide.
CO_2e = carbon dioxide equivalent.

Source: ECT, 2023.

Table 3-4. SCCT Potential Annual HAP Emissions (Total for Four Units)

Pollutant†	Scenario 1	Scenario 2	Scenario 3	Potential Emissions (tpy)*
Acetaldehyde	0.69	0.68	0.53	0.69
Acrolein	0.11	0.11	0.08	0.11
Benzene	0.21	0.20	0.38	0.38
Ethylbenzene	0.55	0.54	0.42	0.55
Formaldehyde	4.51	4.47	5.06	5.06
Manganese	0.01	0.01	3.16	3.16
Polycyclic Aromatic Hydrocarbons (PAHs)	0.04	0.04	0.19	0.19
Propylene Oxide	0.50	0.49	0.38	0.50
Toluene	2.23	2.21	1.71	2.23
Xylene	1.10	1.09	0.84	1.10
Other HAPs	0.10	0.10	0.60	0.60
Total	10.05	9.96	13.34	13.34

Note: See Appendix B, Table B-12, B-13, and B-14 for detailed calculations.
†The highest ten CT HAPs in terms of annual emissions are presented in this table. The remaining HAP emissions are presented under the group "Other HAPs."
*Potential emissions for individual and total HAPs are based on the highest emissions from either Scenario 1, Scenario 2, or Scenario 3.

Source: ECT, 2023.

3.3 Ancillary Equipment

The project will include one fuel gas heater, six emergency generators, and one emergency firewater pump. Table 3-5 presents emissions calculations of regulated NSR pollutants and HAPs from the ancillary equipment, and Appendix B, Tables B-15 through B-17, provide detailed emissions calculations for the fuel gas heater, emergency generators, and emergency firewater pump. Emission calculations for the annual fuel oil throughput through the proposed fuel oil storage tanks are also provided in Appendix B.

3.3.1 Fuel Gas Heater

One (1) nominal 18.8-MMBtu/hr, natural gas-fired, fuel gas heater will be utilized for the proposed project. The heater will heat the natural gas prior to its use as fuel for the turbines to prevent condensed liquids in the natural gas from damaging the combustor sections of the turbine.

Emissions of air contaminants were calculated based on ultra-low NOx burners, AP-42 and Ventura County Air Pollution Control District emission factors and operating 8,760 hours per year. Table 3-5 presents emission rates of PSD pollutants and HAPs from the fuel gas heater, and Appendix B, Table B-15 provides detailed emissions calculations.

3.3.2 Diesel-Fired Emergency Generators

The facility will have six (6) nominal 3,500-kWe emergency generators, each powered by a nominal 4,694-bhp diesel-fired engine. The diesel-fired emergency generators will meet the emissions requirements in EPA's Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, July 11, 2006 (40 CFR 60, Subpart IIII). The diesel-fired emergency generators will also meet the applicable requirements of 40 CFR 63, Subpart ZZZZ. The emergency generators will be limited to 100 hr/yr per engine for non-emergency operation including maintenance checks and readiness testing. Since the diesel-fired emergency generators are considered emergency stationary RICE, rated greater than 500 hp and located at a major source of HAPS, they do not need to comply with 40 CFR 63, Subpart A or Subpart ZZZZ, except for the initial notification requirements 40 CFR 63.6645(f).

Potential emissions have been based on each engine operating 500 hr/yr in accordance with EPA guidance that has been adopted by VDEQ. There is no limit to the operation of the emergency generators during an emergency situation. Table 3-5 presents emissions calculations of regulated NSR pollutants and HAPs from the emergency generators, and Appendix B, Table B-17 provides detailed emissions calculations.

3.3.3 Diesel-Fired Emergency Firewater Pump

The facility will include one (1) nominal 190-bhp diesel-fired emergency firewater pump engine. The diesel-fired emergency firewater pump will meet the emissions requirements in EPA's Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, July 11, 2006 (40 CFR 60, Subpart IIII). The diesel-fired emergency firewater pump engine will also meet the requirements of 40 CFR 63, Subpart ZZZZ. Since the diesel-fired emergency firewater pump engine is rated less than 500 hp and located at a major source of HAPS, the only requirement for the emergency firewater pump engine under Subpart ZZZZ is to comply with the applicable requirements of 40 CFR 60, Subpart IIII. The emergency firewater pump engine will be limited to 100 hr/yr for non-emergency operation including maintenance checks and readiness testing.

Potential emissions have been based on operating 500 hr/yr in accordance with EPA guidance that has been adopted by VDEQ. There is no limit to the operation of the emergency firewater pump during an emergency situation. Table 3-5 presents emissions calculations of regulated NSR pollutants and HAPs from the emergency firewater pump engine, and Appendix B, Table B-16 provides detailed emissions calculations.

Table 3-5. Auxiliary Equipment Potential Annual Emissions

	Fuel Gas Heater		Emergency Generator*		Emergency Fire Water Pump		Fugitives	
Pollutant	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**
NO_x	0.21	0.91	34.57	8.64	0.88	0.22	N/A	N/A
CO	0.70	3.05	27.01	6.75	1.09	0.27	N/A	N/A
VOC	0.09	0.41	14.82	3.70	0.38	0.09	0.4	1.6
PM	0.04	0.15	1.54	0.39	0.06	0.02	0.03	0.11
$PM_{10}/PM_{2.5}$	0.13	0.58	1.80	0.45	0.61	0.15	0.01	0.02
SO_2	0.02	0.10	0.05	0.01	0.39	0.10	N/A	N/A
H_2SO_4	0.005	0.02	0.004	9.97E-04	0.03	0.01	N/A	N/A
Lead	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	N/A	N/A
HAPS (total)	1.1E-02	5.00E-02	5.8E-02	1.4E-02	Neg.	Neg.	Neg.	Neg.
GHG (as CO_2e)	2,202	9,644	5,520	1,380	238	59	32	140

Source: ECT, 2023.

*Per source.

3.3.4 Fuel Oil Storage Tanks

The project includes installation of a new 12-million gallon fuel oil storage tank. The project also will include six integral 3,500-gallon belly storage tanks for the six nominal 3,500-kWe emergency generators and one 500-gallon horizontal storage tank for the diesel-fired firewater pump engine. NSPS Subpart Kb does not apply to these storage tanks because of the low vapor pressure of fuel oil, as discussed in Section 4.4.4. VOC emissions were calculated using the Trinity Breeze TankESP Pro (Version 5.2.0). VOC emissions were calculated assuming a potential throughput equal to the maximum hourly fuel oil consumption rate for the SCCTs and operating the maximum 750 hours per year per SCCT. Table 3-5 presents VOC emissions from the new fuel oil storage tank based on this annual throughput and Appendix B, Table B-22 provides the basis for the VOC emission calculations. VOC emissions from the fuel oil tanks for the emergency engines are considered insignificant.

3.3.5 Circuit Breakers

The proposed project will include sixteen switchyard circuit breakers, each of the circuit breakers will contain 224 lb of SF_6 per unit. Therefore, the total SF_6 capacity at the facility will be 3,584 lb. The SF_6 leak rate will be limited to 0.5 percent on an annual basis. SF_6 emissions (as carbon dioxide equivalent [CO_2e]) from this source are expected to represent only 0.01 percent of the facility's CO_2e emissions. Appendix B, Table B-5, provides detailed emissions calculations.

3.3.6 Fugitive Emissions

VOC and GHG emission calculations for natural gas piping component fugitive emissions are based on emissions factors from Table W-1A of the Mandatory GHG Reporting Rules (40 CFR 98) for components in gas service for the Eastern United States. These emission factors provide the methodology for estimating the total mass emission rate of natural gas emitted from natural gas piping components. Releases of natural gas from annual maintenance and inspection activities is based on a conservative estimated volume of natural gas contained in the fuel system required to be purged.

Project-specific natural gas composition data, which was used to calculate each constituent percent (by weight), was used to calculate total VOC and GHG emissions from natural gas piping components and maintenance activities. GHG emissions consist of calculating both CO_2 and CH_4 emissions. HAP emissions from natural gas piping components and maintenance activities are considered insignificant.

The global warming potential (GWP) factors used to calculate CO_2e emissions are based on Table A-1 of 40 CFR 98. Appendix B, Table B-5 provides an estimate of the number of natural gas piping components, emission factors used and detailed calculations of GHG emission from natural gas piping components as well as from maintenance activities. Appendix B, Table B-23 provides detailed calculations of VOC emissions from natural gas piping components and maintenance activities.

Fugitive particulate matter emissions from truck traffic occur from aqueous ammonia, fuel oil tanker trucks, and demineralized water trailer trucks traveling across the paved road surfaces to and from the facility entrance to the loading areas. Emissions from truck traffic were estimated using emission calculation methodologies and factors provided in EPA's AP-42, Section 13.2.1 Paved Roads. These methodologies utilize equation inputs that include vehicle weights, vehicle miles traveled and road silt content. Appendix B, Table B-24 provides detailed calculations of particulate matter emissions from truck traffic.

3.4 Project Emissions

Table 3-6 presents the annual PTE of the project for the installation of four General Electric 7FA.05 SCCTs and the associated ancillary equipment (see Appendix B for details). A PSD applicability analysis is presented in Section 3.5, including the potential emissions from this project and other contemporaneous emissions increases and decreases.

Potential HAP emissions are estimated to be 14.68 tpy, with maximum single HAP emissions of 5.07 tpy (formaldehyde). Since these values are below the relevant major source thresholds of 25 tpy for all HAPs or 10 tpy for a single HAP the project by itself would not be considered a major source of HAP emissions.

Table 3-6. Total Annual Project Potential Emissions

Emission Source	Parameters (tpy)									
Description	NO_x	CO	VOC	PM	PM_{10}	$PM_{2.5}$	SO_2	H_2SO_4	Lead	GHG (CO_2e)
Four SCCTs	291.88	774.96	134.49	79.00	150.21	150.21	27.62	18.63	0.06	2,194,773
One Fuel Gas Heater	0.91	3.05	0.4	0.15	0.61	0.61	0.09	0.02	Neg	9,644
Six Diesel-fired Emergency Generators	51.85	40.51	22.22	2.31	2.70	2.70	0.08	0.006	Neg.	8,279
One Diesel-fired Fire Water Pump	0.22	0.27	0.09	0.02	0.15	0.15	0.10	0.007	Neg.	59
Fuel Oil Storage Tanks	N/A	N/A	1.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fugitives	N/A	N/A	0.022	0.011	0.022	0.005	N/A	N/A	N/A	140
Circuit Breakers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	204
Total project emissions	344.86	818.79	158.85	81.59	153.66	153.66	27.89	18.66	0.06	2,213,100

Source: ECT, 2023.

3.5 PSD Applicability

As stated in Section 1.3, CPS is considered an existing major stationary source under the PSD regulations. A major modification is defined as any physical change or change in the method of operation of a major stationary source that would result in (1) a significant emission increase of a regulated NSR pollutant, and (2) a significant net emission increase of that pollutant from the major stationary source.

The first step is commonly referred to as the “Project Emission Increase” as it only accounts for emissions increases related to the proposed project itself. This step in the analysis does not include the proposed shutdown of any equipment at the facility. If the emissions increases estimated in step (1) exceed the major modification thresholds, then the applicant moves on to step (2), commonly referred to as the “Netting Analysis.” If the resulting net emission increases exceed the major modification threshold, PSD permitting is required.

Table 3-7 compares the worst-case potential emissions for the proposed project to the PSD significant emission rate (SER). As shown, the project emissions increase does not exceed the PSD SER for SO_2 and lead. Therefore, the project is not subject to PSD for SO_2 and lead, and the analysis for these pollutants is complete. However, the project emissions increase exceeds the PSD SER for NO_x, CO, VOC, PM, PM_{10}, $PM_{2.5}$, H_2SO_4, and GHGs. Therefore, the analysis proceeds to step 2 for these pollutants.

Table 3-7. Total Annual Project Potential Emissions

Emission Source Description	Parameters (tpy) NO_x	CO	VOC	PM	PM_{10}	$PM_{2.5}$	SO_2	H_2SO_4	Lead	GHG (CO_2e)
Total project emissions	344.86	818.79	158.85	81.59	153.66	153.66	27.89	18.66	0.06	2,213,100
PSD SER	40	100	40	25	15	10	40	7	0.6	75,000
Netting Required?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes

Note: Facility is located in Chesterfield County, Virginia, which is designated as either unclassifiable or attainment for all pollutants.

Source: ECT, 2023.

The contemporaneous netting analysis under Step 2 looks at creditable emissions increases and decreases within the five years preceding the anticipated date of construction for the project up to when the project becomes operational and adds them to the project emissions increase calculated in Step 1. CPS permitted three projects in this time period, including the Coal Combustion Residual Pond Closure (February 2021), Beneficial Use Processing and Material Handling Equipment (November 2021), and the Replacement of Existing Thermoflux Pipeline Heater with New Gas Tech Pipeline Heater (April 2022). The maximum permitted emissions are assumed to be the creditable emissions increase for each of these projects.

In addition, CPS has just completed the permanent shutdown of Boilers 5 and 6 (May 2023). Baseline actual emissions are the maximum average actual emissions occurring over any consecutive 24-month period within the contemporaneous period. A different 24-month period may be selected for each pollutant. Baseline emissions from Boilers 5 and 6 have been estimated using site records (fuel use, CEM data, etc.) to determine the creditable emissions decrease associated with the shutdown. The emissions decreases associated with these activities have not been relied upon in issuing a permit under the PSD review program; therefore, they meet the definition of creditable. Appendix B provides detailed documentation for the baseline emissions from Boilers 5 and 6.

Table 3-8 summarizes the total net emissions changes over the contemporaneous period for NO_x, CO, VOC, PM, PM_{10}, $PM_{2.5}$, H_2SO_4, and GHGs. As shown, the net emissions increase exceeds the PSD SER for CO, VOC, $PM_{2.5}$, and GHGs, and the CERC project is subject to PSD as a major modification for these pollutants. However, the net emissions increase does not exceed the PSD SER for NO_x, PM, PM_{10}, and H_2SO_4. As such, the project is not subject to PSD for these pollutants.

Table 3-8. Contemporaneous Netting Analysis

Emission Source	Parameters (tpy)							
Description	NO_x	CO	VOC	PM	PM_{10}	$PM_{2.5}$	H_2SO_4	GHG (CO_2e)
Total project emissions	344.86	818.79	158.85	81.59	153.66	153.66	18.66	2,213,100
Boiler 5 & 6 Shutdown	(453.55)	(165.28)	(19.29)	(277.75)	(221.96)	(43.99)	(427.97)	(1,700,338)
Pond Closure Project	N/A	N/A	N/A	42.39	12.08	1.49	N/A	N/A
Beneficial Use Proc. Equip.	3.74	18.41	3.07	4.46	2.48	2.07	0.022	2,317
Gas Tech Pipeline Heater	3.50	2.94	0.19	0.01	0.02	0.02	0.02	3,819
Net Emissions Increase	**(101)**	**675**	**143**	**(149)**	**(54)**	**113**	**(409)**	**518,898**
PSD SER	40	100	40	25	15	10	7	75,000
Project Exceeds SER?	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**

Note: Facility is located in Chesterfield County, Virginia, which is designated as either unclassifiable or attainment for all pollutants.

Source: ECT, 2023.

3.6 Project Emissions for Virginia Minor NSR Applicability

In addition to the PSD program, Virginia has a minor NSR program for pollutants with uncontrolled emissions rates that exceeds certain thresholds in 9VAC5-80-1105 D. Because the levels provided in 9VAC5-80-1105 D are equal to or lower than those levels provided in the definition of "significant" under the PSD regulations, the project would trigger Virginia minor NSR permitting requirements for the pollutants for which the project triggers PSD, including CO, VOC, $PM_{2.5}$, and GHG. However, 9VAC5-80-1100.H indicates that PSD provisions take precedent.

As previously discussed, the applicability analysis for Virginia's minor NSR program cannot take into account limits on hours of operation, sulfur content and other conditions unless they are required by enforceable permit conditions. Therefore, uncontrolled emission rates are calculated for those pollutants that do not exceed PSD applicability thresholds, including NO_x, PM, PM_{10}, SO_2, H_2SO_4, and lead, based on the following conditions to determine minor NSR permitting applicability:

1. Hours of operation for the SCCTs based on 8,760 hr/yr.
2. The sulfur content of the natural gas combusted in the SCCTs and the fuel gas heater based on the highest potential sulfur content of natural gas available at the project site or 1.0 gr S/100 scf.
3. The sulfur content of the fuel oil combusted in the SCCTs based on the sulfur content limit contained in NSPS Subpart KKKK or 0.06 lb SO_2/MMBtu heat input.

The potential hours of operation for each emergency engine can remain at 500 hr/yr since this annual operating limit is based on federal guidance that has been adopted by VDEQ.

Table 3-9 provides a summary of the uncontrolled emission rates for comparison to the Virginia Minor NSR applicability thresholds. Based on the uncontrolled emissions rates, minor NSR permitting is triggered for NOx, PM, PM_{10}, SO_2, and H_2SO_4, but not lead.

Table 3-9. Uncontrolled Emission Rates for Virginia Minor NSR Applicability (tpy)

Emission Source Description	NOx	PM	PM_{10}	SO_2	H_2SO_4	Lead
Four SCCTs	6,977.2	423.9	781.4	141.9	96.9	0.59
One fuel gas heater	0.9	0.2	0.6	0.1	0.02	4.04E-05
Six diesel-fired emergency generators	51.9	2.3	2.70	0.01	0.006	4.6E-04
One diesel-fired firewater pump	0.2	0.02	0.2	0.1	0.008	3.3E-06
Fuel Oil ASTs	N/A	N/A	N/A	N/A	N/A	N/A
Fugitive emissions	N/A	0.11	0.02	N/A	N/A	N/A
Circuit breakers	N/A	N/A	N/A	N/A	N/A	N/A
Total uncontrolled project emissions	7,030.0	427.0	785.0	142.2	96.9	0.59
Virginia Minor NSR threshold	10	15	10	10	6	0.6
Subject to Virginia Minor NSR	Yes	Yes	Yes	Yes	Yes	No

*See Appendix B, Tables B-18 through B-21, for detailed calculations.

Source: ECT, 2023.

4.0 Applicable Requirements and Standards

This section presents a review of the air quality regulations that will govern permitting and operation of the proposed project. Specifically, the following regulations and standards were reviewed for applicability to the proposed project:

- VDEQ PSD regulations.
- Good engineering practice (GEP) stack height regulations.
- NSPS.
- National Emissions Standards for Hazardous Air Pollutants (NESHAP).
- Compliance assurance monitoring (CAM).
- Mandatory Greenhouse Gas Reporting
- EPA's Acid Rain Program (ARP) regulations.
- Risk management program (RMP).
- Title V permit program.
- Cross-State Air Pollution Rule (CSAPR).
- VDEQ Minor NSR regulations.
- Virginia SIP.
- CO_2 Budget Trading Program.

Federal regulatory programs, as administered by or delegated to VDEQ and approved by EPA, have been developed under the authority of the CAA and its amendments. The following subsections review the key elements of the federal regulatory program and the impact they have on the permitting and operation of the proposed project. Attention is placed on PSD (9VAC5-80-1605), NSPS (40 CFR 60), NESHAP (40 CFR 61 and 63), RMP (40 CFR 68), ARP regulations (40 CFR 72, 73, 75, 76, and 77), and CSAPR (40 CFR 97). Discussion of applicable Virginia regulatory citations is also included in this section.

The CAM Rule, 40 CFR Part 64, addresses monitoring for certain emission units at major sources, thereby assuring that facility owners and operators conduct effective monitoring of their air pollution control equipment. A CAM Plan is not a requirement of a Construction Permit Application. A CAM Plan requires a final design of the facility and specific vendor information; hence, it is not usually prepared until the final parameters are selected and the facility starts operating. Since this is a pre-construction permit, a CAM Plan is not included as part of this application.

4.1 Classification with Regard to Ambient Air Quality

The 1970 CAA gave EPA specific authority to establish the minimum level of air quality to protect public health (primary) and welfare (secondary). Table 4-1 presents the federally promulgated standards, adopted by Virginia as state standards.

Table 4-1. Ambient Air Quality Standards

Pollutant	Averaging Period*	NAAQS & VDEQ Standards (µg/m³†)	
		Primary	Secondary
SO_2	Annual‡	80	—§
	24-hour‡	365	—§
	1-hour	196	—§
	3-hour	—§	1,300
PM_{10}	24-hour	150	150
$PM_{2.5}$	Annual	12	15
	24-hour	35	35
CO	8-hour	10,000	—§
	1-hour	40,000	—§
Ozone	8-hour	0.070 ppm	0.070 ppm
NO_2	Annual	53 ppb	53 ppb
	1-hour	100 ppb	—§
Lead	3-month£	0.15	—§

Note: ppm = part per million. ppb = part per billion. NO_2 = nitrogen dioxide.

*National and Virginia short-term ambient standards may be exceeded once per year; annual standards may never be exceeded. Ozone standard is attained when the expected number of days of an exceedance is equal to or less than one.

†Standards expressed in micrograms per cubic meter (µg/m³) unless otherwise noted.

‡Final rule signed June 2, 2010. The 1971 annual and 24-hour SO_2 standards were revoked in this rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

§No ambient standard for this pollutant and/or averaging period.

£The rule signed October 15, 2008, finalized a new lead standard. The 1978 lead standard of 1.5 µg/m³ as a quarterly average remains in effect until one year after an area is designated for the 2008 standard, except in areas designated nonattainment for the 1978 standard, where the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Sources: 40 CFR 50.
9 VAC 5-30.

The 1990 CAA Amendments called for a review of the ambient air quality of all regions of the United States. By March 15, 1991, states were required to file with EPA recommended designations of all areas as either attainment, nonattainment, or unclassifiable. Areas of the country that had monitored air quality levels equal to or better than these standards (i.e., ambient concentrations less than a standard) as of March 15, 1991, became designated as attainment areas, while those areas where monitoring data indicated air quality concentrations greater than the standards became known as nonattainment areas.

The designation of unclassifiable indicates there is insufficient monitoring data to determine if the area has attained the federal standards; however, the limited data available indicates the standard has been achieved. Areas with this classification are treated by EPA as attainment areas for permitting purposes.

Table 4-2 lists the current federal air quality classifications for each criteria pollutant for the project area in Chesterfield County. The designation of an area has particular importance for a proposed project as it is a factor that, in part, determines whether a pollutant is subject to PSD review or nonattainment new source review (NNSR). However, EPA has confirmed that NAAQS implementation is a requirement imposed on States in the SIP; it is not imposed directly on a source. *Operating Permit Program*, 57 Fed. Reg. 32250, 32276 (July 21, 1992); *see also In the Matter of Duke Energy, LLC, Roxboro Steam Electric Plant*, Permit No. 01001T49, Petition No. IV-2016-07 (EPA Adm'r, June 30, 2017) ("A source is not obligated to reduce emissions as a result of the [NAAQS] until the state identifies a specific emission reduction measure needed for attainment (and applicable to the source), and that measure is incorporated into a SIP approved by [the] EPA.").

Table 4-2. Classification of Chesterfield County, Virginia, for Each Criteria Pollutant

Pollutant	Attainment Status
CO	Unclassifiable/attainment
NO_2	Unclassifiable/attainment
$PM_{2.5}$	Unclassifiable/attainment
PM_{10}	Unclassifiable/attainment
SO_2	Unclassifiable/attainment
Ozone (8-hour)	Unclassifiable/attainment
Lead	Unclassifiable/attainment

Note: CO = carbon monoxide.
NO_2 = nitrogen dioxide.
$PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers.
PM_{10} = particulate matter less than or equal to 10 micrometers.
SO_2 = sulfur dioxide.

Source: 40 CFR 81.347.

Major new sources or major modifications to existing major sources located in attainment or unclassifiable areas are required to obtain a PSD permit prior to beginning actual construction. Similarly, sources located in areas designated as nonattainment or that adversely impact such areas are required to undergo permitting under the provisions of the nonattainment new source review (NNSR) program. In either case, it is necessary, as a first step, to determine the air quality classification of a project site. For the proposed project, only PSD review is potentially applicable, because the attainment status for Chesterfield County is unclassifiable/attainment for all regulated pollutants.

4.2 PSD Program

4.2.1 PSD Applicability

The determination of whether PSD regulations are applicable to a specific project must be conducted in two parts: first identifying the air quality status of the location of the project, and second, evaluating the type and quantity of PSD-regulated pollutants that will be emitted. Because the facility is located in Chesterfield County, which is designated as attainment or unclassifiable for the criteria pollutants, PSD review will apply as discussed in the following paragraphs.

CPS is considered an existing major stationary source under the PSD regulations. A major modification is defined as any physical change or change in the method of operation of a major stationary source that would result in (1) a significant emission increase of a regulated NSR pollutant, and (2) a significant net emission increase of that pollutant from the major stationary source. The relevant PSD significant emission rates are summarized in Table 4-3. As discussed in Section 3.5 and presented in Table 3-8, the proposed CERC project will result in both a significant emission increase and a significant net emissions increase for CO, VOC, $PM_{2.5}$ and GHGs, and the project is subject to PSD as a major modification for these pollutants.

Table 4-3. PSD SERs

Pollutant	SER (tpy)
CO	100
NO_x	40
SO_2	40
PM	25
PM_{10}	15
$PM_{2.5}$	10
Ozone	40 of VOCs or NO_x
Lead	0.6
Fluorides	3
H_2SO_4 mist	7
Total reduced sulfur	10
Reduced sulfur compounds	10
Hydrogen sulfide	10
GHG (expressed as CO_2e)	75,000

Source: 9 VAC 5-80-1615.C and 9 VAC 5-85-50.

4.2.2 PSD Program Requirements

The following provides a summary of the application requirements for projects subject to PSD. Virginia issues PSD permits pursuant to its SIP-approved PSD program found in 9 VAC 5-80-1600 *et seq*. (Article 8) for criteria pollutants and 9 VAC 5-85 for GHG pollutants.

4.2.2.1 Best Available Control Technology

The requirements for BACT were promulgated within the framework of PSD in the 1977 CAA Amendments. Guidelines for the evaluation of BACT in Virginia can be found in APG-309, Air

Permitting Guidelines New and Modified PSD Sources (Draft, Nov. 2, 2015) which references EPA's PSD/New Source Review Workshop Manual (EPA, 1990 DRAFT). In addition, APG-309 references EPA's guidance on the evaluation of the estimated cost associated with various control options, Air Pollution Control Cost Manual (EPA, 2002). Although not solely focused on BACT, the information provided in the Control Cost Manual can be used to help evaluate cost-effectiveness in deciding which control option to select as the basis for a BACT determination. EPA's specific guidance on BACT for GHG emissions (https://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases) was also considered.

The regulatory definition of BACT for PSD affected sources locating in Virginia is:

> "*[A]n emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR [new source review] pollutant that would be emitted from any proposed major stationary source or major modification that the board, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63. If the board determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means that achieve equivalent results.*" (9 VAC 5-80-1615.C.)

Although BACT is typically an emissions limit, BACT can also be a work practice standard in certain circumstances, if an emissions limit is not feasible. One example of a work practice standard that can impact a BACT determination is a limitation on the hours of operation for a source. Another example is the requirement to install and operate a particular emission control device in lieu of an emissions limit. BACT limits are determined by the permitting authority based on a case-by-case analysis that takes into account site-specific characteristics, including "energy, environmental, and economic costs and other costs" (9 VAC 5-80-1615.C). BACT does not require an applicant to consider control alternatives that would redefine the proposed source by fundamentally redesigning it. *Utility Air Regulatory Group v.* EPA, 134 S.Ct. 2427, 2448 (2014); APG-309 at 4-1 (acknowledging EPA's historic interpretation that BACT is not a means to redefine the source proposed by the applicant). *See also Va. Chapter of the Sierra Club v. Va. State Air Pollution Control Bd.*, No. CL 16-3770 (Va. Cir. Ct. City of Richmond, July 28, 2017) (upholding that BACT under the Virginia regulations does not require considering alternatives that would redefine the source).

A BACT limit must be achievable. Generally, achievable in the context of BACT means an emissions limit that the source can meet on a continual basis over the relevant averaging period for the lifetime of the facility. BACT limits should be set at levels the source can meet under reasonably foreseeable worst-case conditions. A permitting authority determines what is achievable for a source, exercising its technical judgment on a case-by-case basis.

In addition to the BACT limit being achievable, a control technology must be available to be considered in a BACT determination. To be available, a control technology must be demonstrated in practice. This means the technology has progressed beyond the conceptual stage and beyond research and development or the pilot testing phase. The technology must have been demonstrated successfully on full-scale operations for a sufficient time to be considered proven. BACT does not require an applicant to employ technologies not demonstrated in practice; theoretical, experimental, or developing technologies are not available under BACT. Technologies with questionable or dubious reliability are likewise not considered available under BACT, and the applicant is not required to use them.

Finally, BACT is determined on a pollutant-by-pollutant basis. When establishing BACT for individual pollutants, however, a permitting authority must also consider possible interactions among the pollutants as well as other collateral environmental impacts of particular technologies, such as water usage or the creation of a waste stream. Section 5.0 presents BACT analyses for the project.

4.2.2.2 Air Quality Monitoring Requirements

In accordance with requirements of 9 VAC 5-80-1735, a PSD application must contain an analysis of existing ambient air quality in the area to be affected by the proposed project if the project would result in a significant net emissions increase. The analysis of existing air quality can be air monitoring data from either a state-operated or private network, or by a preconstruction monitoring program specifically designed to collect data in the vicinity of the proposed source. Dominion is proposing to use existing air monitoring data.

4.2.2.3 Source Impact Analysis

A source impact analysis must be performed for a proposed project subject to PSD review for each pollutant for which the increase in emissions exceeds the SER to demonstrate the project will not cause or contribute to a violation of NAAQS or PSD increment. The PSD regulations specifically provide for the use of atmospheric dispersion modeling in performing impact analyses, estimating baseline and future air quality levels, and demonstrating that a project will not cause or contribute to an exceedance of NAAQS and allowable PSD increments, as noted in 9 VAC 5-80-1725 (referencing 40 CFR 51, Appendix W). Use of other than EPA-approved models require written approval and opportunity for public notice and comment prior to use. Guidance for the use and application of dispersion models is presented in the EPA publication Guideline on Air Quality Models (EPA, 2017) and the TCEQ Air Quality Modeling Guidelines (November 2019). The source impact analysis for criteria pollutants may be limited to only the new or modified sources if the impact due to the new or modified sources is below the significant impact levels (SILs) presented in Table 4-4.

4.2.2.4 PSD Increments

PSD regulations specify that new major sources or modifications to existing major sources may change baseline air quality only by a defined amount. This limited incremental degradation is known as a PSD increment. PSD increments have been established for Class I and Class II areas for PM_{10}, $PM_{2.5}$, SO_2, and nitrogen dioxide (NO_2) (see Table 4-4).

The allowable change, or increment, is dependent on the classification of the area in which the action is to take place. When PSD regulations were first promulgated, three area classifications were proposed based on criteria set in the 1977 CAA.

Class I areas are federally protected and include specifically defined national parks, national forests, and wilderness areas. Class III increments are the least restrictive of the three PSD Classes; however, to date, no Class III areas have been officially designated. The remainder (and vast majority) of the country is designated as a Class II area, including Chesterfield County.

Table 4-4. Allowable PSD Increments, SILs, and NAAQS

Pollutant	Averaging Time	PSD Increments		SILs		NAAQS
		Class I	Class II	Class I*	Class II	
PM_{10}	Annual arithmetic mean†	4	17	0.2	1	NA
	24-Hour maximum‡	8	30	0.3	5	150
$PM_{2.5}$§	Annual arithmetic mean†	1	4	0.06	0.2	12
	24-Hour maximum‡	2	9	0.07	1.2	35
SO_2	Annual arithmetic mean†	2	20	0.1	1	80
	24-Hour maximum‡	5	91	0.2	5	365
	3-Hour maximum‡	25	512	1	25	1,300
	1-Hour maximum£	NA	NA	NA	7.9	196
CO	8-Hour maximum	NA	NA	NA	500	10,000
	1-Hour maximum	NA	NA	NA	2,000	40,000
NO_2	Annual arithmetic mean†	2.5	25	0.1	1	100
	1-Hour maximum£	NA	NA	NA	7.5	188

Note: CO = carbon monoxide.
NA = not applicable, i.e., no increment exists.
NO_2 = nitrogen dioxide.
$PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers.
PM_{10} = particulate matter less than or equal to 10 micrometers.
SO_2 = sulfur dioxide.

*Class I SILs were proposed in Federal Register July 23, 1996.
†PSD increment not to be exceeded.
‡PSD increment not to be exceeded more than once per year.
£While there are no EPA promulgated SILs for the 1-hour SO_2 and NO_2 NAAQS, interim values have been provided.
§SILs for $PM_{2.5}$ exist for the purpose of determining if a source has a significant contribution to a modeled violation. The SILs do not exist for the purpose of avoiding a cumulative impact analysis. $PM_{2.5}$ SILs are based on EPA's April 17, 2018, "Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program."

Source: ECT, 2023.

4.2.2.5 Additional Analyses

In addition to the standard air quality analyses, federal regulations require an analysis of the impairment to visibility and the effects on soils and vegetation that would occur as a result of project construction and operation. Impacts due to commercial, residential, industrial, and other growth in the vicinity of the project also must be addressed to the extent they are a result of the proposed action. This additional analysis is provided in Section 8.0 of this application.

4.2.2.6 Class I Analyses

PSD regulations require that facilities that may affect a PSD Class I area perform a modeling evaluation of the ambient air quality in terms of Class I PSD Increments and Air Quality Related Values (AQRVs). The Class I analysis will be provided under separate cover.

4.2.2.7 Site Suitability and Environmental Justice Analysis

Under Virginia's PSD regulations, an analysis of the suitability of the site for the project, including environmental justice considerations, is required per 9 VAC 5-80-1665 to comply with Va. Code § 10.1-1307 E. See Section 10.

4.3 Good Engineering Stack Height Analysis

The 1977 CAA requires the degree of emissions limitation required for control of any pollutant not be affected by a stack which exceeds the GEP height. Further, no dispersion credit is given during air quality modeling for stacks that exceed GEP. GEP stack height is defined as the highest of one of these three metrics:

- 65 meters.
- A height established by applying the formula: HGEP = H + 1.5 L:

  where: HGEP = GEP stack height.

  H = height of the structure or nearby structure.

  L = lesser dimension (height or projected width) of the nearby structure.
- A height demonstrated by fluid modeling or field study.

A structure or terrain feature is considered nearby if a stack is within a distance of five times the structure's height or maximum projected width. Only the smaller value of the height or projected width is used, and the distance to the structure cannot be greater than 0.8 kilometer (EPA, 1985). Although GEP stack height regulations require the stack height used in modeling for determining compliance with NAAQS and PSD increments not exceed GEP stack height, the actual stack height may be greater.

The stack height regulations also increase GEP stack height beyond that resulting from the formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or modeled to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula. Based on two criteria cited in a July 8, 1985, Federal Register (FR) preamble to the stack height rules discussing the role of terrain in influencing the emitted plume at the source location, there is no significant terrain that would induce downwash within 0.5 kilometer and at least a 10-percent terrain height relative to the distance from the source. Therefore, plume impaction was not considered in determining the GEP stack height for the proposed project.

Stacks to be constructed at the project site will each be less than or equal to 65 meters and modeled at their actual stack elevation. Therefore, the modeling complies with GEP regulations.

4.4 Applicability of NSPS

The following NSPS regulations are potentially applicable to this project:

- Subpart A, General Provisions.
- Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
- Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels.
- Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.
- Subpart KKKK, Standards of Performance for Stationary CTs.
- Subpart TTTT / Subpart TTTTa, Standards of Performance for GHG Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units.

Each of these potentially applicable subparts is discussed further in the following subsections.

4.4.1 Subpart A, General Provisions

Certain provisions of 40 CFR 60, Subpart A, apply to the owner or operator of any stationary source subject to NSPS. Because the proposed facility will be subject to NSPS, the proposed project will be required to comply with applicable provisions of Subpart A. Table 4-5 identifies Subpart A provisions that impose requirements on the proposed project.

Table 4-5. Summary of Relevant Regulatory Requirements of NSPS Subpart A, General Provisions

40 CFR 60 Subpart A Section	Requirement	Compliance Action
60.7	Initial notification and recordkeeping	Submit NSPS-related notifications to EPA Region III and VDEQ for the proposed project in a timely manner.
60.8	Performance tests	Conduct required performance tests using designated reference test methods.
60.11	Compliance with standards and maintenance requirements	Operate and maintain the units using good air pollution control practices.
60.13	Monitoring requirements	Use pollutant monitoring methods outlined in 40 CFR 60.13.
60.19	General notification and reporting requirements	Follow NSPS report and notification formats and schedules set forth in 40 CFR 60.19.

Source: ECT, 2023.

4.4.2 Subpart Dc, Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units

NSPS Subpart Dc applies to steam generating units that commenced construction after June 9, 1989, and have a maximum design heat input capacity between 10 and 100 MMBtu/hr. The proposed 18.8 MMBtu/hr fuel gas heater will be subject to this subpart, since it is a water bath-type heater and with a heat input capacity greater than 10 MMBtu/hr. Although the 18.8-MMBtu/hr fuel gas heater is subject to Subpart Dc, PM and SO_2 emissions standards under Subpart Dc are not applicable, because the heater will only burn natural gas. Subpart Dc does not include NO_x emissions standards, but some monitoring, recordkeeping, and reporting requirements will still apply to the fuel gas heater.

4.4.3 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels

The proposed project will include a new 12 million gallon fuel oil storage tank to store fuel oil for the SCCTs. Additionally, the proposed project will include new, smaller fuel oil storage tanks for the six diesel-fired emergency generators and the emergency firewater pump.

NSPS Subpart Kb regulates storage vessels with a capacity greater than 75 cubic meters (m^3) (19,813 gallons) that are used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984. Subpart Kb does not apply to storage vessels with a capacity greater than or equal to 151 m^3 (40,000 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

Subpart Kb does not apply to the proposed storage tanks used for the emergency engines because the capacity of those tanks is less than 75 cubic meters. In addition, Subpart Kb does not apply to the 12 million gallon fuel oil storage tank because the maximum true vapor pressure of diesel oil is less than 3.5 kilopascals (kPa).

4.4.4 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The six diesel-fired emergency generators and diesel-fired firewater pump are subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, including applicable Subpart IIII emissions limitation, monitoring, recordkeeping, and reporting requirements. The proposed engines will each be certified by the manufacturer to comply with the applicable emissions limitations. The engines will fire only fuel oil and will each be equipped with a non-resettable hour meter. The facility will log the date, start time, end time, and reason for each time of engine operation. The facility will operate and maintain the engines in accordance with the manufacturer's emission-related instructions.

4.4.5 Subpart KKKK, Standards of Performance for Stationary CTs

Subpart KKKK, Standards of Performance for Stationary Combustion Turbines, applies to NO_x and SO_2 emissions from each stationary combustion turbine generator with a heat input at peak load equal to or greater than 10 MMBtu/hr HHV, which commenced construction, modification, or reconstruction after February 18, 2005. Construction of the proposed combustion turbines will commence after February 2005, and the peak load heat input rate of each of the SCCTs at ISO conditions is 2,445 MMBtu/hr when firing natural gas; 2,452 MMBtu/hr when firing fuel oil. Therefore, the proposed combustion turbines are subject to the NO_x and SO_2 emissions limits and other applicable requirements in NSPS Subpart KKKK.

4.4.5.1 Emissions Limits for NO_x

Under Subpart KKKK, the proposed combustion turbines are subject to an emissions standard of 15 ppm at 15-percent oxygen gas (O_2) or 0.43 pound per megawatt-hour (lb/MWh) when fired with natural gas and 42 ppm at 15-percent O_2 or 1.3 lb/MWh when fired with fuel oil. Since the proposed H2 fuel blend is >50% natural gas, the 15 ppm at 15-percent O_2 natural gas limit applies. If the combustion turbines operate in partial load (less than 75 percent of peak load) or at temperatures less than 0°F, a NO_x limit of 96 ppm at 15-percent O_2 or 4.7 lb/MWh will apply. Compliance is based on the arithmetic average of hourly applicable NO_x emissions based on a 4-hour rolling average.

As discussed in the BACT analysis in Section 5.0, the proposed SCCTs will reduce NO_x emissions to 2.5 ppmvd at 15-percent O_2 using low-NO_x combustors and SCR when operating on natural gas, to 2.5 ppmvd at 15-percent O_2 using low-NO_x combustors and SCR when operating on H_2 fuel blend and to 5 ppmvd at 15-percent O_2 using water injection and SCR when operating on fuel oil. Therefore, compliance with the proposed BACT emission limits will demonstrate compliance with the Subpart KKKK NO_x emissions limits. In addition, the CT vendor data concerning expected emission rates during startup and shutdown events, limiting the time spent in startup or shutdown, and the proposed BACT emission rates during normal operating conditions will achieve compliance with the Subpart KKKK NO_x emission limits during startup and shutdown. Compliance with these emissions standards will be verified based on continuous emissions monitoring system (CEMS) data. In accordance with §60.4310, the Subpart KKKK NO_x emission limits do not apply during emergency turbine operations such as Black Start conditions.

4.4.5.2 Emissions Limits for SO_2

Under Subpart KKKK, the proposed combustion turbines will be subject to an SO_2 emissions limit of 0.90 lb/MWh gross output or, in the alternative, the combustion turbines must not burn any fuel that contains the total potential sulfur emissions in excess of 0.060 lb SO_2/MMBtu heat input. Dominion will comply with the input-based emissions standard for SO_2. The proposed combustion turbines will burn natural gas with a sulfur content of 0.4 gr/100 dscf on an annual basis and fuel oil with a sulfur content of 0.0015 percent by weight; therefore, the potential sulfur emissions will not exceed 0.06 lb SO_2/MMBtu heat input. As allowed under §60.4365, Dominion will demonstrate compliance with the Subpart KKKK SO_2 limits through documentation provided on the "fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel." As such, no fuel monitoring will be required for total sulfur content.

4.4.6 Subpart TTTT, Standards of Performance for GHG Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units

NSPS Subpart TTTT was promulgated in October 2015 and is applicable to fossil fuel-fired power plants that commence construction on or after January 8, 2014; therefore, Subpart TTTT is applicable to the project. Please note that an updated version of the regulation, NSPS Subpart TTTTa, was proposed on May 23, 2023. The updated regulation is expected to apply to the proposed SCCTs; however, the final provisions of Subpart TTTTa will not be available until the rule development process is complete. Therefore, our discussion of requirements will focus on the current regulation, Subpart TTTT. Dominion will modify their compliance approach as the revised rule becomes final, in accordance with the timeline provided in the regulation.

NSPS Subpart TTTT established three subcategories of combustion turbines: (1) base load natural gas-fired units, (2) non-base load natural gas-fired units, and (3) multi-fuel-fired units. A base load natural gas-fired unit is any unit that: (1) combusts more than 90 percent natural gas on a heat input basis on a 12-operating-month rolling average basis and (2) supplies more than its design efficiency or 50 percent, whichever is less, times its potential electric output as net-electric sales on both a 12-operating-month and a three-year rolling average basis. The base load natural gas-fired unit standard of performance is 1,000 pound of carbon dioxide per megawatt-hour (lb CO_2/MWh) gross or 1,030 lb CO_2/MWh net on a 12-operating-month rolling average. A non-base load natural gas-fired unit is any unit that: (1) combusts more than 90 percent natural gas on a heat input basis on a 12-operating-month rolling average basis, and (2) supplies its design efficiency or 50 percent, whichever is less, times its potential electric output as net-electric sales on either a 12-operating-month or a 3-year rolling average basis. The non-base load natural gas-fired unit standard of performance is 120 lb CO_2/MMBtu of heat input. A multi-fuel-fired unit is any unit that combusts 90 percent or less natural gas on a heat input basis on a 12-operating-month rolling average basis. The multi-fuel-fired unit standard of performance is 120 to 160 lb CO_2/MMBtu of heat input.

The proposed SCCTs are categorized as a non-base load multi-fuel-fired unit. The SCCTs will have a design efficiency of 50% or less and will comply with the applicable standard of performance, and applicable monitoring and reporting requirements of the NSPS Subpart TTTT.

4.5 Applicability of 40 CFR 61, NESHAP

The proposed project is not subject to any of the 40 CFR 61 NESHAP.

4.6 Applicability of 40 CFR 63, NESHAP

In general, the applicability of 40 CFR 63 NESHAP typically depends on whether a facility is a major HAP source (i.e., potential emissions of an individual HAP of 10 tpy or more and potential emissions of total HAPs of 25 tpy or more). 40 CFR 63, Maximum Achievable Control Technology (MACT) standards have been promulgated for major sources and, in a few cases, for area sources. Potential HAP emissions from the entire stationary source (CERC and CPS) will be greater than the major source thresholds for single and combined HAPs. Therefore, the facility will be considered a major source of HAP emissions.

4.6.1 Subpart YYYY, NESHAP for Stationary CTs

The CT MACT standard (40 CFR 63 Subpart YYYY) applies to stationary CTs located at major HAP sources. The proposed SCCTs are categorized as lean premix gas-fired stationary combustion turbines or diffusion flame gas-fired stationary combustion turbines with startup after March 9, 2022. Under Subpart YYYY, each SCCT is required to limit the concentration of formaldehyde to 91 ppbvd or less at 15-percent O_2, except during startup. Each turbine is also required to maintain the 4-hour rolling average of oxidation catalyst inlet temperature within the range suggested by the catalyst manufacturer. The proposed turbines will utilize oxidation catalysts to comply with the formaldehyde limit, as well as applicable monitoring and reporting requirements in Subpart YYYY.

4.6.2 Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines

The six emergency generators and firewater pump engine are subject to Subpart ZZZZ and will meet applicable requirements based on their engine type, engine size and the fact that they are considered emergency stationary RICE. The emergency generators and emergency firewater pump will be limited to 100 hr/yr of non-emergency operation including maintenance checks and readiness testing. The only requirement under Subpart ZZZZ for the emergency firewater pump engine is to maintain compliance with the requirements of 40 CFR Part 60 Subpart IIII. The six emergency generators have to meet only the emergency engine definition and initial notification requirements of Subpart ZZZZ, since they are new, emergency engines, greater than 500 hp located at a major source of HAPs and are not contractually obligated to be available for more than 15 hours per calendar year for emergency demand response or when there is a deviation in voltage or frequency of five percent or greater below standard voltage or frequency. The emergency generator engines will also meet applicable NSPS Subpart IIII requirements as described in Section 4.4.4.

4.6.3 Subpart DDDDD, NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

NESHAP Subpart DDDDD applies to boilers and process heaters constructed after June 4, 2010 and located at major HAP emissions sources. A process heater is defined as an enclosed device using a controlled flame, and the unit's primary purpose is to transfer heat indirectly to process material or to a heat transfer medium, including water, for use in a process unit instead of generating steam. The fuel gas heater is a water bath-type heater and is considered a process heater under this NESHAP. Therefore, the fuel gas heater will be subject to NESHAP Subpart DDDDD. New, natural gas-fired units with a rated heat input of 10 MMBtu or greater are required to conduct an annual tune-up. No other operating limits or emission limits apply.

4.6.4 Subpart JJJJJJ, NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources

NESHAP Subpart JJJJJJ only applies to boilers located at area sources. Since, CPS is a major source of HAPs, NESHAP JJJJJJ does not apply.

4.7 Title IV, Acid Rain Provisions

The proposed combustion turbines are fossil fuel-fired combustion devices used to generate electricity for sale, and their capacity serves a generator that exceeds 25 MW. Therefore, the proposed combustion turbines meet the definition of an affected Phase II unit under EPA's ARP pursuant to Title IV of the 1990 CAA Amendments. As a result, the facility must:

- Apply for a Phase II acid rain permit to include the new utility units.
- Install CEMS to demonstrate compliance with ARP provisions, meeting the requirements specified in 40 CFR 75.
- Hold allowances equivalent to annual NO_x and SO_2 emissions.

An acid rain permit application must include the date the units will commence commercial operation and the deadline for monitoring certification (180 calendar days). Dominion will submit an acid rain permit application at least 24 months prior to the start of operation and operate in compliance with applicable provisions of Title IV acid rain rules as adopted by reference under 9 VAC 5-80-360. The facility also will meet applicable acid rain requirements that become effective after the issuance of an acid rain permit.

The facility will develop a Title IV acid rain monitoring plan as required under 40 CFR 72. The plan will include the details of continuous monitoring systems, approved alternative monitoring provisions, or exemptions allowed under 40 CFR 75 for NO_x, SO_2, CO_2, and opacity. For the monitoring technology selected at the time of installation, the plan will cite the specific operating practices and maintenance programs that will be applied to the instrument(s). The plan also will cite the specific form of records that will be maintained, their availability for inspection, and the length of time they will be archived. The plan will indicate that the acid rain permit and applicable regulations will be reviewed at specific intervals for continued compliance and will cite the specific mechanism to be used to keep current on rule applicability.

4.8 RMP, Section 112(r)

Title III of the 1990 CAA Amendments contains requirements for subject facilities that store and/or process certain hazardous substances. Under these requirements, facilities must identify and assess potential hazards and carry out certain activities designed to reduce the likelihood and severity of accidental chemical releases. Section 112(r) of the CAA, codified in 40 CFR 68, mandates EPA publish rules to develop and implement RMPs for sources with more than the threshold quantity of a listed regulated substance to identify, prevent, and minimize the consequences of accidental releases.

The facility modification is a separate process from the existing CPS for Section 112(r) purposes and will not store substances in quantities greater than the associated threshold quantity (facility using 19% aqueous ammonia); therefore the CERC project will not be subject to the requirements of RMP regulations adopted under Section 112(r).

4.9 Applicability of Title V, Major Source Operating Permit

The state of Virginia has been delegated authority to implement the major source operating permit program (Title V) in accordance with the requirements of 40 CFR 70 and Title V of the 1990 CAA Amendments. The operating permit regulations are contained in 9 VAC 5-80, Part II, Article 1, and the minimum requirements for operating permit application contents are provided in 9 VAC 5-80-80.

Since 9 VAC 5-80-50 requires major sources (i.e., criteria pollutant emissions levels above 100 tpy) to obtain a Title V permit, Dominion will submit a Title V operating permit revision application to the state of Virginia within 12 months of first fire of the new units.

4.10 Cross-State Air Pollution Rule

On July 6, 2011, EPA promulgated the CSAPR to replace the Clean Air Interstate Rule (CAIR). CSAPR requires states to improve air quality by reducing power plant emissions that contribute to ozone and/or fine particle pollution in other states. Based on the outcome of a series of court decisions regarding CSAPR, Phase I of CSAPR began in 2015, and any units subject to the rule must comply with applicable requirements. EPA promulgated the Federal “Good Neighbor Plan” for the 2015 Ozone National Ambient Air Quality Standards to further address cross state air pollution on June 5, 2023, with an effective date of August 4, 2023. The facility will comply with the permitting, monitoring, recordkeeping, and reporting requirements set forth by the CSAPR and the “Good Neighbor Plan”, including the installation and certification of a CEMS.

4.11 Mandatory Greenhouse Gas Reporting

The Mandatory GHG Reporting Rule requires facilities that emit greater than 25,000 metric tpy of CO_2e to report their GHG emissions. As the proposed facility will exceed this threshold, reporting GHG emissions for the combustion turbines under 40 CFR 98 will be required. The requirements for the electricity generation category are outlined in Subpart D of 40 CFR 98. CPS will comply with these reporting requirements under 40 CFR 98.

The circuit breakers are not subject to GHG reporting under 40 CFR Part 98 Subpart DD. The definition of the source category, Electrical Transmission and Distribution Equipment Use, is

The electrical transmission and distribution equipment use source category consists of all electric transmission and distribution equipment and servicing inventory insulated with or containing sulfur hexafluoride (SF_6) or perfluorocarbons (PFCs) used within an electric power system.

40 CFR 98.308, Definitions, provides a definition of Facility with respect to an electric power system and states:

> *An electric power system is comprised of all electric transmission and distribution equipment insulated with or containing SF_6 or PFCs that is linked through electric power transmission or distribution lines and functions as an integrated unit, that is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner), and that is located between: (1) The point(s) at which electric energy is obtained from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner, and (2) the point(s) at which any customer or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. The facility also includes servicing inventory for such equipment that contains SF_6 or PFCs.*

Therefore, the SF_6 circuit breakers at CPS are not subject to 40 CFR Part 98 Subpart DD since the circuit breakers are located on a power generation facility and not an electrical transmission and distribution facility. In addition, the total quantity of SF_6 contained in the proposed circuit breakers (1,792 pounds) is less than the reporting threshold of 17,820 pounds as stated in 40 CFR 98.301.

4.12 State Regulatory Review

In general, VDEQ retains jurisdiction within Chesterfield County with SIP-approval and full delegation from EPA to enforce the air quality programs under the CAA. The emissions sources presented in this document will comply with applicable Virginia State Air Pollution Control Board regulations promulgated under Title 9 of the Virginia Administrative Code. This section lists the citations of the applicable state regulations with regulatory requirements.

9 VAC 5-20, General Provisions

The facility will comply with the general provisions as outlined in 9 VAC 5-20.

9 VAC 5-50-20, Compliance

Sixty days after achieving the maximum production rate, but not later than 180 days after initial startup, the facility must not operate any new source in violation of any standard of performance under this regulation. The facility will comply with this regulation.

9 VAC 5-50-30, Performance Testing

This regulation describes performance testing procedures for new or modified sources. The facility will conduct performance testing in accordance with these regulations.

9 VAC 5-50-40, Monitoring

This regulation applies to a CEMS. The facility will comply with these regulations, as appropriate, for CEMS located onsite.

9 VAC 5-50-50, Notification, Records, and Reporting

This regulation outlines the notification, recordkeeping, and reporting requirements for new sources. The facility will comply with these regulations.

9 VAC 5-50-260, Standard for Stationary Sources, and 9VAC5-50-280, Standard for Major Stationary Sources (PSD areas) --w

These regulations require a BACT analysis if certain thresholds are exceeded. A BACT analysis has been conducted for the project and is presented in Section 5.0.

9 VAC 5, Chapter 60, Standards for Air Toxics

This regulation describes the requirements for toxic pollutants that are emitted by a stationary source subject to emissions standards prescribed by the chapter. As addressed above, the Project combustion sources are all subject to NESHAP and thus exempt from the requirements of 9 VAC 5-60-300 *et seq*. by 9 VAC 5-60-300 C.4, while the remaining sources are below the applicable emission rate thresholds in 9 VAC 5-60-300 C.1. Although 9 VAC 5-60-300 *et seq*. is not applicable, Sections 6.0 and 7.0 provide a dispersion modeling analysis demonstrating compliance with the Virginia significant ambient air concentrations (SAAC) listed in 9 VAC 5-60-330.

9 VAC 5-80-420, Standard Requirements

This regulation describes the information needed and limitations for facilities subject to EPA's ARP. The proposed facility will comply with this regulation.

9 VAC 5-80-1105, Virginia Minor NSR Program

Virginia has established permitting requirements for projects that do not result in significant increases in emissions but do result in an increase above the applicable permit exemption thresholds shown in Table 4-6. An analysis of the uncontrolled emissions resulting from the project must be conducted to determine whether Virginia's minor NSR permitting program is triggered. Section 3.5 provides the methodology and summary of the uncontrolled emission rates for those regulated pollutants not subject to PSD applicability and PSD review. Based on that analysis and as shown in Table 3-8, the project is subject to Virginia's minor NSR permitting program for NO_x, PM, PM_{10}, SO_2, and H_2SO_4. Section 5.0 presents the necessary state-level BACT analysis for these pollutants.

The project does not trigger Virginia's minor NSR permitting program for lead.

9 VAC 5-80-1180, Standards and Conditions for Granting Permits

This regulation outlines the standards required for facilities for which a permit is granted. The proposed facility will comply with standards and conditions listed in the regulation.

9 VAC 5-80-1210, Permit Invalidation, Suspension, Revocation, and Enforcement

This regulation describes the conditions in which a permit may be invalidated, suspended, or revoked or an enforcement action may be brought upon the facility.

Table 4-6. Virginia Project Minor NSR Thresholds

Pollutant	Minor NSR Threshold (tpy)
CO	100
NO_x	10
SO_2	10
PM	15
PM_{10}	10
$PM_{2.5}$	6
VOC	10
Lead	0.6
H_2SO_4	6

Source: 9 VAC 5-80-1105.D.1.

9 VAC 5-80-1605 through 1995, Permits for Major Stationary Sources and Major Modifications Locating in PSD Areas

These regulations apply to the construction of a new major stationary source of a major modification at an existing major stationary source. The proposed facility is considered a major modification at an existing major stationary source and will comply with applicable standards and conditions listed in these regulations, including site suitability and environmental justice considerations, consistent with the Virginia Environmental Justice Act and the Commonwealth Energy Policy. See Section 10.

9 VAC 5-140, CO_2 Budget Trading Program

Virginia has finalized regulations to repeal the CO_2 trading program: the final repeal regulations are expected to have an effective date of August 30, 2023. If the state CO_2 trading program is not repealed, the proposed facility will be subject to, t and will comply with requirements including applying for a CO_2 budget permit as applicable. The permit application would need to be submitted no later than 12 months before the date on which the CO_2 budget source commences operation. The CO_2 budget permit would be issued by VDEQ in accordance with 9 VAC 5-85, Permits for Stationary Sources of Pollutants Subject to Regulation. The proposed facility would also need to meet the requirement of obtaining required CO_2 allowances.

5.0 Control Technology Review

5.1 Applicable Air Pollution Control Requirements

The proposed project is subject to review with respect to the following control technology requirements:

- BACT for those pollutants that exceed PSD SER thresholds specified in 9 VAC 5-80-1615.C for which Chesterfield County is classified as attainment. Those pollutants include CO, $PM_{2.5}$, and VOCs for this project.
- BACT for GHG emissions if the total project CO_2e potential emissions exceed 75,000 tpy and the facility is subject to PSD review for a regulated non-GHG pollutant.
- Virginia BACT review for pollutants not subject to BACT under PSD if the facility will have an uncontrolled emissions rate for those pollutants that exceeds the Virginia minor NSR permitting thresholds stated in 9 VAC 5-80-1105.D1. This includes NO_x, PM, PM_{10}, SO_2, and H_2SO_4 for this project. Although the Virginia BACT review requirements may not apply to emission units exempt from minor NSR permitting (e.g., fuel gas heater), a state BACT analysis for NO_x, PM, PM_{10}, SO_2, and H_2SO_4 was performed for these units.

The BACT analyses evaluate the "production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques" that are applicable to the proposed emissions units. As previously mentioned, BACT does not require consideration of alternatives that would result in a redefinition of the source, here a natural gas simple cycle combustion turbine electric generating facility.

Dominion selected simple cycle combustion turbines to ensure reliable, dispatchable service during peak electric demand periods, seasonal peaks, and extreme weather events. The CERC project will support the growth of clean, renewable energy, to maintain reliability during periods of peak customer demand and when renewable resources are unavailable or insufficient to meet customer needs. There will be times when solar and wind are not generating enough electricity to meet the demands of our customers and a dispatchable energy generation source, such as these combustion turbines, are critical to fill the gaps to keep the lights on for our customers. This project supports

Dominion's commitment of having a versatile and diverse fuel mix (which also includes nuclear, solar, offshore wind, pumped hydroelectric storage, and battery storage), so we are not reliant on one specific type of power generation to ensure reliable around-the-clock energy for our customers.

Dominion considered combined cycle combustion turbines as an alternative but concluded that the proposed simple cycle combustion turbines were better suited to meet the objectives of the project. Unlike combined cycle combustion turbines, simple cycle combustion turbines can be quickly deployed at a moment's notice when customer demand is critically high going from not operating to online and producing power in a very short timeframe. They also are designed for repeated starts and stops and have better capital economics for low capacity-factor operations (i.e., normal operation limited to 3,240 hours per year for each turbine). The proposed SCCTs are well suited to provide dispatchable around-the-clock reliable energy when other resources, such as wind and solar, are unavailable or insufficient to meet customer demand.

Dominion also considered whether other technologies, such as battery storage, would satisfy the objectives of the project. They were rejected as viable alternatives to the proposed simple cycle combustion turbines due to the limited duration of commercially available batteries. Commercially available battery storage, which does not produce electricity but stores it for later use, can ramp up to full power within seconds, but can supply that energy only for a short duration, as compared to simple cycle combustion turbines. Typically for grid applications, energy batteries are sized for up to four hours, which may be insufficient to meet peak demand. Utility-scale long duration battery storage is still considered an emerging technology, whereas simple cycle combustion turbine technology is more mature and has a proven record of generating reliable electricity. Combustion turbines can provide more energy over a longer period of time. The proposed simple cycle combustion turbines will generate nearly 1,000 MWe of sustained energy, while the battery energy storage facilities in operation today are smaller in both capacity and duration capabilities. Dominion currently operates three lithium-ion based battery storage pilot projects totaling 16 MWe of energy storage and is in the construction phase of three additional 4-hour lithium-ion battery storage projects totaling 85.7 MWe. However, for the reasons above, battery storage is not capable of meeting the stated purpose for this project and was therefore rejected. In addition to not meeting the objectives of the project, consideration of other technologies would require a fundamental redesign of the proposed project redefining the source: Virginia does not interpret its BACT requirements (both PSD and minor NSR) as a means of redefining the source proposed by the applicant.

The BACT analyses for the proposed project emission units are discussed in the following subsections.

5.2 BACT Analysis Description

A BACT analysis is required for pollutants subject to permitting, either the PSD regulations or just the Virginia minor NSR regulations. BACT applies to each air emissions source associated with the project that emits a pollutant subject to permitting. BACT for PSD is defined by VDEQ under 9 VAC 5801615.C as "an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant that would be emitted from a proposed major stationary source or major modification that the board, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant." BACT for the minor NSR program is defined in 9 VAC 5-50-250.C and is generally consistent with the PSD definition.

For PSD applications, VDEQ recommends use of EPA's five-step top-down approach to the BACT analysis. For minor NSR BACT, presumptive BACT is appropriate when there is sufficient experience with the industry category; otherwise VDEQ recommends the top-down approach. For those pollutants for which PSD permitting is not triggered, Dominion feels there is sufficient experience, based on numerous previously permitted facilities, for presumptive BACT to apply to the emergency generators, fire pump, and natural gas heater.

For pollutants triggering PSD and all regulated pollutants from the CTs, BACT analyses were performed in accordance with EPA's five-step top-down method. The first step in the top-down BACT analysis is the identification of available control technologies. Alternatives considered included process designs and operating practices that reduce the formation of emissions, post-process stack controls that reduce emissions after they are formed, and combinations of these two control categories. Sources of information used to identify available control alternatives include:

- EPA's RBLC database.
- Vendor information.
- ECT's experience with similar projects.

Following the identification of available control technologies, the second step in the analysis is to determine which technologies may be technically infeasible. Technical feasibility was evaluated using the criteria contained in Chapter 4 of APG-309 and Chapter B of the draft EPA NSR Workshop Manual (EPA, 1990). The third step in the top-down BACT process is the ranking of the remaining technically feasible control technologies from high to low in order of control effectiveness.

An assessment of energy, environmental, and economic impacts is then performed as step four. The economic analysis procedures can be found in the Office of Air Quality Planning and Standards Control Cost Manual (EPA, 2002). The fifth and final step is the selection of a BACT emissions limitation or a design, equipment, work practice, operational standard, or combination thereof that is achievable with the most stringent, technically feasible control technology that was not eliminated based on adverse energy, environmental, or economic grounds.

If the most stringent or top control technology is selected, an assessment of energy and economic impacts is not required. In this case, a review of collateral environmental impacts is conducted to determine if selection of a less stringent alternative control technology is warranted. If there are no issues regarding collateral environmental impacts, the top control technology is proposed as BACT, and the BACT analysis is concluded by selecting an emission limitation achievable with that technology.

The following sections provide control technology analyses using the five-step top-down BACT method for NO_x, CO, VOC, PM/PM_{10}/$PM_{2.5}$, SO_2, H_2SO_4 and GHG emissions for equipment emitting these pollutants.

5.3 BACT Analysis for Combustion Turbines (Normal Operations)

5.3.1 BACT for NO_x

NO_x emissions from combustion sources such as a CT unit consist of two components: oxidation of combustion air atmospheric nitrogen (thermal NO_x and prompt NO_x) and conversion of fuel bound nitrogen (FBN), also referred to as fuel NO_x. Essentially NO_x emissions originate as nitric oxide (NO). NO generated by the combustion processes are subsequently further oxidized in the atmosphere to the more stable NO_2 molecule.

Thermal NO_x results from the oxidation of atmospheric nitrogen under high temperature combustion conditions. The amount of thermal NO_x formed is primarily a function of combustion temperature and residence time, air/fuel ratio, and, to a lesser extent, combustion pressure. Thermal NO_x increases exponentially with increases in temperature and linearly with increases in residence time as described by the Zeldovich mechanism.

Prompt NO_x is formed near the combustion flame front from the oxidation of intermediate combustion products. Prompt NO_x comprises a small portion of total NO_x in conventional near-stoichiometric combustors but increases under fuel-lean conditions. Prompt NO_x, therefore, is an important consideration with respect to low-NO_x combustors that use lean fuel mixtures. Prompt NO_x levels may also become significant with ultra-low-NO_x burners.

Fuel NO_x arises from the oxidation of non-elemental nitrogen contained in the fuel. The conversion of FBN to NO_x depends on the bound nitrogen content of the fuel. In contrast to thermal NO_x, fuel NO_x formation does not vary appreciably with combustion variables such as temperature or residence time. Presently, there are no combustion processes or fuel treatment technologies available to control fuel NO_x emissions. For this reason, the regulations typically contain an allowance for FBN directly or inherently (i.e., part of the emissions limit). NO_x emissions from combustion sources fired with fuel oil are typically higher than those fired with natural gas due to higher combustion flame temperatures and FBN content. Natural gas may contain molecular nitrogen (N_2); however, the molecular nitrogen found in natural gas does not contribute significantly to fuel NO_x formation. Typically, natural gas contains a negligible amount of FBN.

5.3.1.1 Available NO_x Control Technologies (Step 1)

Available technologies for controlling NO_x emissions from a CT unit include combustion process modifications and post-combustion exhaust gas treatment systems. A listing of available control technologies for each of these categories follows:

- Combustion process modifications:

  - Water or steam injection and standard combustor design
  - Water or steam injection and advanced combustor design
  - Dry low-NO_x combustor design
  - Catalytic combustion controls
- Post-combustion exhaust gas treatment systems:
  - Selective noncatalytic reduction (SNCR).
  - Nonselective catalytic reduction (NSCR).
  - SCR.
  - EMx™ (SCONOx™).

A description of each of the listed control technologies is provided in the following subsections.

Water or Steam Injection and Standard Combustor Design

Injection of water or steam into the primary combustion zone of a CT reduces the formation of thermal NO_x by decreasing the peak combustion temperature. Water injection decreases the peak flame temperature by diluting the combustion gas stream and acting as a heat sink by absorbing heat necessary to vaporize the water (latent heat of vaporization) and raise the vaporized water temperature to the combustion temperature. High purity water, i.e., demineralized water, must be employed to prevent turbine corrosion and deposition of solids on the CT blades. Steam injection employs the same mechanisms to reduce peak flame temperature with the exclusion of heat absorbed due to vaporization, because the heat of vaporization has been added to the steam prior to injection. Accordingly, a greater amount of steam, on a mass basis, is required to achieve a specified level of NO_x reduction in comparison to water injection. Typical injection rates range from 0.3 to 1.0 and 0.5 to 2.0 lb of water and steam, respectively, per pound of fuel. Water or steam injection will not reduce the formation of fuel NO_x.

The maximum amount of steam or water that can be injected depends on the CT combustor design. Excessive rates of injection will cause flame instability, combustor dynamic pressure oscillations, thermal stress (cold-spots), and increased emissions of CO and VOCs due to combustion inefficiency. Accordingly, the efficiency of steam or water injection to reduce NO_x emissions also depends on turbine combustor design. For a given CT design, the maximum water to fuel ratio (and maximum NO_x reduction) will occur up to the point where cold-spots and flame instability adversely affect safe, efficient, and reliable operation of the turbine. The use of water or steam injection and standard turbine combustor design can generally achieve NO_x exhaust concentrations of 42 ppmvd for gas firing.

Water or Steam Injection and Advanced Combustor Design

Water or steam injection functions in the same manner for advanced combustor designs as described previously for standard combustors. Advanced combustors, however, have been designed to generate lower levels of NO_x and tolerate greater amounts of water or steam injection. The use of water or steam injection and advanced turbine combustor design can typically achieve NO_x exhaust concentrations of 25 ppmvd for gas firing, depending on the CT vendor and operating load scenario.

Dry Low-NO_x Combustor Design

Dry low-NO_x combustors are designed to premix CT fuel and air prior to combustion in the primary zone. Premixing results in a homogeneous air/fuel mixture without an identifiable flame front. This allows a lower flame temperature in the combustion zone, causing a decrease in thermal NO_x emissions.

Currently, premixing is limited in application to natural gas and natural gas/hydrogen fuel blends and loads above approximately 35 to 50 percent of baseline due to flame stability considerations. During oil-firing, water injection is typically employed to control NO_x emissions.

In addition to lean premixed combustion, dry low-NO_x combustors typically incorporate lean combustion and reduced combustor residence time to reduce the rate of NO_x formation. CTs cool the high-temperature CT combustor discharge gas stream with dilution air to lower the exhaust gas to an acceptable temperature prior to entering the turbine. By adding additional dilution air, the hot CT combustor gases are rapidly cooled to temperatures below those needed for NO_x formation. Reduced residence time combustors add the dilution air sooner than do standard combustors. The amount of thermal NO_x is reduced, because the CT combustion gases are at a higher temperature for a shorter period of time.

Current dry low-NO_x combustor technology can typically achieve NO_x exhaust concentrations of approximately 9-25 ppmvd using natural gas fuel, depending on the CT vendor and operating load scenario.

Catalytic Combustion Controls (XONON™)

Another technology that is potentially capable of reducing gas turbine NO_x emissions to less than 3.5 ppmvd is catalytic combustion. Catalytica, Inc. was the first to commercially develop catalytic combustion controls for certain (mostly smaller) turbine engines and markets this system under the name XONON™. In October 2006, this technology was sold to Kawasaki Heavy Industries, Ltd. It is not commercially available for larger CTs, such as the 250 MWe CTs proposed. Therefore, catalytic combustion does not represent an available control option for the proposed CT.

Selective Noncatalytic Reduction

The SNCR process involves the gas phase reaction of NO_x in the exhaust gas stream with injected ammonia or urea, in the absence of a catalyst, to yield nitrogen and water vapor. The two commercial applications of SNCR include the Electric Power Research Institute's NOxOUT™ and Exxon's Thermal DeNOx™ processes. The two processes are similar in that either ammonia (Thermal DeNOx™) or urea (NOxOUT™) is injected into a hot exhaust gas stream at a location specifically chosen to achieve the optimum reaction temperature and residence time. Simplified chemical reactions for the Thermal DeNOx™ process are as follows:

$$4NO + 4NH_3 + O_2 = 4N_2 + 6\ H_2O \quad (1)$$

$$4\ NH_3 + 5\ O_2 = 4NO + 6\ H_2O \quad (2)$$

The NOxOUT™ process is similar with the exception that urea is used in place of ammonia. The critical design parameter for both SNCR processes is the reaction temperature. At temperatures below 1,600°F, rates for both reactions decrease, allowing unreacted ammonia to exit with the exhaust stream. Temperatures between 1,600 and 2,000°F will favor reaction (1), resulting in a reduction in NO_x emissions. Reaction (2) will dominate at temperatures above approximately 2,000°F, causing an increase in NO_x emissions. Due to reaction temperature considerations, the SNCR injection system must be located at a point in the exhaust duct where temperatures are consistently between 1,600 and 2,000°F.

Nonselective Catalytic Reduction

The NSCR process uses a platinum/rhodium catalyst to reduce NO_x to nitrogen and water vapor under fuel-rich (less than 3 percent oxygen gas) conditions. NSCR technology has only been applied to automobiles and stationary reciprocating engines and does not represent an available control option.

Selective Catalytic Reduction

In contrast to SNCR, SCR reduces NO_x emissions by reacting ammonia with exhaust gas NO_x to yield nitrogen and water vapor in the presence of a catalyst. Ammonia is injected upstream of the catalyst bed where the following primary reactions take place:

$$4NH_3 + 4NO + O_2 = 4N_2 + 6H_2O \quad (3)$$

$$4NH_3 + 2NO_2 + O_2 = 3N_2 + 6H_2O \quad (4)$$

The catalyst serves to lower the activation energy of these reactions, which allows NO_x conversions to take place at a lower temperature than the exhaust gas. The optimum temperatures range from as low as 350°F to as high as 1,100°F (typically 600 to 750°F), depending on the catalyst. Typical SCR catalysts include metal oxides (titanium oxide and vanadium), noble metals (combinations of platinum and rhodium), zeolite (alumino-silicates), and ceramics.

Factors affecting SCR performance include space velocity (volume per hour of flue gas divided by the volume of the catalyst bed), ammonia/NO_x molar ratio, and catalyst bed temperature. Space velocity is a function of catalyst bed depth. Decreasing the space velocity (increasing catalyst bed depth) will improve NO_x removal efficiency by increasing residence time but will also cause an increase in catalyst bed pressure drop. The reaction of NO_x with ammonia theoretically requires a 1:1 molar ratio. Ammonia/NO_x molar ratios greater than 1:1 are necessary to achieve high NO_x removal efficiencies due to imperfect mixing and other reaction limitations. However, ammonia/NO_x molar ratios are typically maintained at 1:1 or lower to prevent excessive unreacted ammonia (ammonia slip) emissions. As is the case for SNCR, reaction temperature is critical for proper SCR operation. Below the critical temperature range, reduction reactions (3) and (4) will not proceed. At temperatures exceeding the optimal range, oxidation of ammonia will take place resulting in an increase in NO_x emissions. NO_x removal efficiencies for SCR systems will vary depending on the NO_x inlet concentration.

EMx™ (SCONOx™)

EMx™ (formerly referred to as SCONOx™) is a proprietary, multipollutant reduction catalytic control system offered by EmeraChem. EMx™ is a complex technology that is designed to simultaneously reduce NO_x, VOC, and CO through a series of oxidation/absorption catalytic reactions.

The EMx™ system employs a single catalyst to simultaneously oxidize CO to CO_2 and NO to NO_2. NO_2 formed by the oxidation of NO is subsequently absorbed onto the catalyst surface through the use of a potassium carbonate absorber coating. The EMx™ oxidation/absorption cycle reactions are:

$$CO + \frac{1}{2} O_2 = CO_2 \quad (5)$$

$$NO + \frac{1}{2} O_2 = NO_2 \quad (6)$$

$$2\ NO_2 + K_2CO_3 = CO_2 + KNO_2 + KNO_3 \quad (7)$$

CO_2 produced by reactions (5) and (7) is released to the atmosphere as part of the CT exhaust gas stream. Water vapor and elemental nitrogen are released to the atmosphere as part of the CT exhaust gas stream. Following regeneration, the EMx™ catalyst has a fresh coating of potassium carbonate, allowing the oxidation/absorption cycle to begin again. Because the regeneration cycle must take place in an oxygen-free environment, the section of catalyst undergoing regeneration is isolated from the exhaust gas stream using a set of louvers.

The EMx™ operates at a temperature range of 300 to 700°F and, therefore, the temperature of the exhaust gas stream from a simple cycle combustion turbine must be significantly reduced to fall within this optimal operating temperature range. For installations below 450°F, the EMx™ system uses an inert gas generator to produce hydrogen and CO_2 for catalyst regeneration. For installations above 450°F, the EMx™ catalyst is regenerated by introducing a small quantity of natural gas with a carrier gas, such as steam, over a steam reforming catalyst and then to the EMx™ catalyst. The reforming catalyst initiates the conversion of methane to hydrogen, and the conversion is completed over the EMx™ catalyst. Utility materials needed for the operation of the EMx™ control system include ambient air, natural gas, water, steam, and electricity. The primary utility material is natural gas used for regeneration gas production. Steam is used as the carrier/dilution gas for the regeneration gas. Electricity is required to operate the computer control system, control valves, and louver actuators.

Commercial experience to date with the EMx™ control system is limited to several small combined-cycle power plants located in California. Representative of these small power plants is an aeroderivative GE LM2500 turbine, owned by Sunlaw Energy Corporation, equipped with water injection to control NO_x emissions to approximately 25 ppmvd. The low temperature SCONOx™ control system (i.e., located downstream of the HRSG at a temperature between 300 and 400°F) was retrofitted to the Sunlaw Energy facility in December 1996 and has achieved a NO_x exhaust concentration of 3.5 parts per million by volume (ppmv) resulting in an approximate 85-percent NO_x removal efficiency. This facility is no longer operating due to market factors. A high-temperature application of EMx™ (i.e., control system located within the HRSG at a temperature between 600 and 700°F) has been in service since June 1999 on a small, 5-MWe Solar CT located at the Genetics Institute in Massachusetts. Although considered commercially available for large natural gas-fired turbines, there are currently no combustion turbines greater than 43 MWe that have demonstrated successful application of the EMx™ control technology.

5.3.1.2 NO_x BACT Technical Feasibility (Step 2)

Water/steam injection and standard combustor design, water/steam injection and advanced combustor, and dry low-NO_x combustor design are the available combustion control technologies that would be considered technically feasible combustion processes for the proposed General Electric 7FA.05 SCCTs.

Of the post-combustion exhaust gas treatment technologies, SNCR is not feasible because the temperature required for this technology (between 1,600 and 2,000°F) exceeds the exhaust gas temperature of the proposed General Electric 7FA.05 SCCTs (typically between 1,100 and 1,200°F). NSCR was also determined to be technically infeasible because the process must take place in a fuel-rich (less than 3-percent oxygen) environment. The oxygen content of the exhaust gas stream for the proposed General Electric 7FA.05 SCCTs is typically in excess of 12 percent.

SCR is considered technically feasible for the proposed General Electric 7FA.05 SCCTs.

EMx™ is desirable in the fact that, unlike SCR, it does not require ammonia. However, as discussed previously, there are many complex technical issues associated with this technology. In addition, this technology has not been proven on larger simple-cycle CTs such as the proposed General Electric 7FA.05 SCCTs. Therefore, EMx™ is not considered technically feasible.

5.3.1.3 NO_x BACT Ranking of Technical Feasible Control Technologies (Step 3)

The following technically feasible control technologies are ranked from the highest level of control to the lowest level of control. The expected exhaust NO_x concentration during normal operation has been provided for each control technology:

- SCR (2.5 ppm NO_x natural gas-firing/5 ppm NO_x fuel oil-firing)
- Dry-low NO_x combustor design (25 ppm NO_x natural gas-firing/42 ppm NO_x fuel oil-firing)
- Water/steam injection and advanced combustor design (25 ppm NO_x natural gas-firing/42 ppm NO_x fuel oil-firing)
- Water/steam injection and standard combustor design (42 ppm NO_x)

In each case, the NO_x emissions while firing the H_2 fuel blend are expected to be comparable to that listed for natural gas-fired operation. No reductions in NO_x emissions are expected during SUSD events or LLE mode when evaluating an SCR system due to the fact that the exhaust gas temperature has not reached the optimal temperature of the SCR for NO_x removal.

5.3.1.4 Energy, Environmental and Economic Impacts (Step 4)

There are no significant adverse energy or environmental impacts associated with the use of good combustor designs, including dry-low NO_x combustors, and good combustion practices to minimize NO_x emissions. The use of SCR will result in increased emissions of condensable PM and H_2SO_4. Ammonia is injected in the SCR to reduce NO_x emissions but will react with any sulfur in the exhaust to form ammonium sulfates and sulfuric acid. These ammonium sulfate emissions will increase the condensable PM emissions and thus the total PM_{10} and $PM_{2.5}$ emissions, which include both filterable and condensable PM emissions. The formation of ammonium sulfates and sulfuric acid will be limited by using low sulfur fuels and minimizing excess ammonia injection.

Dominion is proposing to install SCR along with advanced combustor design and water/steam injection. This represents the most-effective control technology identified; therefore, an economic impact analysis is not required.

5.3.1.5 Proposed NO_x BACT Emissions Limit (Step 5)

To determine the most stringent NO_x emissions limit, EPA's RBLC database was queried for simple-cycle combustion turbines larger than 25 MWe. Appendix C, Tables C-1 and C-8 summarize BACT determinations for the past 10 years for units combusting natural gas and diesel fuel oil, respectively.

The lowest BACT determinations for simple cycle combustion turbine facilities that did not employ SCR was 9 ppm (natural gas) and 42 ppm (fuel oil) through the use of DLN combustors (natural gas) and water injection (fuel oil). BACT determinations relying upon SCR ranged from 2 to 9 ppm on natural gas. The RBLC included two LAER determinations for simple cycle combustion turbines firing fuel oil using SCR to achieve limits of 4-5 ppmvd. Those few determinations below 2.5 ppm NO_x were generally in non-attainment areas or required based on a regulation beyond BACT.

Based on this review, SCR is considered BACT and will result in proposed NO_x emission limits of 2.5 ppmvd @ 15% O_2 for normal operating loads when combusting natural gas or the H2 fuel blend and 5 ppmvd @ 15% O_2 for normal operating loads when combusting fuel oil. Normal operating loads are defined as MECL to maximum power or 100% load (for natural gas and H_2 fuel blend combustion) and 50% load to maximum power or 100% load (for fuel oil combustion). These proposed NO_x emission rates are based on NO_x emission rates provided by the CT manufacturer for the proposed General Electric 7FA.05 combustion turbines with the addition of an SCR during normal steady-state operation and during transitional steady state operation. These proposed NO_x emission limits are based on a 4-hour rolling average using CEMS. Table 5-1 presents the proposed NO_x emissions limits for the SCCTs for the CERC project.

Table 5-1. Proposed NOx Emissions Limits for the SCCTs

Emissions Source	Proposed NO_x Emissions Limit (corrected to 15% O_2)	Compliance Method
Natural gas-firing	2.5 ppmvd	4-hour rolling average using CEMS
H_2 fuel blend-firing	2.5 ppmvd	4-hour rolling average using CEMS
fuel oil-firing	5 ppmvd	4-hour rolling average using CEMS

Source: Dominion, ECT, 2023.

5.3.2 BACT for CO

5.3.2.1 Available CO Control Technologies (Step 1)

The two control technologies available for controlling CO include combustion process design and post combustion oxidation catalyst.

CO is emitted in CT exhaust due to incomplete combustion. Under ideal conditions, CO formed during the combustion process is converted to CO_2. The conversion of CO to CO_2 is inhibited if insufficient oxygen is present or if the combustion products cool to temperatures below 625°F before oxidation of the CO is complete.

Combustion controls generally focus on maintaining optimal air/fuel ratios by ensuring thorough mixing and excess oxygen throughout the combustion unit. Increasing combustion temperatures can also promote complete combustion, but doing so will increase thermal NO_x formation. CT design and operating practices strive to achieve balance to minimize both NO_x and CO formation.

Oxidation catalysts are post-combustion controls which enhance the oxidation of CO to CO_2 without the addition of any chemical reagents. Typically, precious metals are used as the catalyst to promote oxidation. Catalyst volume is dependent upon the exhaust flow, temperature, and desired removal efficiency. Increasing the catalyst volume/depth creates increased pressure drop across the catalyst bed which, in turn, decreases the efficiency of the CT. In addition to controlling CO emissions, oxidation catalysts will oxidize VOCs and organic HAPs in the exhaust stream.

5.3.2.2 CO BACT Technical Feasibility (Steps 2 and 3)

Both CT combustor/burner design and oxidation catalyst control systems are considered to be technically feasible for the proposed CT.

No reductions in CO emissions are expected during SUSD events when evaluating an oxidation catalyst due to the fact that the exhaust gas temperature has not reached the optimal temperature of the oxidation catalyst for CO removal.

5.3.2.3 Energy, Environmental and Economic Impacts (Step 4)

There are no significant adverse energy or environmental impacts associated with the use of good combustor designs and good combustion practices to minimize CO emissions. The use of oxidation catalyst will result in increased H_2SO_4 mist and salt emissions if applied to combustion devices fired with fuels containing appreciable amounts of sulfur. The proposed CTs will combust fuels with very low sulfur content (natural gas, H_2 blend, ultra-low sulfur diesel); therefore, H_2SO_4 mist emissions will be limited.

Dominion is proposing to install oxidation catalyst along with advanced combustor design. This represents the most-effective control technology identified; therefore, an economic impact analysis is not required. In addition, this approach will reduce emissions of VOCs and formaldehyde. Controlling formaldehyde emissions is necessary to comply with the applicable limits in 40 CFR 63 Subpart YYYY.

5.3.2.4 Proposed CO BACT Emissions Limit (Step 5)

To determine the CO emissions limit for the CTs, EPA's RBLC database was queried for large CTs firing natural gas and fuel oil. BACT determinations were obtained for facilities permitted over the past 10 years and are summarized in Appendix C, Tables C-2 and C-9.

Table C-2 presents CO BACT determinations for simple cycle combustion turbines combusting natural gas. The lowest BACT determination shown was 4 ppmvd at 15% O_2 and was based on control method of good combustion design and practices. Several determinations relying upon a combination of good combustion design and oxidation catalysts were identified with CO emission limits of 5-6 ppmvd at 15% O_2.

Table C-9 presents CO BACT determinations for simple cycle combustion turbines combusting fuel oil. The lowest BACT determination shown was 5 ppmvd at 15% O_2 for the Bayonne Energy Center located in New Jersey. This facility utilizes the Rolls Royce Trent combustion turbines which are aeroderivative type turbines and uses oxidation catalyst to achieve the CO BACT limit of 5 ppmvd.

Dominion will include an oxidation catalyst along with good combustion controls to reduce CO emissions to 2 ppmvd @ 15% O_2 for normal operating loads when combusting natural gas, H_2 fuel blend or fuel oil. The applicant requested CO emission limits are summarized in Table 5-2. These proposed CO emission limits are based on a 4-hour rolling average using CEMS.

Table 5-2. Proposed CO Emissions Limit for each SCCT

Emissions Source	Proposed CO Emissions Limits (corrected to 15% O_2)	Compliance Method
Natural gas-firing	2 ppmvd	4-hour rolling average using CEMS
H_2 fuel blend-firing	2 ppmvd	4-hour rolling average using CEMS
fuel oil-firing	2 ppmvd	4-hour rolling average using CEMS

Source: Dominion, ECT, 2023.

5.3.3 BACT for PM, PM_{10}, and $PM_{2.5}$

5.3.3.1 Available PM/PM_{10}/$PM_{2.5}$ Control Technologies (Step 1)

Particulate matter emissions from combustion turbines are a result of incomplete combustion or the presence of sulfur compounds and ash from the fuel. These particulates are generally less than 1 micron in equivalent diameter and consist of both filterable and condensable fractions. Particulate matter emissions are also formed from the conversion of fuel sulfur to sulfates and ammonium sulfates for CTs equipped with SCR and oxidation catalysts.

The use of clean-burning, low sulfur, low ash fuels will result in minimal formation of PM/PM_{10}/$PM_{2.5}$ during combustion. Best combustion practices will enhance complete combustion and minimize emissions of unburned hydrocarbons.

Post-combustion control technologies used for controlling PM emissions include the following:

- Centrifugal (cyclone) collectors.
- Fabric filters or baghouses.
- Electrostatic precipitators (ESPs).
- Wet scrubbers.

Centrifugal (cyclone) collectors are generally used in industrial applications to control large diameter particles (>10 microns). Cyclones impart a centrifugal force on the gas stream, which directs entrained particles outward. Upon contact with an outer wall, the particles slide down the cyclone wall and are collected at the bottom of the unit. Cyclones are not effective for removing small particles. Therefore, centrifugal collectors are not considered technically feasible for CTs.

Fabric filters/baghouses use a filter material to remove particles from a gas stream. The exhaust gas stream flows through filters/bags onto which particles are collected. Baghouses are typically employed for industrial applications to provide high-efficiency particulate matter control. Baghouses can be designed to remove fine particulate matter, but they are most effective for larger diameter particles.

ESPs are used on a wide variety of industrial sources, including certain boilers. ESPs use electrical forces to move particles out of a flowing gas stream onto collector plates. The particles are given an electric charge by forcing them to pass through a region of gaseous ion flow called a corona. An electrical field generated by electrodes at the center of the gas stream forces the charged particles to be attracted to the ESP's collecting plates. Removal of the particles from the collecting plates is required to maintain sufficient surface area to clean the flowing gas stream. Removal must be performed in a manner to minimize re-entrainment of the collected particles.

Wet scrubbers remove pollutants by contacting the gas stream with an absorbent liquid. Various designs are in use to optimize control efficiency, scrubber size, liquid flow rates, and cost. Scrubbers are generally less effective at higher exhaust temperatures, higher exhaust flowrates, and lower pollutant loading concentrations.

5.3.3.2 PM/PM_{10}/$PM_{2.5}$ BACT Technical Feasibility (Steps 2 and 3)

The use of clean fuels and good combustion practices are considered technically feasible for controlling particulate matter emissions from CTs.

No technically-feasible post-combustion control systems were identified to control PM/PM_{10}/$PM_{2.5}$ emissions from CTs.

- Centrifugal collectors are not considered technically feasible for CTs because cyclones are not effective for removing small particles.
- Fabric filters are not well suited to high temperature exhaust conditions like those from CTs due to the risk of fire. Additionally, very fine particulate matter tends to plug the holes in the

filters, leading to masking and increased pressure drops. High pressure drops downstream of a CT negatively impacts the combustion process and energy efficiency of the unit.

- ESPs are typically used in applications where the exhaust flow rate is between 200,000 and 1,000,000 scfm and the inlet pollutant loading is between 1 and 50 grains per cubic foot. CTs firing clean, low-sulfur fuel have higher exhaust flow rates and lower pollutant loadings than recommended for an ESP.
- Scrubbers likewise are not suited for CTs firing gaseous fuels or low-sulfur oil because of high exhaust temperatures, high exhaust flowrates, and very low concentrations of particulate matter.

5.3.3.3 Proposed PM/PM_{10}/$PM_{2.5}$ BACT Emissions Limit (Steps 4 and 5)

There is no significant adverse energy, environmental, or economic impacts associated with the use of clean fuels and good combustion practices.

EPA's RBLC database was queried for large CTs firing natural gas and fuel oil. BACT determinations were obtained for facilities combusting natural gas and fuel oil since 2010 and are summarized in Appendix C, Tables C-4 and C-11.

PM/PM_{10}/$PM_{2.5}$ emissions from CTs are dependent on several factors, including: (1) the sulfur content of the fuel; and (2) the use of a post-combustion SCR and/or oxidation catalyst control systems. It is difficult to make comparisons of numerical BACT emissions limits with respect to PM/PM_{10}/$PM_{2.5}$ emissions for several reasons. First, some of the queried results represent emissions limits based on only the filterable portion of total PM/PM_{10}/$PM_{2.5}$ emissions. If the condensable portion, including sulfates generated during the combustion process, is not included, a lower lb/MMBtu emissions limit will result. Second, the emissions limits that do contain both the filterable and condensable portion are based on widely varying natural gas sulfur contents. Sulfur in the fuel is converted to sulfates during the combustion process, and these sulfates add to the condensable portion of the total PM/PM_{10}/$PM_{2.5}$ emissions. Facilities that have a higher natural gas sulfur content have higher PM/PM_{10}/$PM_{2.5}$ emissions based solely on the condensable portion. Lastly, the inclusion of an SCR to control NO_x emissions and oxidation catalyst to control CO and VOC emissions will further promote oxidation of sulfur into SO_3 and H_2SO_4 and thus result in an increased condensable portion of PM_{10} and $PM_{2.5}$. Similarly, increased ammonia injection with an

SCR to achieve very low NOx levels will increase the presence of ammonium sulfates. (Note: PM emissions are presented as filterable only consistent with VDEQ's regulations.)

As shown in Table C- 4, PM_{10} and $PM_{2.5}$ BACT determinations for natural gas combustion range from 0.005 to 0.008 lb/MMBtu for cases listing a numeric limit on a lb/MMBtu basis. However, due to the variables listed above, many states only list a technology or fuel-based limitation for particulates from the combustion of clean fuels such as natural gas. One determination (Greenridge Station, NY) is shown to employ a bagfilter as BACT. The actual permit that was issued to the site indicates the facility operates a boiler, not a CT, firing natural gas with up to 19 percent biomass.

Table C-9 contains PM_{10} and $PM_{2.5}$ BACT determinations for fuel oil combustion. As shown, the determinations list the use of fuel oil as the control method and specify an hourly emission limit, rather than a concentration or heat input based limit. PM/PM_{10}/$PM_{2.5}$ BACT determinations are based on using clean fuels, i.e., natural gas or fuel oil, and good combustion practices.

Table 5-3 presents the proposed PM_{10}/$PM_{2.5}$ BACT emissions limits for the SCCTs for the CERC project. A separate BACT limit for PM is not proposed since all particulate emissions from the CTs are presumed to be less than 1 micron in size and PM would be equal to the filterable fraction of the PM_{10}/$PM_{2.5}$ emissions.

As shown, the proposed PM_{10}/$PM_{2.5}$ BACT emission limit (filterable and condensable) when combusting natural gas or H_2 fuel blend is 0.014 lb/MMBtu (HHV). This proposed BACT emission limit is valid while combusting natural gas or H_2 fuel blend at all loads.

The proposed PM_{10}/$PM_{2.5}$ BACT emission limit (filterable and condensable) when combusting fuel oil is 0.04 lb/MMBtu (HHV). This proposed BACT emission limit is valid at while combusting fuel oil at all loads.

These proposed PM_{10}/$PM_{2.5}$ BACT emission limits are based on a 3-hour average and are consistent with other previous PM_{10}/$PM_{2.5}$ BACT determinations.

Table 5-3. Proposed PM10/PM2.5 BACT Emissions Limit for each SCCT

Emissions Source	Proposed $PM_{10}/PM_{2.5}$ BACT Emissions Limits
Natural gas-firing	0.014 lb/MMBtu (HHV)
H_2 fuel blend-firing	0.014 lb/MMBtu (HHV)
fuel oil-firing	0.04 lb/MMBtu (HHV)

Source: Dominion, ECT, 2023.

5.3.4 BACT for GHG Emissions

On June 3, 2010, EPA published a final rule (effective August 2, 2010) in the Federal Register (75 FR 31,514) entitled PSD and Title V GHG Tailoring Rule, commonly referred to as the Tailoring Rule. For PSD/Title V purposes, GHGs are a single air pollutant defined as the aggregate group of CO_2, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and SF_6. This final rule established specific applicability thresholds for GHG emissions for new major sources and modifications to existing major sources under the PSD and Title V programs. Virginia adopted 9 VAC 5-85 to address GHG PSD and Title V permitting requirements.

Under 9 VAC 5-85, a new major stationary source or major modification for an NSR pollutant other than GHG, whose GHG emissions exceed 75,000 tpy CO_2e, will be subject to PSD review, including a BACT analysis for GHG emissions. CO_2e emissions are defined as the sum of the mass emissions of each individual GHG adjusted for its respective global warming potential (GWP) using Table A-1 of the GHG Reporting Program (40 CFR 98, Subpart A).

The CERC project will be considered a major modification which will trigger PSD applicability for an NSR pollutant other than GHG and will have CO_2e emissions greater than 75,000 tpy. Therefore, the project will require a BACT analysis for GHG.

Application of BACT for GHG emissions from the SCCTs to be installed as a part of the Project cannot result in GHG emissions in excess of the levels allowed by an applicable NSPS. In October 2015, EPA promulgated NSPS Subpart TTTT - Standards of Performance for GHG Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units. As discussed in Section 4.4.6, NSPS Subpart TTTT is applicable to fossil fuel-fired power plants that commence construction on or after January 8, 2014; therefore, Subpart TTTT is applicable to the project. For a newly constructed stationary combustion turbine that combusts 90% or less natural gas on a heat input basis on a 12-operating-month rolling average basis, the applicable limit under Subpart TTTT is 120 to 160 lb CO_2 per MMBtu of heat input as determined based on the amount of natural gas and fuel oil combusted. The proposed SCCTs will meet the heat input-based standards in Subpart TTTT.

On May 23, 2023, EPA published a proposed New Source Performance Standard for GHG Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units (NSPS Subpart TTTTa). This new rule is expected to apply to the proposed SCCTs when it becomes final. As EPA stated in the preamble, "a proposed NSPS does not establish the BACT floor for affected facilities seeking a PSD permit," 88 Fed. Reg. 33407-08 (May 23, 2023). In any case, Dominion will comply with applicable requirements of the final rule.

In March 2011, EPA published an updated guidance document entitled PSD and Title V Permitting Guidance for Greenhouse Gases (EPA, 2011a). This guidance document provides, among other things, guidance on performing BACT analyses for GHG emissions. EPA's guidance reaffirms that a BACT analysis for GHG emissions may be conducted using the same five-step, top-down approach used for other NSR pollutants. The following subsections provide the BACT analysis for GHG emissions for the SCCTs. The SCCTs will be a primary source of GHGs emitted by the proposed project. The following describes the five-step BACT analysis performed for the SCCTs.

5.3.4.1 Available GHG Control Technologies (Step 1)

Step 1 of the top-down BACT analysis is the identification of available control technologies or techniques, including inherently lower-emitting processes/practices/designs, add-on controls, and a combination of inherently lower-emitting processes/practices and add-on controls, that have a practical application to the control of GHG emissions. These control technologies must include control technologies for the pollutant under evaluation, GHG, regardless of the source category type. For example, control technologies must be identified not only for those demonstrated on other simple-cycle combustion turbine facilities, but also for control technologies determined available through technology transfer that are applied to source categories with similar exhaust stream characteristics.

Technologies that formed the basis of an applicable NSPS should also be considered in the BACT analysis, since a BACT emissions limit cannot be less stringent than an applicable NSPS emissions limit. As previously referenced, NSPS Subpart TTTT will apply to the stationary combustion turbines. Under NSPS TTTT, EPA determined the best system of emission reduction (BSER) for CTs to be clean fuels for non-baseload and multi-fuel firing units, and efficient natural gas combined-cycle units for baseload units. In the recent NSPS Subpart TTTTa proposal, EPA has proposed BSER for low-, intermediate-, and base-load units. Proposed BSER for low-load units is the same as under NSPS TTTT (lower emitting fuels), with the proposed intermediate load BSER being co-firing of 30% low GHG hydrogen (H_2) by 2032. For base-load units, the proposed BSER is 90% carbon capture and sequestration (CCS) by 2035 or 30% co-firing low-GHG H_2 by 2032 and 90% by 2038.

<u>CT Energy Efficiency Designs, Practices, and Procedures</u>

CT Design

CO_2 is a product of combustion of fuel containing carbon, and the basic theoretical combustion equation for methane (CH_4) is:

$$CH_4 + 2\ O_2 = CO_2 + 2H_2O$$

CO_2 emissions are the essential product of the chemical reaction between the fuel and the oxygen in which it burns, not a byproduct caused by imperfect combustion. The only effective means to minimize the amount of CO_2 generated by a fuel-burning power plant is through high-efficiency combustion and plant design resulting in the lowest heat rate in units of Btu/kWh. Minimizing the amount of fuel required (in units of million British thermal units) to produce a given amount of electrical power output (in units of kilowatt-hours) results in the lowest amount of CO_2 generated.

In addition to the high-efficiency primary components of the General Electric turbines, there are a number of other design features employed within the turbines that can improve overall efficiency of the machine, including those summarized in the following paragraphs.

Evaporative Inlet Air Cooling or Inlet Fogging

Evaporative inlet air cooling or inlet fogging is used during middle and high ambient air temperature operating cases to lower the temperature of the inlet combustion air and thus increase the density of the combustion air. Increasing the density increases the mass flow rate of the inlet combustion air, which allows more fuel to be combusted in the CT process. This provides greater electrical power output from the CT during certain operating cases and in cases of high electrical power demand. Increasing the electrical power output provides increased overall energy efficiency of the CT.

Periodic Burner Tuning

Combustion turbines have regularly scheduled maintenance programs. These maintenance programs are important for the reliable operation of the unit, as well as to maintain optimal efficiency. As the CT is operated, the unit experiences degradation and loss in performance. The CT maintenance program helps restore the recoverable lost performance. The maintenance program schedule is determined by the number of hours of operation and/or turbine starts. There are three basic maintenance levels: combustion inspections, hot gas path inspections, and major inspections. Combustion inspections are the most frequent of the maintenance cycles. As part of this maintenance activity, the combustors are tuned to restore highly efficient low-emissions operation. Hot gas path inspections and major inspections occur on a manufacturer-prescribed schedule and involve inspection and possible replacement of internal mechanical parts including compressor or turbine blades to restore highly efficient low-emissions operation.

Reduction in Heat Loss

CTs have high operating temperatures. The high operating temperatures are a result of the heat of compression in the compressor along with the fuel combustion in the burners. To minimize heat loss from the CT and protect personnel and equipment around the machine, insulation blankets are applied to the CT casing. These blankets minimize heat loss through the CT shell and help improve overall efficiency of the machine.

Instrumentation and Controls

CTs have sophisticated instrumentation and controls to automatically manage operation of the CT. The control system is a digital-type and is supplied with the CT. The distributed control system controls aspects of the turbine's operation, including the fuel flow rate and burner operations to achieve high efficiency and low-NO_x combustion. The control system monitors operation of the unit and modulates fuel flow and turbine operation to achieve optimal high-efficiency, low-emissions performance under operating cases.

Carbon Capture and Sequestration

According to EPA, the only available post-combustion control technology for GHG emissions for the CTs is carbon capture and sequestration (CCS). When evaluating the feasibility of CCS, unlike other control options, the feasibility of three requisite components must be evaluated: capture, compression and transport, and sequestration. The integration of these three components, as well as the legal issues associated with CCS, must also be included in its feasibility evaluation.

CO_2 Capture

Capturing CO_2 is a technology that has not been domestically applied at full-scale to natural gas-fired power plants. CO_2 gas separation technologies have been developed and employed in the industrial sector (e.g., petroleum refining and natural gas purification) for more than 70 years (Interagency Task Force, 2010). Also, CO_2 capture on a small scale has been happening for many years in the petroleum and industrial chemical industry. However, capturing CO_2 on the full commercial scale of a power plant has not been domestically performed and has limited international operating experience. There are various pilot scale and demonstration projects either already underway or soon to be in operation at coal-fired power plants that are testing technologies that could one day be used at this scale. Table 5-4 lists several of these projects. The 115-MWe Boundary Dam Power Station operated by Sask-Power and located in Saskatchewan (also known as the Shand Carbon Capture Test Facility) and the 240 MWe Petra Nova project in Texas (also known as the NRG W.A. Parish project) are the only commercial-scale electric generating units with CO_2 capture operating experience. However, the Boundary Dam Power Station's operating experience is limited and coupled with reported capacity issues, and the Petra Nova project only captures a portion of the CO_2 in a slipstream from a coal-fired unit. Notably, the Petra Nova project is not integrated, but rather requires an additional fossil fuel-fired power plant to provide the power needed to operate the CCS system, which results in additional CO_2 emissions. In addition, both of these projects relied heavily on government funding that is not necessarily available to other sources.

There are several methods to remove CO_2 from flue gas that are being developed and demonstrated at various capacities. The most studied post-combustion CO_2 removal processes to date employ reagents or sorbents that include ammonia, monoethanolamine, or other amine-based reagents, and various solid sorbents.

Amine-based systems are the subject of intense study for utility application. However, amine-based reagents are in the early stages of development for use in electric generating units. (Note: These other amine compounds, dry sorbents, and ammonia, as well as special-purpose compounds, are presently being developed with U.S. Department of Energy's [DOE's] National Energy Technology Laboratory [NETL] and private industry funding.) The amount of energy required to regenerate CO_2 presents a challenge to commercial viability of such processes. In addition, these reagents are negatively affected by exposure to compounds found in flue gas, such as oxygen and trace concentrations (10 to 20 ppm) of SO_2, and NO_x.

Table 5-4. Partial List of Completed/In-Progress Post-combustion CO_2 Pilot Plant and Demonstration Tests

Commercial Supplier	Reagent	Location	Experience
Alstom	Advanced amine technology	Dow Chemical, S. Charleston, West Virginia	2-MW pilot plant started in September 2009 for two-year term
Alstom	Ammonia (chilled)	AEP Mountaineer Plant, New Haven, West Virginia	30-MW unit operated from September 2009 through May 2011
Alstom	Ammonia (chilled)	Karlshamn, Sweden	5-MW unit operated from April 2009 through at least April 2010
Siemens	Amino acid	E. On Staudinger Facility, Germany	1-MW pilot plant operating since September 2009
Mitsubishi Heavy Industries	Advanced amine technology	Plant Barry, Mobile, Alabama	25-MW demonstration of CO_2 capture (2011) and sequestration (2012)
ADA-ES	Advanced amine sorbent technology	Plant Miller, Quinton, Alabama	1-MW demonstration of CO_2 capture (2014)
Mitsubishi Hitachi Power Systems	Amine	Boundary Dam, Estevan, Saskatchewan, Canada	298-MW test facility; construction (2013), operation (June 2015)
Mitsubishi Heavy Industries and KEPCO	Advanced amine technology	Plant W.A. Parish, Houston, Texas	240 MW slip stream demonstration of CO2 capture and sequestration, operation (January 2017)

Source: ECT, 2023.

Several suppliers are developing amine-based systems for utility application by extrapolating designs from small-scale industrial applications. Table 5-4 presents a partial summary of projects either completed or in progress that entail testing of pilot plant and demonstration equipment.

Monoethanolamine-based processes are being evaluated, including the Fluor ECONAMINE FG+ process, which uses a special inhibitor to resist corrosion and degradation from the oxygen. Alstom is exploring an amine-based process with Dow Chemical Company. Also, as shown in Table 5-4, Mitsubishi Heavy Industries is demonstrating a process using proprietary KS-1, developed by Mitsubishi and Kansai Electric Power Company.

Amine-based processes are not the only post-combustion CO_2 capture option. Siemens is developing an amino acid-based process (Jockenhoevel, 2008), and Alstom is demonstrating an ammonia-based process. Furthermore, amine-based processes do not necessarily have to use a liquid amine. ADA-ES, Inc., has demonstrated a post-combustion carbon capture process that uses a solid amine-based sorbent. Alabama Power Plant Miller served as the host site for this project.

CO_2 Compression and Transport

After CO_2 is captured, it must be compressed "from near atmospheric pressure to a pressure between 1,500 and 2,200 psia in order to be transported via pipeline and then injected into an underground storage site" (DOE, 2010). Compressing CO_2 is energy-intensive and expensive. DOE's NETL is working to develop concepts for large-scale CO_2 compression that will reduce the auxiliary power requirements and capital cost. NETL is evaluating various compression concepts using computational fluid dynamics and laboratory testing that will lead to developing prototypes and field testing. Their research efforts include "development of intra-stage versus inter-stage cooling, fundamental thermodynamic studies to determine whether compression in a liquid or gaseous state is more cost-effective, and development of a novel method of compression based on supersonic shock wave technology" (DOE, 2015). However, that technology has never before been applied to the exhaust stream of an operating simple cycle combustion turbine like those proposed for CERC, and no such application is expected in the near future. As a result, compression will continue to represent a significant technical and economic challenge for applying CCS, particularly at simple cycle turbine facilities.

Some pipelines exist today that transport supercritical CO_2. Since the 1970s, CO_2 has been transported in pipelines to oil fields for use in enhanced oil recovery (EOR). However, since CERC is not located near an existing CO_2 pipeline, a CO_2 pipeline would need to be constructed to reach the nearest suitable storage site. Based on the Virginia Department of Mines, Minerals and Energy, the nearest potentially suitable site for underground storage of compressed CO_2 appears to be the Richmond Mesozoic Basin approximately 20 miles west of the site. Numerous logistical hurdles will exist, and EPA has recognized that permitting authorities may consider such hurdles in concluding that CCS is not applicable to a particular source. EPA's guidance also recognizes that cost of transport alone can be cost prohibitive. EPA's PSD and Title V Permitting Guidance for Greenhouse Gases, at 36, 42 (Mar. 2011) (Logistical hurdles for CCS may include obtaining contracts for offsite land acquisition (including the availability of land), the need for funding (including, for example, government subsidies), timing of available transportation infrastructure, and developing a site for secure long term storage. … Based on these considerations, a permitting authority may conclude that CCS is not applicable to a particular source, and consequently not technically feasible … [W]hen evaluating the cost effectiveness of CCS as a GHG control option, if the cost of building a new pipeline to transport the CO_2 is extraordinarily high and by itself would be considered cost prohibitive, it would not be necessary for the applicant to obtain a vendor quote and evaluate the cost effectiveness of a CO_2 capture system.").

CO_2 Sequestration

CO_2 sequestration is the third step of the CCS process. It is the injection and long-term storage of CO_2 in geologic formations, such as deep saline reservoirs, oil and gas reservoirs, and unmineable coal seams. These are geologic structures that have stored crude oil, natural gas, brine, and geologic CO_2 over millions of years. Domestically, only one coal-fired power plant has commercial-scale experience in sequestering CO_2—the Petra Nova project in Texas—and that experience is limited, as noted above. Internationally, the SaskPower Boundary Dam Power Station is the only commercial-scale electric generating unit that has limited CO_2 sequestration operating experience. The Boundary Dam Power Station's operating experience, however, has reported capacity issues and its economic viability is questionable—despite receiving significant government funding, EPA has reported that the Canadian Parliamentary Budget Office concluded that the project doubled the cost of the electricity it produced. Both projects were dependent on obtaining revenue from the CO_2 for EOR.

Saline Formations—DOE has estimated the United States could potentially store more than 12 trillion tons of CO_2 in deep saline formations. Sustained injection operations and monitoring of CO_2 in saline formations (DOE, 2016a) in the United States has not progressed beyond the research and development phase. In Algeria and the North Sea, commercial-scale CO_2 sequestration is taking place but not with CO_2 captured from a power plant. Table 5-5 lists various saline sequestration projects around the world.

Table 5-5. Commercial-Scale Injection Projects

Owner/Operator	Location	Amount Sequestered
In-Salah (a joint venture of Sonartrach, BP, and Statoil)	Algeria in North Africa	1 million tons per year since 2004 Source: natural gas upgrading operations
Statoil (Norwegian oil company)	Utsira Sand, saline formation under the North Sea associated with the Sleipner West Heimedel gas reservoir	Approximately 1 million tpy; equivalent to the output of a 150-MW coal-fired power plant Source: natural gas upgrading operations
Southeast Regional Carbon Sequestration Partnership	Cranfield storage site in Mississippi	Approximately 100,000 tons per month (more than 6.6 million tons since 2010) Source: Jackson Dome geologic source
Midwest Regional Carbon Sequestration Partnership	Mount Simon Sandstone formation in Illinois	Approximately 9,490,000 tons since 2011 Source: ethanol plant
Shell Canada, Chevron Canada and Marathon Oil Sands	Fort Saskatchewan, Alberta, Canada	Approximately 1 million tpy, beginning November 2016 Source: hydrogen plant
NRG Energy and JX Nippon Oil & Gas	Petra Nova Plant Thompsons, Texas	Approximately 1.4 million tpy for EOR Source: 250 Mw slip stream from 610 MW coal fired Unit 8

Source: ECT, 2023.

Oil and Gas Reservoirs—For years, CO_2 has been used in EOR and enhanced gas recovery. In this process, CO_2 is pumped into an oil or gas reservoir to push out the product. During this process, some CO_2 is trapped in the reservoir. The United States is the world leader in EOR technology and uses more than two billion cubic feet of CO_2 for this purpose (DOE, 2016b). The CO_2 used in EOR operations has historically been from the steady-state production of natural geologic deposits and not from CO_2 captured at power plants. EOR operations can be affected by the variability and purity of the CO_2 sourced by power plants. EOR is not available in all areas of the United States.

Coal Seams—Coal seams (a.k.a., coal beds) contain large amounts of methane-rich gas that can be recovered by depressurizing the seam, which can be done by injecting CO_2 into the formation. According to DOE, tests have shown the adsorption rate for CO_2 to be twice that of methane, "giving it the potential to efficiently displace methane and remain stored in the bed." However, DOE also acknowledges that the "CO_2 recovery of coal-bed methane has been demonstrated in limited field tests, but much more work is necessary to understand and optimize the process" (DOE, 2016a).

Integration

CO_2 capture, transport, and sequestration have not been integrated domestically at commercial scale on a power plant and have limited international operating experience. Notably, the Petra Nova project in Texas is not integrated—it requires a separate, dedicated 75 MWe gas-fired power plant to provide the energy needed to operate the CCS system, even for the limited application to the slipstream from one coal-fired unit. The difficulties associated with integration of these processes on a power plant are also apparent in the experience of the SaskPower Boundary Dam Power Station and the failure of the Kemper County IGCC project in Mississippi that is now operating as a natural gas fired plant.

Problems with integration could result from load fluctuations, outages, and CO_2 purity. Also, the reliability of the host-generating unit could be affected by problems associated with the CCS processes:

- Loading—Power plants do not run consistently; their load fluctuates as needed to meet electricity demand, which may affect the CCS equipment. EOR operations historically have been supplied with CO_2 from some steady source, such as a natural geologic deposit of CO_2 or from a natural gas purification process. The knowledge available on CO_2 sequestration is mostly from EOR operations. Therefore, it is unknown how the processes of CO_2 sequestration could be impacted by inconsistent CO_2 flow.

- Outages—Power plants experience planned and forced outages. During these outages, the CCS processes would be suspended. It is unknown how this suspension will affect the injection operations and equipment.
- CO_2 Purity—CO_2 from power plants may not be the same as CO_2 produced from natural geologic deposits or from natural gas purification processes. It is unknown how CO_2 streams of varying purity will be able to be integrated into the same pipeline network.
- Reliability—Reliability of a CCS system, including the host power plant, could be affected by problems arising in each CCS process. Because CO_2 capture, transport, and sequestration have not been domestically integrated at a commercial scale power plant before and have limited international operating experience, it is unknown how the three processes will interact with each other. For example, it is unknown how problems at the capture unit will affect the injection and sequestration operations. Furthermore, if the capture unit goes down and the CO_2 injection process stops, there could be implications to the geologic sequestration formation. If CO_2 cannot be injected, the host power plant may also not be able to run unless it is able to emit its CO_2 emissions while the problems in the CCS processes are addressed. Problems in one CCS process will likely affect the operations of another process and thus impact the reliability of the system and potentially the ability of the host power plant to operate.

CCS Legal Issues

There are legal issues associated with CCS that need to be addressed before CCS can be considered feasible. These issues include pore-space ownership, long-term liability, and CO_2 pipeline-related issues. Some states have enacted laws governing these issues, but they vary. This problem is most significant for projects that operate in states without such laws and for projects that cover multiple states.

Also, CCS is different from other control technologies because, if required for compliance, responsibility may need to be shared between multiple parties, not just the power plant owner/operator. For example, if EOR is used to sequester CO_2, the power generator will likely have to enter into a contract with a third party to transport the CO_2 and demonstrate sequestration. Such arrangements, in which the power plant is dependent on a third party for compliance, present risks of contract breeches, dissolution of the contract parties, or other issues that cannot be foreseen that could put the ability of the power plant to meet electricity demand at risk.

CCS Conclusion

As discussed in previous sections, CCS has the potential to reduce CO_2 emissions through post-combustion control technology but currently, it has seen limited and troubled demonstrations on power plants for controlling CO_2 emissions. Additionally, EPA did not determine CCS to be BSER for low- or intermediate-load CTs. Therefore, it will not be considered further in this BACT analysis. Progress needs to be made on each step of the CCS process to ensure it will work reliably and continuously on a commercial scale with the characteristics of a low- to intermediate-load power plant across a range of operating conditions. To date the integration of the CCS processes on a domestic commercial-scale power plant has yet to be accomplished.

Clean Fuels

The CAA includes clean fuels in the definition of BACT; therefore, clean fuels should be considered as a potential control technology for GHG emissions. Fuels that reduce GHG emissions of a new source should be considered in a BACT analysis provided they do not redefine the source.

The proposed CTs are capable of co-firing 10% H_2, which is a proposed alternate fuel if an H_2 supply becomes available. Although proposed as an alternative fuel supply, the infrastructure currently is not available for natural gas-H_2 blended fuel and therefore it cannot be considered an “available” control technology for consideration as BACT. To be “available,” the technology has to be demonstrated in practice and commercially available. *See* EPA’s 1990 Draft New Source Review Workshop Manual at B.11. Likewise, co-firing 30% H_2 is currently unavailable, consistent with EPA’s proposal where meeting the standard based on 30% H_2 co-firing is not required until 2032.

5.3.4.2 GHG BACT Technical Feasibility (Step 2)

Step 2 of the top-down BACT analysis is the elimination of technically infeasible options. A technology is considered to be technically feasible if, one, it has been demonstrated and operated successfully on the same type of source under review, or two, it is available and applicable to the source type under review. A control technology should also be considered technically available or applicable if it has been demonstrated on an exhaust stream with similar physical and chemical characteristics.

As discussed previously, CCS is not considered technically feasible for the proposed natural gas-fired simple-cycle peaking project and, therefore, is not considered further in this BACT analysis. Although Dominion is proposing to fire natural gas blended with 10% H_2 as an alternative fuel supply, H_2 gas infrastructure is currently not available to require its usage as BACT.

5.3.4.3 GHG BACT Ranking of Controls (Step 3)

Step 3 of the top-down BACT analysis is the ranking of technically feasible options.

Because it has been demonstrated that neither CCS nor H_2 gas are technically feasible as defined by BACT, the remaining technically feasible options include high thermal or energy efficiency. The energy efficiency must look at the high thermal efficiency design of the SCCTs as well as various energy efficiency improvements throughout the facility, as described in the previous section.

5.3.4.4 Economic, Energy, and Environmental Impacts (Step 4)

Step 4 of the top-down BACT analysis is the consideration of economic, energy, and environmental impacts.

The project is committed to using thermal and energy efficiency designs, practices and procedures described above, along with the combustion of low carbon fuels to reduce GHG emissions. Therefore, no further analysis of economic, energy, or environmental impacts is necessary.

5.3.4.5 GHG BACT Selection (Step 5)

Selection of BACT

Step 5 of the top-down BACT analysis is the selection of BACT. Dominion proposes as BACT for GHG the following energy efficiency designs, practices, and procedures for the proposed facility:

- Efficient turbine design.
- Turbine inlet air cooling.
- Periodic turbine burner tuning.

- Reduction in heat loss, i.e., insulation of the CT.
- Instrumentation and controls.

Proposed GHG BACT Emissions Limit for the SCCTs

Dominion proposes an annual GHG BACT emissions limit of 548,693 tpy (expressed as CO_2e) for each SCCT as GHG BACT for all operating cases, including during periods of startup and shutdown based on a 12-month rolling average.

This numerical GHG BACT emissions limit is based on energy efficiency designs, practices, and procedures for the proposed facility and the use of natural gas, H_2 fuel blend or fuel oil. Compliance with this numerical GHG BACT emissions limit will be demonstrated by measuring and recording the total heat input to the SCCTs expressed in million British thermal units per year for natural gas, H_2 fuel blend and fuel oil. CO_2 emissions will be calculated using the methodology for calculating CO_2 emissions under the ARP in accordance with 40 CFR 75, Equation G-4, as described in the following:

$$W_{CO_2} = \frac{F_c \times H \times U_f \times MW_{CO_2}}{2{,}000}$$

where: W_{CO_2} = CO_2 emissions in tpy.

F_c = carbon based F-factor (1,040 standard cubic feet per million British thermal units [scf/MMBtu] for natural gas, 1,420 scf/MMBtu for fuel oil and procedures in section 3.3.6 of 40 CFR 75 Appendix F for H_2 fuel blend).

H = heat input in million British thermal units per year.

U_f = $\frac{1}{385}$ standard cubic foot per pound-mole (scf/lb-mol) of CO_2 at 14.7 psia and 68°F.

MW_{CO_2} = molecular weight of CO_2, 44 pounds per pound-mole (lb/lbmol).

Methane and nitrous oxide emissions will be calculated using emissions factors as defined in the Mandatory Greenhouse Gas Reporting Rule, 40 CFR Part 98, Table C-2. CO_2e emissions will then be calculated using each GHG pollutant's respective GWP as defined in the Mandatory Greenhouse Gas Reporting Rule, Table A-1.

The proposed General Electric 7FA.05 simple-cycle combustion turbine combusting natural gas, H_2 fuel blend and fuel oil, can operate throughout a wide range of turbine loads and still maintain emissions compliance. While this provides the facility with needed operational flexibility to operate at various turbine loads, the heat rates of the units and thus the CO_2 emission rate in units of lb CO_2/MWh, will vary considerably throughout this wide range of turbine loads (e.g., CO_2 emission rates when firing natural gas range from 1,161 to 1,965 lb/MWh).

The CERC SCCTs are being designed with a capacity factor of approximately 37% and have limited the annual average hours of normal operation to 3,240 hours per year per SCCT. The CERC SCCTs will operate in response to energy demand and thus, these 3,240 hours per year of normal operation can occur at any ambient temperature, at any turbine load and with or without the use of evaporative cooling. Since heat rates vary considerably over the wide range of operating cases, it is extremely speculative to estimate a single heat rate or lb CO_2/MWh emission rate value, with an appropriate averaging period, for the CERC SCCTs.

Thus, in addition to the annual BACT limit proposed above, Dominion also proposes a GHG BACT emission limit of 120 lb CO_2 per MMBtu heat input when combusting natural gas (or hydrogen blend) for more than 90% on a heat input basis and 120 to 160 lb CO_2 per MMBtu heat input when combusting natural gas less than 90% on a heat input basis. These GHG BACT emission limits are based on using clean fuels and are consistent with NSPS Subpart TTTT and other recent GHG permit determinations.

The fuel flow will also be monitored during startup and shutdown events. GHG emissions will be calculated based on the measured fuel flow and ARP procedures described previously in accordance with 40 CFR 75, Equation G-4. Methane and nitrous oxide emissions will be calculated using emissions factors as defined in the Mandatory Greenhouse Gas Reporting Rule, Table C-2. CO_2e emissions will then be calculated using each GHG pollutant's respective GWP as defined in the Mandatory Greenhouse Gas Reporting Rule, Table A-1. GHG emissions from startup and shutdown events will be included in the total GHG emissions of 2,213,100 tpy for the proposed SCCT project.

5.3.5 BACT for VOC Emissions

5.3.5.1 Available VOC Control Technologies (Step 1)

VOC emissions from CTs are a function of incomplete combustion, comparable to CO emissions. As such, the control options applicable to the two pollutants are the same: good combustor/burner design and oxidation catalyst controls.

5.3.5.2 VOC BACT Technical Feasibility (Steps 2 and 3)

Both CT combustor/burner design and oxidation catalyst control systems are considered to be technically feasible for the proposed SCCTs. As with CO, no reductions in VOC emissions are expected during SU/SD events when evaluating an oxidation catalyst. The exhaust gas temperature during SU/SD is not expected to be in the optimal temperature range of the oxidation catalyst for VOC removal.

5.3.5.3 Energy, Environmental and Economic Impacts (Step 4)

There are no significant adverse energy or environmental impacts associated with the use of good combustor designs and good combustion practices to minimize VOC emissions. The use of oxidation catalyst will result in increased H_2SO_4 mist and salt emissions if applied to combustion devices fired with fuels containing appreciable amounts of sulfur. The proposed CTs will combust fuels with very low sulfur content (natural gas, H2 blend, ultra-low sulfur fuel oil); therefore, H_2SO_4 mist emissions will be limited.

Dominion is proposing to install oxidation catalyst along with advanced combustor design for VOC BACT. This represents the most-effective control technology identified; therefore, an economic impact analysis is not required. In addition, this approach will reduce emissions of CO and formaldehyde. Controlling formaldehyde emissions is necessary to comply with the applicable limits in 40 CFR 63 Subpart YYYY.

5.3.5.4 Proposed VOC BACT Emissions Limit (Step 5)

To determine the most stringent VOC emissions limit, EPA's RBLC database was queried for simple-cycle combustion turbines larger than 25 MWe. Determinations were obtained when combusting natural gas over the past 10 years and are summarized in Appendix C, Tables C-3 and C-10.

The results of the RBLC database search show that the VOC determinations ranged from 0.7 to 2.0 ppmvd at 15% O_2 (natural gas) including several VOC BACT determinations for frame type combustion turbines. These emission limits were achieved by employing good combustion practices with or without the use of an oxidation catalyst. Only two determinations below 1 ppmvd were identified: Cricket Point Energy in New York and Cove Point LNG Terminal in Maryland. Both of these determinations were listed as SCCTs; however, the projects actually involved installation of combined-cycle units. In addition, the projects both represented LAER and relied upon good combustion practices and oxidation catalysts.

The lowest VOC determination for a simple cycle CT combusting fuel oil is a LAER determination of 2 ppmvd @ 15% O_2 and is based on installation of an oxidation catalyst.

As shown in Table 5-6, the proposed VOC BACT emissions limit for the SCCTs is 1.0 ppmvd at 15 percent oxygen (three-hour average) for natural gas normal operating cases, including the H_2 fuel blend cases, and 2 ppmvd at 15% O_2 for fuel oil normal operating cases. These proposed BACT limits exclude periods of startup and shutdown. These proposed VOC emissions limits are consistent with the lowest VOC BACT determinations for simple cycle combustion turbine facilities.

Table 5-6. Proposed VOC BACT Emissions Limit for SCCTs

Emissions Source	Proposed VOC BACT Emissions Limits, Three-Hour Average
Natural gas-firing	1.0 ppmvd*
H_2 fuel blend-firing	1.0 ppmvd*
fuel oil-firing	2 ppmvd*

*Corrected to 15-percent oxygen gas.

Source: Dominion, 2023.

5.3.6 BACT for SO_2 and H_2SO_4 Emissions

5.3.6.1 Available SO_2 Control Technologies (Step 1)

Emissions of SO_2 from CTs directly correlate to the sulfur content of the fuel. Therefore, the primary method to control SO_2 emissions is the use of low sulfur fuels.

H_2SO_4 is generated when SO_2 is oxidized to SO_3, which then combines with water to form the acid. Therefore, the first step in limiting H_2SO_4 emissions is to limit the formation of SO_2. Once again, this is accomplished through the use of low sulfur fuels.

Both SO_2 and H_2SO_4 are sometimes controlled in industrial applications using scrubber technology. Wet scrubbers remove pollutants by contacting the gas stream with an absorbent liquid. However, as described in Section 5.3.3, scrubbers are generally less effective at higher exhaust temperatures, higher exhaust flowrates, and lower pollutant loading concentrations.

5.3.6.2 SO_2/H_2SO_4 BACT Technical Feasibility (Steps 2 and 3)

There are no post-combustion control systems that are technically feasible to control SO_2 or H_2SO_4 emissions from SCCTs. Scrubbers are not suited for CTs firing gaseous fuels or low-sulfur fuel oil because of the high exhaust temperature, high exhaust flowrate, and very low concentrations of SO_2 and H_2SO_4, which is why they have not been deployed on CTs. Use of low-sulfur natural gas or fuel oil is technically feasible.

5.3.6.3 Proposed SO_2/H_2SO_4 BACT Emissions Limit (Steps 4 and 5)

The results of the RBLC database search for SCCTs show that there are no BACT determinations for SO_2 or H_2SO_4 expressed as a numerical emission limit, and the only BACT determinations are limits on the sulfur content of the fuel. The majority of the BACT determinations list use of low-sulfur natural gas or fuel oil as the control method.

Dominion proposes the use of clean fuels which includes the use of pipeline quality natural gas, H_2 fuel blend, and low sulfur fuel oil in the SCCTs as BACT for SO_2 and H_2SO_4.

5.4 Startup/Shutdown BACT Analysis

BACT must be met under all operating scenarios, including during periods of startup and shutdown. Pollutants subject to BACT analysis and review must address BACT emissions limits not only during normal operation but also during startup and shutdown.

NO_x, CO, and VOC emissions are expected to have higher hourly emissions rates during periods of startup and shutdown. Dominion has proposed to install SCR and oxidation catalyst as BACT during normal operations; however, these post combustion controls will not be effective during startup and shutdown since the control systems and the exhaust gas will not be at the optimal temperature for emission reductions.

The normal operation BACT limits for other pollutants, such as PM/PM_{10}/$PM_{2.5}$, SO_2, H_2SO_4, and GHGs can be met during startup and shutdown periods because their emissions are directly proportional to the amount of fuel flow, which is less during those periods.

Dominion proposes the BACT emissions limits provided in Table 5-7 for NO_x, CO, and VOC during startup and shutdown events on natural gas or fuel oil. The proposed CERC SCCTs will not startup or shutdown on H_2 fuel blend. These emissions will be accounted for during each startup and shutdown event when calculating monthly and annual NO_x, CO, and VOC emissions. The proposed CERC SCCTs will not startup or shutdown on H_2 fuel blend.

Table 5-7. Proposed BACT Emissions Limits during Startup and Shutdown

	Natural Gas				Fuel Oil			
	Startup*		Shutdown		Startup		Shutdown	
Pollutant	Emissions (lb/event)	Duration (minutes)	Emissions (lb/event)	Duration (minutes)	Emissions (lb/event)	Duration (minutes)	Emissions (lb/event)	Duration (minutes)
NO_x	52	30	20	15	143	30	62	15
CO	366	30	152	15	1,036	30	246	15
VOC	65	30	31	15	101	30	47	15

* Natural gas only

Source: General Electric; 2023.

5.5 LLE Mode BACT Analysis

BACT must also be met during periods of LLE mode operation.

NO_x, CO, and VOC emissions are expected to have higher hourly emissions rates during periods of LLE mode operation as compared to normal operation. This is due to these pollutants being the products of incomplete combustion, which is more prevalent during periods of low load operation. Even if NO_x, CO, and VOC emissions potential post combustion controls were used during low load operation, they would not be effective because the exhaust gas flow rate and temperature will not be at the optimal design points for emission reductions. In addition, although the exhaust flow rate may be much lower, emission concentrations of certain pollutants can be significantly higher during low load operations, and it is uncertain what effect this may have on potential fouling of the catalysts in the post combustion control systems. Other pollutants, such as $PM/PM_{10}/PM_{2.5}$, SO_2, H_2SO_4, and GHGs tend to have lower emissions during low load operations, as these emissions are directly proportional to the amount of fuel flow.

Dominion proposes the following work practices as BACT for the SCCTs operating in LLE mode:

- Good combustion practices
- Use of clean fuels, i.e., natural gas, fuel oil.
- Limited hours of operation during black start emergencies only and annual testing.

5.6 Emergency Diesel Generators and Firewater Pump BACT Analysis

5.6.1 BACT for NO_x

As with combustion turbines, NO_x emissions from internal combustion engines consist of two components: oxidation of combustion air atmospheric nitrogen (thermal NO_x and prompt NO_x) and conversion of fuel bound nitrogen (FBN), also referred to as fuel NO_x. As such, NOx emissions can be controlled through careful design and operation of the engine or through add-on controls.

Many engine designs are on the market that utilize automated engine controls to maintain the combustion conditions necessary to balance emissions of NOx, CO and unburned hydrocarbons. These combustion control systems have been tested and refined to the point that manufacturers now offer emissions guarantees and certifications that their engines comply with emissions limitations in NSPS Subpart IIII and NESHAP Subpart ZZZZ. The emission rates are guaranteed as long as the owner/operator follows the manufacturer's written instructions for that engine.

Other engines (generally older, retrofit units) are equipped with less sophisticated combustion control systems and rely upon post-combustion controls to limit emissions. Engines can be fitted with a 3-way catalyst, similar to a car's catalytic converter, to simultaneously reduce emissions of NOx, CO and VOCs. Engines can also be fitted with separate SCR and catalytic oxidation systems or utilize non-catalytic urea injection (non-catalytic selective reduction) to reduce NOx emissions.

These post-combustion controls are best suited for steady-state operations as they all rely upon exhaust conditions in a set temperature range and flow to achieve their design control efficiency. Rapid or frequent temperature changes stress the catalyst and reduce it useful life. Operation below the design temperature range does not result in effective pollutant destruction.

Results of the RBLC database search are presented in Tables C-14 for the emergency generators and firewater pump. Only one engine was identified using post-combustion controls (AK-0084, Donlin Gold Project). That determination was for twelve, large, continuously operated IC engines. The same project implemented good combustion practices (without post-combustion controls) for the emergency generator on site. All the remaining RBLC determinations for emergency engines rely upon combustion controls and require compliance with the emissions limits and work practices of NSPS Subpart IIII.

The proposed 3,500-kWe emergency generator engines at CERC will meet the emissions limits and work practices of NSPS Subpart IIII through combustion controls. As specified in 40 CFR 60.4202(b) the emergency engines are required to meet the Tier 2 standards provided in 40 CFR 1039, Appendix I, Table 2. The combined non-methane hydrocarbons (NMHC) + NO_x emission limit is 6.4 g/kW-hr. In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed NO_x BACT for the emergency generators is 6.4 g/kW-hr for NHMC + NO_x, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

The 190-hp firewater pump engine will meet the emissions limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency firewater pump are listed in Table 4 to Subpart IIII. The combined NMHC + NO_x emission limit is 4.0 g/kW-hr (3.0 g/bhp-hr). In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed NO_x BACT for the firewater pump engine is 4.0 g/kW-hr for NHMC + NO_x, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

5.6.2 BACT for CO

5.6.2.1 Available CO Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

As with the SCCTs. CO emissions from the emergency generators and firewater pump are the result of incomplete combustion.

Results of the RBLC database search are presented in Tables C-15 for the emergency generators and firewater pump. The methods identified are generally summarized as follows, all of which are available and technically feasible for the emergency generators and firewater pump:

- The use of clean fuel (fuel oil) and good combustion practices
- Limited hours of operation
- Compliance with NSPS IIII
- Use of EPA certified engines

As with NOx emissions from emergency engines, it is theoretically possible to install post-combustion controls to reduce CO emissions. However, combustion controls have advanced to the point that CO emissions are minimal. In addition, variable operating conditions and extended periods of downtime reduce the control efficiency and catalyst life associated with more post-combustion control systems. Oxidation catalysts are particularly dependent on high exhaust temperatures for effective emissions reductions. Emergency engines are unlikely to maintain the required high temperatures due to the variable nature of emergency operations. As such, post-combustion controls are not considered technically feasible in emergency engine applications.

5.6.2.2 Energy, Environmental and Economic Impacts (Step 4)

All of the technically feasible controls identified will be used by the Project. There are no potential adverse energy, environmental, or economic impacts that would preclude the use of any of these control methods.

5.6.2.3 Proposed CO BACT Emission Limits (Step 5)

The 3,500-kWe emergency generator engines will meet the emissions limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency generators are listed in 40 CFR 1039, Appendix I. The CO emission limit is 3.5 g/kW-hr. In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed CO BACT for the emergency generators is 3.5 g/kW-hr, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

The 190-hp firewater pump engine will meet the emissions limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency firewater pump are listed in Table 4 to Subpart IIII. The CO emissions limit is 3.5 g/kW-hr (2.6 g/bhp-hr). In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing to 100 hours/yr. The proposed CO BACT for the firewater pump engine is 3.5 g/kW-hr, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

5.6.3 BACT for PM/PM_{10}/$PM_{2.5}$

5.6.3.1 Available PM/PM_{10}/$PM_{2.5}$ Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

Combustion of diesel fuel in the emergency generator engines will result in emissions of PM/PM_{10}/$PM_{2.5}$. Results of the RBLC database search are presented in Table C-16 for the emergency generators and firewater pump. The methods identified are generally summarized as follows, all of which are available and technically feasible for the emergency generators and firewater pump:

- The use of clean fuel (fuel oil) and good combustion practices
- Limited hours of operation
- Compliance with NSPS IIII
- Use of EPA certified engines

Typical add-on controls for particulate matter are not feasible for use on IC engines due to the high temperature of the exhaust, as well as the variability associated with emergency equipment.

5.6.3.2 Energy, Environmental and Economic Impacts (Step 4)

All of the technically feasible controls identified will be used by the Project. There are no potential adverse energy, environmental, or economic impacts that would preclude the use of any of these control methods.

5.6.3.3 Proposed PM/PM_{10},/$PM_{2.5}$ BACT Emission Limits (Step 5)

The 3,500-kWe emergency generator engines will meet the emissions limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency generators are listed in 40 CFR 1039, Appendix I. The PM emission limit (filterable only) is 0.20 g/kW-hr. In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed PM_{10}/$PM_{2.5}$ BACT for the emergency generators is 0.23 g/kW-hr (filterable plus condensable), exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

The 190-hp firewater pump engine will meet the emission limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency firewater pump are listed in Table 4 to Subpart IIII. The PM emission limit (filterable only) is 0.20 g/kW-hr (0.15 g/bhp-hr). In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed PM_{10}/$PM_{2.5}$ BACT for the firewater pump engine is 1.0 g/hp-hr (filterable plus condensable), exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

5.6.4 BACT for GHG

5.6.4.1 Available GHG Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

Combustion of diesel fuel in the emergency generator engines will result in emissions of GHG. The same methods identified for CO emissions from the emergency generators and fire pumps are available for controlling GHG emissions. No add-on controls are available to limit or reduce GHG emissions from diesel engines. Therefore, the only available methods are the use of clean fuels and good combustion practices. The proposed fuel oil is considered a low carbon fuel by EPA. In addition, automated combustion controls installed on engines to comply with NSPS Subpart IIII maintain efficient operation and good combustion.

5.6.4.2 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the use of clean fuels and good combustion practices.

5.6.4.3 Proposed GHG BACT Emission Limits (Step 5)

The emergency generators and the firewater pump engines will meet the emission limits and work practices of NSPS Subpart IIII. There are no numerical emission limits for GHG emissions contained in the NSPS. Therefore, the proposed GHG BACT for the emergency generator engines and the firewater pump engine will be exclusive use of fuel oil, a limit on the annual hours of operation for routine maintenance and testing, and a total GHG emission limit (expressed as CO_2e) of 2,213,100 tpy for the proposed SCCT project.

5.6.5 BACT for VOC

5.6.5.1 Available VOC Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

Combustion of diesel fuel in the emergency generator engines will result in emissions of VOC. The same methods identified for CO emissions from the emergency generators and fire pumps are available for controlling CO emissions. As previously discussed regarding CO emissions, it is theoretically possible to install post-combustion controls to reduce VOC emissions. However, combustion controls have advanced to the point that VOC emissions from engines combusting fuel oil are minimal. In addition, variable operating conditions and extended periods of downtime reduce the control efficiency and catalyst life associated with more post-combustion control systems. Oxidation catalysts are particularly dependent on high exhaust temperatures for effective emissions reductions. Emergency engines are unlikely to maintain the required high temperatures due to the variable nature of emergency operations. As such, post-combustion controls are not considered technically feasible in emergency engine applications.

5.6.5.2 Energy, Environmental and Economic Impacts (Step 4)

All of the technically feasible controls identified will be used by the Project. There are no potential adverse energy, environmental, or economic impacts that would preclude the use of any of these control methods.

5.6.5.3 Proposed VOC BACT Emission Limits (Step 5)

The 3,500-kWe emergency generator engines will meet the emissions limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency generator are listed in 40 CFR 1039. The combined non-methane hydrocarbons (NMHC) + NO_x emission limit is 6.4 g/kW-hr. In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed VOC BACT for the emergency generators is 6.4 g/kW-hr for NHMC + NO_x, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

The 190-hp firewater pump engine will meet the emission limits and work practices of NSPS Subpart IIII. The emission limits of NSPS Subpart IIII for the emergency firewater pump are listed in Table 4 to Subpart IIII. The combined NMHC + NO_x emission limit is 4.0 g/kW-hr (3.0 g/bhp-hr). In addition, work practices include the exclusive use of fuel oil and a limit on the annual hours of non-emergency operation, including for routine maintenance and testing, to 100 hours/yr. The proposed VOC BACT for the firewater pump engine is 4.0 g/kW-hr for NHMC + NO_x, exclusive use of fuel oil and a limit of 100 hr/yr for non-emergency operation, including routine maintenance and testing. Compliance will be demonstrated by purchasing an EPA-certified engine and recordkeeping.

5.6.6 BACT for SO_2 and H_2SO_4

SO_2 and H_2SO_4 emissions are minimized through the use of clean fuels (fuel oil). Typical add-on controls for sulfur compounds are not feasible for use on IC engines due to the high temperature of the exhaust and low pollutant loading, as well as the variability associated with emergency equipment.

The emergency generator and the firewater pump engines will meet the emission limits and work practices of NSPS Subpart IIII. There are no numerical emission limits for SO_2 and H_2SO_4 emissions contained in the NSPS. Therefore, the proposed SO_2/H_2SO_4 BACT for the emergency generator engines and the firewater pump engine will be exclusive use of fuel oil and a limit on the annual hours of operation for routine maintenance and testing.

5.7 Natural Gas Heater BACT Analysis

The proposed fuel gas heater is a natural gas-fired unit rated at 18.8 MMBtu/hr. In accordance with 9VAC5-80-1105 B.1.a.(4), natural gas-fired external combustion devices with a rated heat input of <50 MMBtu/hr are exempt from minor source NSR. For the sake of completeness, Dominion has provided a presumptive BACT analysis for the non-PSD pollutants.

5.7.1 BACT for NO_x

Table C-21 contains the NO_x BACT determination results of the RBLC database search for industrial-sized boilers and furnaces less than 100 MMBtu/hr heat input firing natural gas only. The lowest NO_x BACT determination for several other facilities is 0.011 lb/MMBtu using ultra-low NOx burners. Therefore, the proposed NO_x BACT for the fuel gas heater for CPS is 0.011 lb/MMBtu based on exclusive use of natural gas.

5.7.2 BACT for CO

5.7.2.1 Available CO Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

CO emissions are formed in combustion processes as a result of incomplete combustion of carbonaceous fuels. Similar to the generation of NO_x emissions, the primary factors influencing the generation of CO emissions are temperature and residence time within the combustion zone. Table C-22 contains the CO BACT determination results of the RBLC database search for industrial-sized boilers and furnaces less than 100 MMBtu/hr heat input firing natural gas only. Available emission control techniques for CO are good combustion practices and oxidation catalysts. Oxidation catalysts, however, have not been used on pipeline heaters such as proposed.

5.7.2.2 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the use of good combustion practices.

5.7.2.3 Proposed CO BACT Emission Limits (Step 5)

Good combustion practices are capable of limiting CO emissions to 0.037 lb/MMBtu, which is equivalent to 50 ppmvd at 3% O_2, when firing natural gas. Data from the EPA shows that a typical CO BACT emission rate for natural gas-fired boilers/heaters less than 100 MMBtu/hr is in the 0.03 lb/MMBtu to 0.08 lb/MMBtu range. The CO BACT determination for fuel gas heaters at several recently permitted facilities is 0.037 lb/MMBtu. Therefore, the proposed CO BACT for the fuel gas heater for CERC is 0.037 lb/MMBtu based on exclusive use of natural gas.

5.7.3 BACT for PM/PM_{10}/$PM_{2.5}$

5.7.3.1 Available PM/PM_{10},/$PM_{2.5}$ Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

Table C-25 contains the PM/PM_{10}/$PM_{2.5}$ BACT determination results of the RBLC database search for industrial-sized boilers and furnaces less than 100 MMBtu/hr heat input firing natural gas only. The determinations listed are each based on good combustion practices using pipeline quality natural gas.

5.7.3.2 Energy, Environmental and Economic Impacts (Step 4)

Good combustion practices using pipeline quality natural gas will be used by the Project. There are no potential adverse energy, environmental, or economic impacts that would preclude the use of any of these control methods.

5.7.3.3 Proposed PM/PM_{10},/$PM_{2.5}$ BACT Emission Limits (Step 5)

PM_{10}/$PM_{2.5}$ emission from the combustion of natural gas is highly dependent on the assumed sulfur content of the natural gas. Therefore, the proposed PM_{10}/$PM_{2.5}$ BACT for the fuel gas heater for CERC is 0.007 lb/MMBtu based on exclusive use of natural gas. Since particulate emissions from the fuel gas heater are presumed to be less than 1 micron in size, and PM (filterable) would be a subset of the PM_{10}/$PM_{2.5}$ (filterable plus condensable) emissions, a separate PM BACT limit is not proposed.

5.7.4 BACT for GHG

5.7.4.1 Available GHG Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

The fuel gas heater will be fired exclusively with natural gas, which is the only technically feasible control for limiting GHG emissions. No add on controls have been used or demonstrated on sources like the fuel gas heaters.

5.7.4.2 Energy, Environmental and Economic Impacts (Step 4)

All of the technically feasible controls identified will be used by the Project. There are no potential adverse energy, environmental, or economic impacts that would preclude the use of any of these control methods.

5.7.4.3 Proposed GHG BACT Emission Limits (Step 5)

The proposed GHG BACT for the fuel gas heater will be exclusive use of natural gas and a total GHG emission limit (expressed as CO_2e) of 2,213,100 tpy for the proposed SCCT project.

5.7.5 BACT for VOC

5.7.5.1 Available VOC Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

VOC emissions are formed in combustion processes as a result of incomplete combustion of carbonaceous fuels. Similar to the generation of NO_x emissions, the primary factors influencing the generation of VOC emissions are temperature and residence time within the combustion zone. Table C-32 contains the VOC BACT determination results of the RBLC database search for industrial-sized boilers and furnaces less than 100 MMBtu/hr heat input firing natural gas only. Available emission control techniques for VOC are good combustion practices and oxidation catalysts. As indicated for CO, oxidation catalysts have not been used on pipeline heaters such as proposed.

5.7.5.2 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the use of good combustion practices.

5.7.5.3 Proposed VOC BACT Emission Limits (Step 5)

The VOC BACT determinations for fuel gas heaters at several other recently permitted facilities is 0.005 lb/MMBtu. Therefore, the proposed VOC BACT for the fuel gas heater for CERC is 0.005 lb/MMBtu based on use of good combustion practices and the exclusive use of natural gas.

5.7.6 BACT for SO_2 and H_2SO_4

The fuel gas heater will be fired exclusively with natural gas. The proposed SO_2/H_2SO_4 BACT for the fuel gas heater will be exclusive use of natural gas.

5.8 Natural Gas Piping

5.8.1 BACT for GHG and VOC

Natural gas piping venting and components (valves, flanges etc.) can result in fugitive releases of natural gas into the atmosphere. Natural gas is comprised primarily of methane with small quantities of VOC (non-methane, non-ethane).

5.8.1.1 Available GHG and VOC Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

Potential control options for fugitive GHG and VOC emissions include:

- Development and implementation of a leak detection and repair (LDAR) program
- Performance of audio/visual/olfactory (AVO) inspections
- Use of low-emission piping component design practices

LDAR involves the use of monitoring technology to identify leaking components and subsequent repair of such components. LDAR programs have been used as a work practice under numerous federal regulations to reduce fugitive emissions from chemical manufacturing, natural gas processing, and other industries. Monitoring is generally performed using handheld gas analyzers in accordance with Method 21 in Appendix A-7 of 40 CFR Part 60 or Optical Gas Imaging Cameras (OGICs). When a leak is identified, repair is generally required within a specified timeframe to minimize the fugitive emission.

AVO inspections involve the use of audio, visual, and olfactory senses to detect leaks. Pressurized natural gas escaping through a leaking component may generate an audible “hiss”. The pressure drop across the leak interface may result in visual leak indicators such as condensation or ice formation. Finally, natural gas is odorized with mercaptan for safety and thus has a discernible odor. Components exhibiting audio, visual, or olfactory indications of a leak are repaired within a specified timeframe to minimize the fugitive emission.

Emissions from leaking components can be reduced through the use of welded connections, leakless valves, and sealless pumps. Common leakless valves include bellow valves and diaphragm valves. Common sealless pumps are diaphragm pumps, canned motor pumps, and magnetic drive pumps. Although effective at minimizing leaks, the use of leakless components may be limited by materials of construction considerations and process operating conditions.

AVO inspections were the only control option identified for piping fugitive GHG and VOC emissions at a power generation facility. Monitoring leaks from natural gas piping components is feasible using audio, visual and olfactory (AVO) sensing.

5.8.1.2 Energy, Environmental and Economic Impacts (Step 4)

Dominion is proposing AVO inspections as BACT to reduce fugitive GHG emissions from Project fuel gas piping venting and components. This control option does not pose any adverse energy, environmental, or economic impacts. Routine AVO inspections can be performed by Facility personnel as a part of normal Facility maintenance activities without the added cost of third-party monitoring contractors that would be required to implement a LDAR program. Such third-party contractors would need to travel to the Facility to perform LDAR monitoring, resulting in adverse energy and environmental impacts due to the combustion of fossil fuels, which will be avoided through application of the proposed control options.

5.8.1.3 Proposed GHG and VOC BACT Emission Limits (Step 5)

Weekly AVO inspections are proposed as BACT for fugitive GHG and VOC emissions from natural gas piping. The proposed BACT is in alignment with BACT determinations made for fugitive GHG and VOC emissions from piping at other power generation facilities. An AVO Plan will be submitted no later than 60 days prior to startup of the SCCTs.

Additionally, the proposed GHG BACT for natural gas piping fugitive emissions is a total GHG emission limit (expressed as CO_2e) of 2,213,100 tpy for the proposed SCCT project.

5.9 Circuit Breaker GHG BACT Analysis

Dominion is proposing the use of SF_6 circuit breakers for CERC. SF_6 is one of the six pollutants that comprise GHGs. SF_6 is a synthetic gas that possesses excellent electrical insulating properties. Because of this, SF_6 is used as an insulating gas in many electrical circuit breakers.

5.9.1 Available GHG Control Technologies (Step 1)

The most effective control method for minimizing emissions of SF_6 from circuit breakers is to install modern, fully enclosed circuit breakers integrated with state-of-the-art technology such as low-pressure leak detection systems. The effectiveness of leak-tight closed systems is enhanced by equipping them with a density alarm that provides a warning when the SF_6 gas has escaped. The use of an alarm identifies potential leak issues before the bulk of the SF_6 has escaped to the atmosphere allowing the operator to promptly address and remedy the issue.

Use of another type of insulating material in the proposed circuit breakers could be a control option for reducing circuit breaker GHG emissions. According to the National institute of Standards and Technology (NIST) Technical Note 1425 (Technical Note) 41, dielectric oil and compressed air ("air blast") circuit breakers are alternatives to SF_6 circuit breakers. The availability of the SF_6-free circuit breakers is limited to circuit breakers less than 145 kV.

5.9.2 GHG BACT Technical Feasibility (Steps 2 and 3)

According to the Technical Note, SF_6 is a vastly superior dielectric gas for nearly all high voltage applications. SF_6 exhibits exceptional insulation and arc-interruption properties and is proven technology that has been thoroughly investigated and successfully applied in the field. Furthermore, the Technical Note states that "the use of SF_6 insulation has distinct advantages over oil insulation, including none of the fire safety problems or environmental problems related to oil, high reliability, flexible layout, little maintenance, long service life, lower noise, better handling, and lighter equipment." As a result, the report concludes that SF_6 is clearly superior in performance to the air and oil insulated equipment used prior to the development of SF_6 insulated circuit breakers. Although some new gases show promise for use as an insulating fluid in new equipment, additional research is required prior to implementation of these new gases in the field for the larger circuit breakers. Therefore, there are currently no technically feasible alternatives to the SF_6 circuit breakers for those that are larger than 145 kV. CERC will use SF_6-free circuit breakers for those less than 145 kV.

5.9.3 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the controls proposed for the SF_6 circuit breakers.

5.9.4 Proposed GHG BACT Emission Limits (Step 5)

There may potentially be some small, nonroutine emissions of SF_6 during the operation resulting from opening and closing the circuit breakers. To minimize emissions of SF_6, Dominion proposes to use circuit breakers that do not contain SF_6 wherever possible (i.e., for circuit breakers less than 145 kV). In those cases where non-SF_6 circuit breakers are not available), Dominion proposes to use state-of-the-art enclosed-pressure SF_6 circuit breakers with leak detection as BACT for SF_6. These units will be designed to meet an industry standard annual leak rate of 0.5%. In comparison to older circuit breakers containing SF_6, modern circuit breakers are designed as totally enclosed-pressure systems with a far lower potential for SF_6 emissions.

The proposed GHG BACT for the circuit breakers is based on an industry standard annual leak rate of 0.5%.

5.10 Material Delivery Truck Traffic PM/PM_{10}/$PM_{2.5}$ BACT Analysis

There will be fugitive particulate emissions associated with deliveries of ammonia for the SCR, fuel oil (when not delivered by barge), and demineralized water. All of the roads will be paved.

5.10.1 Available PM/PM_{10}/$PM_{2.5}$ Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

For paved roads, the RBLC search identified periodic road cleaning (with water, dust suppressants, or sweeping) as necessary to remove material that is deposited on the road surface. Such methods can reduce particulate emissions by up to 90% and are technically feasible for CERC.

5.10.2 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the controls proposed for the truck traffic.

5.10.3 Proposed PM/PM_{10}/$PM_{2.5}$ BACT Emission Limits (Step 5)

Dominion is proposing as BACT to control fugitive PM/PM_{10}/$PM_{2.5}$ emissions associated with truck traffic on paved road surfaces using a program of regular road cleaning as necessary to promptly remove deposits from the road surface. This emission control method is expected to reduce emissions by 90%, consistent with the RBLC control efficiency. Emissions from truck traffic were calculated assuming 0% control to provide a conservative, worst-case estimate.

5.11 Fuel Oil Storage Tanks VOC BACT Analysis

Breathing and working losses from the 12 million gallon fuel oil storage tank, the six integral 3,500 gallon belly storage tanks on the emergency generators, and the integral 500 gallon horizontal storage tank on the fire pump will result in VOC emissions.

5.11.1 Available VOC Control Technologies and Technical Feasibility (Steps 1, 2 and 3)

The 12 million gallon fuel oil tank for the SCCTs will be a fixed roof tank. Add-on emission controls are not used for storage of low vapor pressure liquids such as fuel oil. The NSPS for large storage tanks (40 CFR Part 60 Subpart Kb) does not require emission controls for storage of distillate oil in any size tank, even multi-million gallon tanks. The use of fixed roof tanks with conservation vents is proposed as BACT for VOC emissions for this equipment.

5.11.2 Energy, Environmental and Economic Impacts (Step 4)

There are no potential adverse energy, environmental, or economic impacts that would preclude the controls proposed for the fuel oil storage tanks.

5.11.3 Proposed VOC BACT Emission Limits (Step 5)

The use of fixed roof tanks with conservation vents is proposed as BACT for VOC emissions for this equipment.

5.12 Summary of Proposed BACT Levels

Tables 5-8 and 5-9 provide summaries of the BACT control technologies proposed.

Table 5-8. Summary of Proposed BACT Emissions Limits for the SCCTs

Pollutant	Fuel/Condition	Emissions Rate		Control Technology
NO_x	Natural gas H_2 fuel blend	2.5 2.5	ppmvd @ 15% oxygen ppmvd @ 15% oxygen	Dry-Low NO_x Burners/SCR Dry-Low NO_x Burners/SCR
	Fuel Oil	5	ppmvd @ 15% oxygen	Water Injection/SCR
	Startup - Natural Gas	52	lb/event	Good combustion
	Shutdown – Natural Gas	20	lb/event	Good combustion
	Startup – fuel oil	143	lb/event	Good combustion
	Shutdown – fuel oil	62	lb/event	Good combustion
CO	Natural Gas H_2 fuel blend	2 2	ppmvd @ 15% oxygen ppmvd @ 15% oxygen	Good combustion /Oxidation Catalyst Good combustion/ /Oxidation Catalyst
	Fuel Oil	2	ppmvd @ 15% oxygen	Good combustion /Oxidation Catalyst
	Startup - Natural Gas	366	lb/event	Good combustion
	Shutdown – Natural Gas	152	lb/event	Good combustion
	Startup – fuel oil	1,036	lb/event	Good combustion
	Shutdown – fuel oil	246	lb/event	Good combustion
$PM_{.5}$	Natural Gas H_2 fuel blend Fuel Oil	0.008 0.008 0.02	lb/MMBtu lb/MMBtu lb/MMBtu	Clean Fuels Clean Fuels Clean Fuels
$PM_{10}/PM_{2.5}$	Natural Gas H_2 fuel blend Fuel Oil	0.014 0.014 0.03	lb/MMBtu lb/MMBtu lb/MMBtu	Clean Fuels Clean Fuels Clean Fuels
GHG	Greater than 90% natural gas based on heat input	120	lb CO_2/MMBtu	Efficient combustion
	Less than 90% natural gas based on heat input	120 – 160	lb CO_2/MMBtu	Efficient combustion
VOC	Natural Gas H_2 fuel blend	1.0 1.0	ppmvd @ 15% O_2 ppmvd @ 15% O_2	Good combustion Good combustion
	Fuel Oil	2	ppmvd @ 15% O_2	Good combustion
SO_2/H_2SO_4	Natural Gas H_2 fuel blend Fuel Oil		Use of natural gas Use of H_2 fuel blend Use of Fuel Oil	Clean Fuels Clean Fuels Clean Fuels

Sources: Dominion, 2023.
ECT, 2023.

Table 5-9. Summary of Proposed BACT Emissions Limits for Ancillary Sources

Emissions Unit	Pollutant	Fuel	Emissions Rate	Control Technology
Firewater pump engine	NO_x	Fuel Oil	4.0 g/kW-hr	GCP, compliance with NSPS
	CO	Fuel Oil	3.5 g/kW-hr	GCP, compliance with NSPS
	PM	Fuel Oil	0.15 g/bhp-hr	Fuel Oil, compliance with NSPS
	$PM_{10}/PM_{2.5}$	Fuel Oil	1.0 g/bhp-hr	Fuel Oil, compliance with NSPS
	GHG	Fuel Oil	2,213,100 tpy CO_2e	Total limit for SCCT project
	VOC	Fuel Oil	4.0 g/kW-hr	GCP, compliance with NSPS
	SO_2/H_2SO_4	Fuel Oil	Use of Fuel Oil	Clean Fuels
3,500-kWe emergency generator engines	NO_x	Fuel Oil	6.4 g/kW-hr	GCP, compliance with NSPS
	CO	Fuel Oil	3.5 g/kW-hr	GCP, compliance with NSPS
	PM	Fuel Oil	0.20 g/kW-hr	Fuel Oil, compliance with NSPS
	$PM_{10}/PM_{2.5}$	Fuel Oil	0.23 g/kW-hr	Fuel Oil, compliance with NSPS
	GHG	Fuel Oil	2,213,100 tpy CO_2e	Total limit for SCCT project
	VOC	Fuel Oil	6.4 g/kW-hr	GCP, compliance with NSPS
	SO_2/H_2SO_4	Fuel Oil	Use of Fuel Oil	Clean Fuels
Natural gas heater	NO_x	Natural gas	0.011 lb/MMBtu	Natural gas, GCP
	CO	Natural gas	0.037 lb/MMBtu	Natural gas, GCP
	PM/PM_{10}	Natural gas	0.007 lb/MMBtu	Natural gas, GCP
	$PM_{2.5}$	Natural gas	0.007 lb/MMBtu	Natural gas, GCP
	GHG	Natural gas	2,213,100 tpy CO_2e	Total limit for SCCT project
	VOC	Natural gas	0.005 lb/MMBtu	Natural gas, GCP
	SO_2/H_2SO_4	Natural Gas	Use of natural gas	Clean Fuels
Natural Gas Piping Components	VOC	N/A	Use of natural gas	Clean Fuels
	GHG	N/A	2,213,100 tpy CO_2e	Total limit for SCCT project
Circuit Breakers	GHG	N/A	2,213,100 tpy CO_2e	Total limit for SCCT project
Haul Trucks	$PM/PM_{10}/PM_{2.5}$	N/A	Work Practice	Watering/sweeping paved roads
Fuel Oil Storage Tanks	VOC	N/A	Work Practice	Fixed Roof Tanks

Sources: Dominion, 2023.
ECT, 2023.

6.0 PSD Class II Modeling Procedures

Pending VDEQ's approval of the emissions sources' emissions rates and stack parameters, the air dispersion modeling for the project will be finalized, and Sections 6.0 through 9.0 and Appendices E through G will be provided as an addendum to this application.

7.0 Class II Area SIL Analysis Results

Pending VDEQ's approval of the emissions sources' emissions rates and stack parameters, the air dispersion modeling for the project will be finalized, and Sections 6.0 through 9.0 and Appendices E through G will be provided as an addendum to this application.

8.0 Class II Area Cumulative Impact Assessment Results

Pending VDEQ's approval of the emissions sources' emissions rates and stack parameters, the air dispersion modeling for the project will be finalized, and Sections 6.0 through 9.0 and Appendices E through G will be provided as an addendum to this application.

9.0 Additional Impact Analysis

Pending VDEQ's approval of the emissions sources' emissions rates and stack parameters, the air dispersion modeling for the project will be finalized, and Sections 6.0 through 9.0 and Appendices E through G will be provided as an addendum to this application. In addition, a Class I analysis will be provided, if necessary, under separate cover.

10.0 Site Suitability and Environmental Justice

Consideration of site suitability and Environmental Justice (EJ) are among the requirements for obtaining an air permitting (Va. Code §10.1-1307.E; Va. Code § 2.2-234, and Va. Code § 10.1-1183). The site suitability provisions (Va. Code § 10.1-1307.E and 9 VAC 5-170-170) require VADEQ, before issuing a permit, to "consider facts and circumstances relevant to the reasonableness of the activity involved," including consideration of the following:

> 1. The character and degree of injury to, or interference with safety, health, or the reasonable use of property which is caused or threatened to be caused;
>
> 2. The social and economic value of the activity involved;
>
> 3. The suitability of the activity to the area in which it is located, except that consideration of this factor shall be satisfied if the local governing body of a locality in which a facility or activity is proposed has resolved that the location and operation of the proposed facility or activity is suitable to the area in which it is located; and
>
> 4. The scientific and economic practicality of reducing or eliminating the discharge resulting from the activity.

Generally, there are three steps to an EJ analysis: (1) identify whether an EJ community is implicated; and if so, (2) provide enhanced public participation to ensure EJ communities have a meaningful voice; and (3) ensure no negative disproportionate impacts on any EJ community.

An EJ Screening Phase I report is provided in Appendix H. Additional information will be provided upon completion of the ambient air impact analysis to demonstrate compliance with site suitability and EJ requirements.

11.0 References/Bibliography

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Appendix A Application Forms

PERMIT FORMS PURSUANT TO REGULATIONS FOR

THE CONTROL AND ABATEMENT OF AIR POLLUTION

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR PERMIT
FORM 7 APPLICATION

for

NEW SOURCE REVIEW PERMITS
and STATE OPERATING PERMITS

Return to “What Pages Do I Fill Out For My Facility?”

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR PERMITS
LOCAL GOVERNING BODY CERTIFICATION FORM

Business Entity Name (same name on file with the Virginia SCC) **Virginia Electric and Power Company**	Registration Number: **PRO 50396-26**
Applicant's Name: **Robert W. Sauer**	Name of Contact Person at the site: **T. R. Andrake**
Applicant's Mailing address: **600 Canal Street** **Richmond, VA 23219**	Contact Person Telephone Number: **(804) 839-2760**

Facility location (also attach map):
500 Coxendale Road, Chester, VA, Chesterfield County

Facility type, and list of activities to be conducted:
Electric Power Generation

The applicant is in the process of completing an application for an air pollution control permit from the Virginia Department of Environmental Quality. In accordance with § 10.1-1321.1. Title 10.1, Code of Virginia (1950), as amended, before such a permit application can be considered complete, the applicant must obtain a certification from the governing body of the county, city or town in which the facility is to be located that the location and operation of the facility are consistent with all applicable ordinances adopted pursuant to Chapter 22 (§§ 15.2-2200 et seq.) of Title 15.2. The undersigned requests that an authorized representative of the local governing body sign the certification below.

Applicant's signature: Robert W. Sauer	Date: Aug 1, 2023

The undersigned local government representative certifies to the consistency of the proposed location and operation of the facility described above with all applicable local ordinances adopted pursuant to Chapter 22 (§§15.2-2200 et seq.) of Title 15.2. of the Code of Virginia (1950) as amended, as follows:

(**Check one block**)

[X] The proposed facility is **fully consistent** with all applicable local ordinances.

[ ] The proposed facility is **inconsistent** with applicable local ordinances; see attached information.

Signature of authorized government representative:	Date:
Type or print name:	Title:
County, city or town:	

[THE LOCAL GOVERNMENT REPRESENTATIVE SHOULD FORWARD THE SIGNED CERTIFICATION TO THE APPROPRIATE DEQ REGIONAL OFFICE AND SEND A COPY TO THE APPLICANT.]

Return to **"What Pages Do I Fill Out For My Facility?"**

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY – 2023 AIR PERMIT APPLICATION FEES

VALID JANUARY 1, 2023 TO DECEMBER 31, 2023

Air permit applications are subject to a fee and fee are adjusted January 1 of each calendar year. **The fee does not apply to administrative amendments or** true minor sources. Applications will be considered incomplete if the proper fee is not paid and will not be processed until full payment is received. **Air permit application fees are not refundable. Please contact the Regional Air Permit Manager if you are unsure of your fee amount.**

Step 1: Send this **ORIGINAL** form and a check (or money order) payable to "Treasurer of Virginia" to:

Department of Environmental Quality **Receipts Control** **P.O. Box 1104** **Richmond, VA 23218**	**OR** **FOR OVERNIGHT DELIVERY**	**Department of Environmental Quality** **Receipts Control** **1111 East Main Street, Suite 1400** **Richmond, VA 23219**

Step 2: Send a **COPY** of this form with the permit application to the appropriate **DEQ Regional Office**

Step 3: Retain a copy for your records. Questions should be directed to the DEQ regional office where the application will be submitted

COMPANY NAME:	Virginia Electric and Power Company	**FIN:**	54-0418825
COMPANY REPRESENTATIVE:	Robert W. Sauer	**EMAIL ADDRESS:**	robert.w.sauer@dominionenergy.com
MAILING ADDRESS:	600 Canal St, Richmond, VA 23219		
BUSINESS PHONE:	(804) 273-3685	**FAX:**	
FACILITY NAME:	Chesterfield Power Station	**REGISTRATION NUMBER:**	PRO 50396-26
PHYSICAL LOCATION:	500 Coxendale Road, Chester, VA, Chesterfield County		

PERMIT ACTIVITY **AIR PERMIT APPLICATION FEES ARE NOT REFUNDABLE** **Please contact the Regional Air Permit Manager if you are unsure of your fee amount**	**APPLICATION FEE AMOUNT**	**CHECK ONE**
Sources subject to Title V permitting requirements:		
• Major NSR permit (Articles 7, 8, 9)	$81,399	
• Major NSR permit amendment (Articles 7, 8, 9) **(except administrative)***	$12,920	
• State major permit (Article 6)	$32,301	
• Title V permit (Articles 1, 3)	$45,222	
• Title V permit renewal (Articles 1, 3)	$19,380	
• Title V permit modification (Articles 1, 3)	$5,168	
• Minor NSR permit (Article 6)	$6,460	
• Minor NSR amendment (Article 6) **(except administrative)***	$3,230	
• State operating permit (Article 5)	$12,920	
• State operating permit amendment (Article 5) **(except administrative)***	$5,168	
Sources subject to Synthetic Minor permitting requirements:		
• Minor NSR permit (Article 6)	$3,876	
• Minor NSR amendment (Article 6)* **(except administrative)***	$1,292	
• State operating permit (Article 5)	$6,460	
• State operating permit amendment (Article 5)* **(except administrative)***	$3,230	

***AIR PERMIT APPLICATION FEES DO NOT APPLY TO ADMINISTRATIVE AMENDMENTS**

DEQ OFFICE TO WHICH PERMIT APPLICATION WILL BE SUBMITTED (check one)

☐ SWRO/Abingdon	☐ NRO/Woodbridge	☐ PRO/Richmond	**FOR DEQ USE ONLY** **Date:** ____________ **DC #:** ____________ **Reg. No.:** ____________
☐ VRO/Harrisonburg	☐ BRRO/Roanoke	☐ TRO/Virginia Beach	

Return to **“What Pages Do I Fill Out For My Facility?”**

AIR PERMIT APPLICATION CHECKLIST

APPLICATION FORM PAGES AND NUMBER OF COPIES

Place a “√”In Boxes Below to Indicate Pages Included with Application Submittal	Page Title and Page Number	Indicate Number of Copies Included with Application Submittal
X	Local Governing Body Certification Form, Page 5	
X	Application Fee Form, Page 6	
X	Application and Attachments Checklist, Page 9	
X	Document Certification Form, Page 10	
X	General Information, Pages 11-12	
X	Fuel Burning Equipment, Page 13	
X	Stationary Internal Combustion Engines, Page 14	
	Incinerators, Page 15	
X	Processing, Page 16	
	Inks, Coatings, Stains, and Adhesives, Page 17	
X	VOC/Petroleum Storage Tanks, Pages 18-19	
	Loading Rack and Oil-Water Separators, Page 20	
	Fumigation Operations, Page 21	
X	Air Pollution Control and Monitoring Equipment, Page 22	
	Air Pollution Control/Supplemental Information, Page 23	
X	Stack Parameters and Fuel Data, Page 24	
X	Proposed Permit Limits for Criteria Pollutants, Page 25	
X	Proposed Permit Limits for Toxic Pollutants/HAPs, Page 26	
X	Proposed Permit Limits for Other Reg. Pollutants, Page 27	
X	Proposed Permit Limits for GHGs on Mass Basis, Page 28	
X	Proposed Permit Limits for GHGs on CO_2e Basis, Page 29	
	BAE for Criteria Pollutants, Page 30	
	BAE for GHGs on Mass Basis, Page 31	
	BAE for GHGs on CO_2e Basis, Page 32	
X	Operating Periods, Page 33	

ATTACHMENTS AND NUMBER OF COPIES

Place a “√”In Boxes Below to Indicate Attachments Included with Application Submittal	Attached Document Names (Use Blank Spaces to Write In Names of any Attachments Not Listed Below)	Indicate Number of Copies Included with Application Submittal
X	Map of Site Location	
X	Facility Site Plan	
	Process Flow Diagram/Schematic	
	MSDS or CPDS Sheets	
X	Estimated Emission Calculations	
	Stack Tests	
	Air Modeling Data	
	Confidential Information (see Instructions)	
X	BACT Analysis	

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DOCUMENT CERTIFICATION FORM

I certify under penalty of law that this document and all attachments [as noted above] 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 and evaluating 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.

I certify that I understand that the existence of a permit under [Article 6 of the Regulations] does not shield the source from potential enforcement of any regulation of the board governing the major NSR program and does not relieve the source of the responsibility to comply with any applicable provision of the major NSR regulations.

DATE:	Aug 1, 2023
SIGNATURE:	Robert W. Sauer
NAME:	Robert W. Sauer
TITLE:	VP System Operations
PHONE:	804-273-3685
EMAIL:	robert.w.sauer@dominionenergy.com
REGISTRATION NO:	50396-26
COMPANY NAME:	Virginia Electric and Power Company
ADDRESS:	600 Canal Street
	Richmond, Virginia 23219

References: Virginia Regulations for the Control and Abatement of Air Pollution (Regulations), 9VAC5-20-230B and 9VAC5-80-1140E.

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GENERAL INFORMATION

Person Completing Form: Adam George	Date: July 31, 2023	Registration Number: PRO-50396-26
Company and Division Name: Virginia Electric and Power Company		FIN: 54-0418825
Mailing Address: 600 Canal Street Richmond, Virginia 23219		
Exact Source Location – Include Name of City (County) and Full Street Address or Directions: 500 Coxendale Road, Chester (Chesterfield County), VA 23836		
Facility Phone Number:	No. of Employees: TBD	Property Area at Site: 94 acres
Person to Contact on Air Pollution Matters – Name and Title: Name: T.R. Andrake; Title: Environmental Consultant	Contact Phone Number: (804) 839-2760; Contact Email: thomas.r.andrake@dominionenergy.com; Contact Fax:	
Latitude and Longitude Coordinates **OR** UTM Coordinates of Facility: 37º22’54.43” N, 77º23’02.86”W		

Reason(s) for Submission (Check all that apply):

☐ State Operating Permit — This permit is applied for pursuant to provisions of the Virginia Administrative Code, 9 VAC 5 Chapter 80, Article 5 (SOP)

☐ New Source
☒ Modification of a Source
☐ Relocation of a Source

This permit is applied for pursuant to the following provisions of the Virginia Administrative Code:
- ☐ 9 VAC 5 Chapter 80, Article 6 (Minor Sources)
- ☒ 9 VAC 5 Chapter 80, Article 8 (PSD Major Sources)
- ☐ 9 VAC 5 Chapter 80, Article 9 (Non-Attainment Major Sources)

☐ Amendment to a Permit Dated: ________ Permit Type: ☐ SOP (Art. 5) ☐ NSR (Art. 6, 8, 9)

Amendment Type:
- ☐ Administrative Amendment
- ☐ Minor Amendment
- ☐ Significant Amendment

This amendment is requested pursuant to the provisions of:
- ☐ 9 VAC 5-80-970 (Art. 5 Adm.)
- ☐ 9 VAC 5-80-980 (Art. 5 Minor)
- ☐ 9 VAC 5-80-990 (Art. 5 Sig.)
- ☐ 9 VAC 5-80-1935 (Art. 8 Adm.)
- ☐ 9 VAC 5-80-1945 (Art. 8 Minor)
- ☐ 9 VAC 5-80-1955 (Art. 8 Sig.)
- ☐ 9 VAC 5-80-1270 (Art. 6 Adm.)
- ☐ 9 VAC 5-80-1280 (Art. 6 Minor)
- ☐ 9 VAC 5-80-1290 (Art. 6 Sig.)
- ☐ 9 VAC 5-80-2210 (Art. 9 Adm.)
- ☐ 9 VAC 5-80-2220 (Art. 9 Minor)
- ☐ 9 VAC 5-80-2230 (Art. 9 Sig.)

☐ Other (specify): ____________________

Explanation of Permit Request (attach documents if needed):

Dominion is proposing to install the Chesterfield Energy Reliability Center (CERC) to be located on an approximately 94-acre parcel located within the James River Industrial Center in Chesterfield County, VA, adjacent to the existing Chesterfield Power Station (CPS) located at 500 Coxendale Road in Chesterfield County, approximately 4 miles northeast of Chester, Virginia. The CERC project will consist of four dual fuel simple-cycle combustion turbines (SCCT) firing primarily pipeline quality natural gas, as well as having the capability to fire No. 2 fuel oil with a maximum sulfur content of 15 ppm (fuel oil). Additionally, the SCCTs will be capable of operating on an advanced gaseous fuel blend consisting of natural gas with up to 10% hydrogen (H_2 fuel blend). The SCCTs will be equipped with selective catalytic reduction (SCR) system and oxidation catalyst as post-combustion emission controls. The purpose and design of the CERC project is to respond quickly with reliable, dispatchable power generation to the grid when needed by the PJM Regional Transmission Operator (RTO). This includes during high demand periods, seasonal peaks, and extreme temperature events as well as when intermittent generation resources (such as solar and wind) become suddenly unavailable or insufficient to meet customer needs. The proposed CERC dual-fuel SCCTs are focused on supporting the clean energy transition while also optimizing reliability and economics for our system customers.

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GENERAL INFORMATION (CONTINUED)

For Portable Plants:

Is this facility designed to be portable? ☐ Yes ☒ No

- If yes, is this facility already permitted as a portable plant? ☐ Yes ☐ No Permit Date: ______

If not permitted, is this an application to be permitted as a portable plant? ☐ Yes ☐ No

If permitted as a portable facility, is this a notification of relocation? ☐ Yes ☐ No

- Describe the new location or address (include a site map): ______
- Will the portable facility be co-located with another source? ☐ Yes ☐ No Reg. No. ______
- Will the portable facility be modified or reconstructed as a result of the relocation? ☐ Yes ☐ No
- Will there be any new emissions other than those associated with the relocation? ☐ Yes ☐ No
- Is the facility suitable for the area to which it will be located? (attach documentation) ☐ Yes ☐ No

Describe the products manufactured and/or services performed at this facility:

Electrical power generation

List the Standard Industrial Classification (SIC) Code(s) for the facility:

4 9 1 1

List the North American Industry Classification System (NAICS) Code(s) for the facility:

2 2 1 1 1 2

List all the facilities in Virginia under common ownership or control by the owner of this facility:

Numerous facilities throughout Virginia

Milestones: This section is to be completed if the permit application includes a new emissions unit or modification to existing operations.

Milestones*:	Starting Date:	Estimated Completion Date:
New Equipment Installation	2nd Quarter 2025	2nd Quarter 2027
Modification of Existing Process or Equipment	N/A	N/A
Start-up Dates	2nd Quarter 2027	2nd /3rd Quarter 2027

*For new or modified installations to be constructed in phased schedule, give construction/installation starting and completion date for each phase.

Return to **"What Pages Do I Fill Out For My Facility?"**

FUEL BURNING EQUIPMENT: (Boilers, Turbines, Kilns, and Other External Combustion Units)

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Equipment Manufacturer, Type, and Model Number	Date of Manuf.	Date of Const.	Max. Rated Input Heat Capacity For Each Fuel (Million Btu/hr)	Type of Fuel	Type of Equip. (use Code A)	Usage (use Code B)	Requested Throughput* (hrs/yr OR fuel/yr)	Federal Regulations that Apply
ES-33	General Electric (GE) 7FA-05 simple-cycle combustion turbine	TBD	TBD	2,445 MMBtu/hr (NG) 2,449 MMBtu/hr (NG/Hydrogen) 2,452 MMBtu/hr (FO)	Natural Gas, Natural Gas w Hydrogen, and Fuel Oil	19	6	See Section 3.0 and Appendix B	NSPS Part 60 Subpart KKKK, Subpart TTTT, NESHAP Part 63 Subpart YYYY
ES-34	General Electric (GE) 7FA-05 simple-cycle combustion turbine	TBD	TBD	2,445 MMBtu/hr (NG) 2,449 MMBtu/hr (NG/Hydrogen) 2,452 MMBtu/hr (FO)	Natural Gas, Natural Gas w Hydrogen, and Fuel Oil	19	6	See Section 3.0 and Appendix B	NSPS Part 60 Subpart KKKK, Subpart TTTT, NESHAP Part 63 Subpart YYYY
ES-35	General Electric (GE) 7FA-05 simple-cycle combustion turbine	TBD	TBD	2,445 MMBtu/hr (NG) 2,449 MMBtu/hr (NG/Hydrogen) 2,452 MMBtu/hr (FO)	Natural Gas, Natural Gas w Hydrogen, and Fuel Oil	19	6	See Section 3.0 and Appendix B	NSPS Part 60 Subpart KKKK, Subpart TTTT, NESHAP Part 63 Subpart YYYY
ES-36	General Electric (GE) 7FA-05 simple-cycle combustion turbine	TBD	TBD	2,445 MMBtu/hr (NG) 2,449 MMBtu/hr (NG/Hydrogen) 2,452 MMBtu/hr (FO)	Natural Gas, Natural Gas w Hydrogen, and Fuel Oil	19	6	See Section 3.0 and Appendix B	NSPS Part 60 Subpart KKKK, Subpart TTTT, NESHAP Part 63 Subpart YYYY
ES-37	Fuel gas heater	TBD	TBD	18.8 MMBtu/hr	Natural Gas	19	4	8,760 hrs/yr	NSPS Part 60 Subpart Dc, NESHAP Part 63 Subpart DDDDD

* Max Rated Input Heat Capacity for CT1, CT2, CT3 and CT4 based on Base load condition without evaporative cooling, HHV

☐ Estimated Emission Calculations Attached (include references of emission factors) and/or Stack Test Results if Available

Code A – Equipment

BOILER TYPE:
1. Pulverized Coal - Wet Bottom
2. Pulverized Coal - Dry Bottom
3. Pulverized Coal - Cyclone Furnace
4. Circulating Fluidized Bed
5. Spreader Stoke
6. Chain or Travelling Grate Stoker
7. Underfeed Stoker
8. Hand Fired Coal
9. Oil, Tangentially Fired
10. Oil, Horizontally Fired (except rotary cup)
11. Gas, Tangentially Fired
12. Gas, Horizontally Fired
13. Wood with Flyash Reinjection
14. Wood without Flyash Reinjection
15. Other (specify) ________________________

OTHER COMBUSTION UNITS:
16. Oven / Kiln
17. Rotary Kiln
18. Process Furnace
19. Other (specify) Combustion Turbine, Fuel Gas Heater

Code B - Usage

1. Steam Production
2. Drying / Curing
3. Space Heating
4. Process Heat
5. Food Processing
6. Electrical Generation
7. Mechanical Work
8. Other (specify) ________________________

***Pick only one option for a requested throughput.**

NOTE: Dryers, kilns, and furnaces also have to fill out Page 16, Processing, Manufacturing, Surface Coating and Degreasing Operations.

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STATIONARY INTERNAL COMBUSTION ENGINES:

Company Name: Virginia Electric and Power Company	Date: July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Equipment Manufacturer, Type, and Model Number	Date of Manuf.	Date of Const.	Output Brake Horsepower (bhp)	Output Electrical Power (kW)	Type of Fuel	Usage* (use Code C)	Requested Throughput** (hrs/yr OR fuel/yr)	Federal Regulations that Apply
ES-38	190-bhp diesel firewater pump	TBD	TBD	190	N/A	Fuel Oil	5	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-39	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-40	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-41	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-42	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-43	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ
ES-44	3,500-kWe emergency generator	TBD	TBD	4,694	3,500	Fuel Oil	1	500 hrs/yr	NSPS Part 60 Subpart IIII; NESHAP Part 63 Subpart ZZZZ

☐ Estimated Emission Calculations Attached (include references of emission factors and manufacturer specifications per engine) and/or Stack Test Results if Available.

Code C – Usage

1. Emergency Generator
2. Participates in Emergency Load Response Program
3. Non-Emergency Generator
4. Participates in Demand Response Program(s)
5. Other (specify) ____________________________

***Can pick more than one option**
(i.e. 1 and 2 **OR** 3 and 4)

****Pick only one option for a requested throughput.**

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PROCESSING, MANUFACTURING, SURFACE COATING AND DEGREASING OPERATIONS:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Process or Operation Name	Equipment Manufacturer, Type, and Model Number	Date of Manuf.	Date of Const.	Max. Rated Capacity (_____/hr)*	Requested Throughput*			Federal Regulations that Apply
						(_____/hr)	(_____/day)	(_____/yr)	
CB	Circuit Breakers	TBD	TBD	TBD	8,760 hrs/yr (0.5% leak rate)			8,760 hours	None

☐ Estimated Emission Calculations Attached (include references of emission factors) and/or Stack Test Results if Available

*** Specify units for each operation in tons, pounds, gallons, etc., as applicable. <u>For coating operations</u>, the maximum rated capacity is the spray gun capacity.**

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VOLATILE ORGANIC COMPOUND (VOC)/PETROLEUM LIQUID STORAGE TANKS:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Tank Type (use Code H)	Source of Tank Contents (use Code I)	Date of Manuf.	Date of Const.	Material Stored - Name and CAS # (include Reid Vapor Pressure for Gasoline)	Max. True Vapor Pressure (psia)	Density* (lbs/gal)	Max. Average Storage Temp. (ºF)	Tank Diameter (feet)	Tank Capacity (gal)	Requested Throughput (gal/yr)	Federal Regulations that Apply
TK3	1a	3	TBD	TBD	Fuel Oil CAS# 68476-30-2	0.0078	7.50 @ 60F	Ambient	205	12 million gallons	60 million gal/yr	None
TK4	1a	3	TBD	TBD	Fuel Oil CAS# 68476-30-2	0.0078	7.50 @ 60F	Ambient	4	500 gallons	5,500 gal/yr	None
TK5-10	1b	3	TBD	TBD	Fuel Oil CAS# 68476-30	0.0078	7.50 @ 60F	Ambient	12'x8'	3,500 gallons (per tank)	125,400 gal/yr (per tank)	None

☐ Estimated Emission Calculations Attached (include TANKS Program printouts)

Code H – Tank Type		**Code I – Source of Tank Contents**
1. Fixed Roof a. Vertical Tank b. Horizontal Tank 2. Floating Roof a. Internal (welded deck) b. Internal (bolted deck) – Specify Panel or Sheet c. External (welded deck) d. External (riveted deck)	3. Variable Vapor Space 4. Pressure Tank (over 15 psig) 5. Underground Splash Loading 6. Underground Submerged Loading 7. Underground Submerged Loading, Balanced 8. Other:______________________	1. Pipeline 2. Rail Car 3. Tank Truck 4. Ship or Barge 5. Process

*** Specify the ASTM temperature standard at which the density was measured.**

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VOLATILE ORGANIC COMPOUND (VOC)/PETROLEUM LIQUID STORAGE TANKS (CONTINUED):

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Tank Color		Fixed Roof Only					Floating Roof Only				
	Shell	Roof	Internal Tank Height or Length (feet)	Max. Hourly Filling (gallons)	External Fixed Roof			Seal Type (use Code J)	Max. Hourly Withdrawal (gallons)	Internal Floating Roof		
					Type of Roof (cone or dome)	Cone height (ft) and slope (ft/ft)	Dome height (ft) and radius (ft)			Self Supporting?	If no, No. of Columns	If no, Column Diameter (ft)
TK3	TBD	TBD	65	TBD	N/A	N/A	N/A					
TK4	TBD	TBD	5	TBD	N/A	N/A	N/A					
TK5-10	TBD	TBD	3	TBD	N/A	N/A	N/A					

Code J – Seal Type (Pontoon External Only)

1. Mechanical Shoe
   a. Primary only
   b. Shoe mounted secondary
   c. Rim mounted secondary
2. Liquid Mounted
   a. Primary only
   b. Weather shield secondary
   c. Rim mounted secondary
3. Vapor Mounted
   a. Primary only
   b. Weather shield secondary
   c. Rim mounted secondary

(Double Deck External Only)

4. Mechanical Shoe
   a. Primary only
   b. Shoe mounted secondary
   c. Rim mounted secondary
5. Liquid Mounted
   a. Primary only
   b. Weather shield secondary
   c. Rim mounted secondary
6. Vapor Mounted
   a. Primary only
   b. Weather shield secondary
   c. Rim mounted secondary

(Internal Only)

7. Mechanical Shoe
   a. Primary only
   b. Shoe mounted secondary
   c. Rim mounted secondary
8. Liquid Mounted
   a. Primary only
   b. Rim mounted secondary
9. Vapor Mounted
   a. Primary only
   b. Rim mounted secondary

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AIR POLLUTION CONTROL AND MONITORING EQUIPMENT:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Vent/ Stack No.	Device Ref. No.	Pollutant/Parameter	Air Pollution Control Equipment			Monitoring Instrumentation
				Manufacturer and Model No.	Type (use Code N)	Percent Efficiency (%)	Specify Type, Measured Pollutant, and Recorder Used
ES-33	EP-23	SCR/ DLN	NOx		16-SCR 21 – Dry-Low NOx Combustors	90	CEMS, NOx
ES-33	EP-23	SCR/ WI	NOx		16-SCR 21- Water Injection	88	CEMS, NOx
ES-34	EP-24	SCR/ DLN	NOx		16-SCR 21 – Dry-Low NOx Combustors	90	CEMS, NOx
ES-34	EP-24	SCR/ WI	NOx		16-SCR 21- Water Injection	88	CEMS, NOx
ES-35	EP-25	SCR/ DLN	NOx		16-SCR 21 – Dry-Low NOx Combustors	90	CEMS, NOx
ES-35	EP-25	SCR/ WI	NOx		16-SCR 21- Water Injection	88	CEMS, NOx
ES-36	EP-26	SCR/ DLN	NOx		16-SCR 21 – Dry-Low NOx Combustors	90	CEMS, NOx
ES-36	EP-26	SCR/ WI	NOx		16-SCR 21- Water Injection	88	CEMS, NOx
ES-33	EP-23	OC	CO/VOC		21-Oxidation catalyst	78 (CO- NG) 90 (CO – FO)	CEMS, CO
ES-34	EP-24	OC	CO/VOC		21-Oxidation catalyst	78 (CO- NG) 90 (CO – FO)	CEMS, CO
ES-35	EP-25	OC	CO/VOC		21-Oxidation catalyst	78 (CO- NG) 90 (CO – FO)	CEMS, CO
ES-36	EP-26	OC	CO/VOC		21-Oxidation catalyst	78 (CO- NG) 90 (CO – FO)	CEMS, CO

☐ Manufacturer Specifications Included

Code N – Type of Air Pollution Control Equipment		
1. Settling Chamber 2. Cyclone	a. Hot side b. Cold side	18. Absorber a. Packed tower

3. Multicyclone 4. Cyclone scrubber 5. Orifice scrubber 6. Mechanical scrubber 7. Venturi scrubber a. Fixed throat b. Variable throat 8. Mist eliminator 9. Filter a. Baghouse b. Other:______________________ 10. Electrostatic Precipitator	c. High voltage d. Low voltage e. Single stage f. Two stage g. Other:______________________ 11. Catalytic Afterburner 12. Direct Flame Afterburner 13. Diesel Oxidation Catalyst (DOC) 14. Thermal Oxidizer 15. Regenerative Thermal Oxidizer (RTO) 16. Selective Catalytic Reduction (SCR) 17. Selective Non-Catalytic Reduction (SNCR)	b. Spray tower c. Tray tower d. Venturi e. Other:______________________ 19. Adsorber a. Activated carbon b. Molecular sieve c. Activated alumina d. Silica gel e. Other:______________________ 20. Condenser (specify) 21. Other:_Dry Low NOx Combustors/Water Injection/Oxidation Catalyst

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STACK PARAMETERS AND FUEL DATA:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Vent/ Stack No.	Vent/Stack or Exhaust Data						Fuel(s) Data				
		Vent/Stack Config. (use Code O)	Vent/Stack Height (feet)	Exit Diameter (feet)	Exit Gas Velocity (ft/sec)	Exit Gas Flow Rate (acfm)	Exit Gas Temp. (ºF)	Type of Fuel	Heating Value* (Btu/____)	Max. Rated Burned/hr (specify units)	Max. Sulfur %	Max. Ash %
ES-33	EP-23A	5	150	24.5	130.68	3,694,690	850	NG	23,296 Btu/lbm HHV	105,000 lbm/hr	1.0 grain / 100 scf	
ES-33	EP-23B	5	150	24.5	130.74	3,696,340	850	NG w H2	23,777 Btu/lbm HHV	103,000 lbm/hr	1.0 grain / 100 scf	
ES-33	EP-23C	5	150	24.5	137.70	3,892,970	850	Fuel Oil	20,572 Btu/lbm HHV	120,000 lbm/hr	0.0015%	
ES-34	EP-24A	5	150	24.5	130.68	3,694,690	850	NG	23,296 Btu/lbm HHV	105,000 lbm/hr	1.0 grain / 100 scf	
ES-34	EP-24B	5	150	24.5	130.74	3,696,340	850	NG w H2	23,777 Btu/lbm HHV	103,000 lbm/hr	1.0 grain / 100 scf	
ES-34	EP-24C	5	150	24.5	137.70	3,892,970	850	Fuel Oil	20,572 Btu/lbm HHV	120,000 lbm/hr	0.0015%	
ES-35	EP-25A	5	150	24.5	130.68	3,694,690	850	NG	23,296 Btu/lbm HHV	105,000 lbm/hr	1.0 grain / 100 scf	
ES-35	EP-25B	5	150	24.5	130.74	3,696,340	850	NG w H2	23,777 Btu/lbm HHV	103,000 lbm/hr	1.0 grain / 100 scf	
ES-35	EP-25C	5	150	24.5	137.70	3,892,970	850	Fuel Oil	20,572 Btu/lbm HHV	120,000 lbm/hr	0.0015%	
ES-36	EP-26A	5	150	24.5	130.68	3,694,690	850	NG	23,296 Btu/lbm HHV	105,000 lbm/hr	1.0 grain / 100 scf	
ES-36	EP-26B	5	150	24.5	130.74	3,696,340	850	NG w H2	23,777 Btu/lbm HHV	103,000 lbm/hr	1.0 grain / 100 scf	
ES-36	EP-26C	5	150	24.5	137.70	3,892,970	850	Fuel Oil	20,572 Btu/lbm HHV	120,000 lbm/hr	0.0015%	
ES-37	EP-27	5	15	2	12.2	2,300	309	NG	23,593 Btu/lbm HHV	400 lb/hr	1.0 grain / 100 scf	
ES-38	EP-28	5	15	1	23.8	1,121.0	924	Fuel Oil	19,526 Btu/lbm HHV	10.6 gal/hr	0.0015%	
ES-39	EP-29	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	
ES-40	EP-30	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	
ES-41	EP-31	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	
ES-42	EP-32	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	
ES-43	EP-33	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	
ES-44	EP-34	5	18	2	479.6	27,899	862.8	Fuel Oil	19,526 Btu/lbm HHV	246.2 gal/hr	0.0015%	

Code O – Vent/Stack Configuration

1. Stack discharging downward, or nearly downward
2. Equivalent stack representing a combination of multiple actual stacks
3. Gooseneck stack
4. Stack discharging in a horizontal direction
5. Stack with an unobstructed opening discharge in a vertical direction
6. Vertical stack with a weather cap or similar obstruction in exhaust system

*** Specify units for each heating value in Btus per unit of fuel.**

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PROPOSED PERMIT LIMITS FOR CRITERIA POLLUTANTS:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Proposed Permit Limits for Criteria Pollutants															
	PM [a] (Particulate Matter)		PM-10 [a,b] (10 µM or smaller particulate matter)		PM 2.5 [a,b] (2.5 µM or smaller particulate matter)		SO_2 (Sulfur Dioxide)		NO_X (Nitrogen Oxides)		CO (Carbon Monoxide)		VOC [a] (Volatile Organic Compounds)		Pb (Lead)	
	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
ES-33[c]	11.9 NG) 11.8 (NGwH2) 24.0 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		8.20 (NG) 8.10 (NGwH2) 4.50 (Fuel Oil)		23.30 (NG) 23.00 (NGwH2) 47.90 (Fuel Oil)		11.30 (NG) 11.20 (NGwH2) 11.70 (Fuel Oil)		3.20 (NG) 3.20 (NGwH2) 6.70 (Fuel Oil)		1.20E-03 (NG) 1.19E-03 (NGwH2) 3.43E-02 (Fuel Oil)	
ES-34[c]	11.9 NG) 11.8 (NGwH2) 24.0 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		8.20 (NG) 8.10 (NGwH2) 4.50 (Fuel Oil)		23.30 (NG) 23.00 (NGwH2) 47.90 (Fuel Oil)		11.30 (NG) 11.20 (NGwH2) 11.70 (Fuel Oil)		3.20 (NG) 3.20 (NGwH2) 6.70 (Fuel Oil)		1.20E-03 (NG) 1.19E-03 (NGwH2) 3.43E-02 (Fuel Oil)	
ES-35[c]	11.9 NG) 11.8 (NGwH2) 24.0 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		8.20 (NG) 8.10 (NGwH2) 4.50 (Fuel Oil)		23.30 (NG) 23.00 (NGwH2) 47.90 (Fuel Oil)		11.30 (NG) 11.20 (NGwH2) 11.70 (Fuel Oil)		3.20 (NG) 3.20 (NGwH2) 6.70 (Fuel Oil)		1.20E-03 (NG) 1.19E-03 (NGwH2) 3.43E-02 (Fuel Oil)	
ES-36[c]	11.9 NG) 11.8 (NGwH2) 24.0 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		19.70 (NG) 19.50 (NGwH2) 45.00 (Fuel Oil)		8.20 (NG) 8.10 (NGwH2) 4.50 (Fuel Oil)		23.30 (NG) 23.00 (NGwH2) 47.90 (Fuel Oil)		11.30 (NG) 11.20 (NGwH2) 11.70 (Fuel Oil)		3.20 (NG) 3.20 (NGwH2) 6.70 (Fuel Oil)		1.20E-03 (NG) 1.19E-03 (NGwH2) 3.43E-02 (Fuel Oil)	
ES-33-ES-36 (12mo rolling)[d]		79.00		150.21		150.21		27.62		291.88		774.96		134.49		6.23E-02
ES-37	0.04	0.15	0.13	0.58	0.13	0.58	0.02	0.09	0.21	0.91	0.70	3.05	0.09	0.41	9.22E-06	4.04E-05
ES-38	0.06	0.02	0.61	0.15	0.61	0.15	0.39	0.10	0.88	0.22	1.09	0.27	0.38	0.09	1.31E-05	3.27E-06
ES-39	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
ES-40	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
ES-41	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
ES-42	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
ES-43	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
ES-44	1.54	0.39	1.80	0.45	1.80	0.45	5.21E-02	0.01	34.57	8.64	27.01	6.75	14.82	3.70	3.04E-04	7.59E-05
TK3-10													0.37	1.61		
FUG		0.11		0.022		5.39E-03							5.13E-03	0.023		
TOTAL:		81.59		153.66		153.66		27.89		344.86		818.79		158.85		6.28E-02

☐ Estimated Emission Calculations Attached (totals and per Unit Ref. No.)

[a] PM, PM-10, PM 2.5, and VOC should also be split up by component and reported under the Proposed Permit Limits for Toxic Pollutants/HAPs.
[b] PM-10 and PM 2.5 includes filterable and condensable.
[c] lb/hr proposed permit limits reflect the worst-case hourly emissions at normal operations.
[d] tons/yr proposed permit limits reflect the annual operation for all four SCCTs as follows: 12,960 hours normal operation with a maximum of 3,000 hours on fuel oil and 2,000 startups and 2,000 shutdowns with a maximum of 480 startups and 480 shutdowns on fuel oil.

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PROPOSED PERMIT LIMITS FOR TOXIC POLLUTANTS/HAPS:

Company Name: Virginia Electric and Power Company								**Date:** July 31, 2023				**Registration Number:** PRO 50396-26				
Unit Ref. No.	**Proposed Permit Limits for Toxic/HAP Pollutants***															
	HAP Name: **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**		**HAP Name:** **CAS #:**	
	lbs/hr	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**	**lbs/hr**	**tons/yr**
See Appendix B, Tables B-6, B-7, and B-8																
TOTAL:																

☐ Estimated Emission Calculations Attached (totals and per Unit Ref. No.)

*** Specify the name of the toxic pollutant/HAP for each Unit Ref. No. along with the respective CAS Number**. Toxic Pollutant means a pollutant on the designated list in the Form 7 Instructions document. Particulate matter and volatile organic compounds are not toxic pollutants as generic classes of substances, but individual substances within these classes may be toxic pollutants because their toxic properties or because a TLV (tm) has been established.

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PROPOSED PERMIT LIMITS FOR OTHER REGULATED POLLUTANTS:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Proposed Permit Limits for Other Regulated Pollutants*															
	Pollutant Name: H_2SO_4		Pollutant Name:		Pollutant Name:		Pollutant Name:		Pollutant Name:		Pollutant Name:		Pollutant Name:		Pollutant Name:	
	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
ES-33[a]	5.60 (NG) 5.50 (NGwH2) 3.00 (Fuel Oil)															
ES-34[a]	5.60 (NG) 5.50 (NGwH2) 3.00 (Fuel Oil))															
ES-35[a]	5.60 (NG) 5.50 (NGwH2) 3.00 (Fuel Oil)															
ES-36[a]	5.60 (NG) 5.50 (NGwH2) 3.00 (Fuel Oil)															
ES-33-ES-36 (12mo rolling)[b]		18.63														
ES-37	4.89E-03	2.14E-02														
ES-38	2.98E-02	7.46E-03														
ES-39	3.99E-03	9.97E-04														
ES-40	3.99E-03	9.97E-04														
ES-41	3.99E-03	9.97E-04														
ES-42	3.99E-03	9.97E-04														
ES-43	3.99E-03	9.97E-04														
ES-44	3.99E-03	9.97E-04														
TOTAL:		18.66														

☐ Estimated Emission Calculations Attached (totals and per Unit Ref. No.)

a lb/hr proposed permit limits reflect the worst-case hourly emissions at normal operations.
[b] tons/yr proposed permit limits reflect the annual operation for all four SCCTs as follows: 12,960 hours normal operation with a maximum of 3,000 hours on fuel oil and 2,000 startups and 2,000 shutdowns with a maximum of 480 startups and 480 shutdowns on fuel oil.

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PROPOSED PERMIT LIMITS FOR GREENHOUSE GASES (GHGs) ON MASS BASIS: FOR PSD MAJOR SOURCES ONLY

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Proposed Permit Limits for GHG Pollutants on Mass Basis													
	CO_2 (Carbon Dioxide)		N_2O (Nitrous Oxide)		CH_4 (Methane)		HFCs (Hydrofluoro-carbons)		PFCs (Perfluoro-carbons)		SF_6 (Sulfur Hexafluoride)		Total GHGs	
	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
ES-33[a]	399,823	547,737	3.24	2.05	16.22	13.86							399,842	547,753
ES-34[a]	399,823	547,737	3.24	2.05	16.22	13.86							399,842	547,753
ES-35[a]	399,823	547,737	3.24	2.05	16.22	13.86							399,842	547,753
ES-36[a]	399,823	547,737	3.24	2.05	16.22	13.86							399,842	547,753
ES-33-ES-36 (12mo rolling)[b]	N/A	2,190,950	N/A	8.18	N/A	55.42							N/A	2,191,013
ES-37	2,200	9,634	4.1E-03	1.8E-02	4.1E-02	0.18							2,200	9,634
ES-38	237	59	1.9E-03	4.8E-04	9.6E-03	2.4E-03							237	59
ES-39	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
ES-40	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
ES-41	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
ES-42	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
ES-43	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
ES-44	5,501	1,375	4.5E-02	1.1E-02	2.2E-01	5.6E-02							5,501	1,375
CB											2.05E-03	0.009	0.002	0.009
FUG	0.04	0.16			1.27	5.58							1.31	5.74
TOTAL:		2,208,891		8.28		61.54						0.009		2,208,961

☐ Estimated Emission Calculations Attached (totals and per Unit Ref. No.)

a lb/hr proposed permit limits reflect the worst-case hourly emissions at normal operations only for either natural gas or fuel oil.
[b] tons/yr proposed permit limits reflect the annual operation for all four SCCTs as follows: 12,960 hours normal operation with a maximum of 3,000 hours on fuel oil and 2,000 startups and 2,000 shutdowns with a maximum of 480 startups and 480 shutdowns on fuel oil.

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PROPOSED PERMIT LIMITS FOR GREENHOUSE GASES (GHGs) ON CO_2 EQUIVALENT EMISSIONS (CO_2e) BASIS: FOR PSD MAJOR SOURCES ONLY

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Proposed Permit Limits for GHG Pollutants on CO_2 Equivalent Basis													
	CO_2 (Carbon Dioxide)		N_2O (Nitrous Oxide)		CH_4 (Methane)		HFCs (Hydrofluoro-carbons)		PFCs (Perfluoro-carbons)		SF_6 (Sulfur Hexafluoride)		Total GHGs	
	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
ES-33[a]	399,823	547,737	966.58	609.50	405.44	346.38							401,195	548,693
ES-34[a]	399,823	547,737	966.58	609.50	405.44	346.38							401,195	548,693
ES-35[a]	399,823	547,737	966.58	609.50	405.44	346.38							401,195	548,693
ES-36[a]	399,823	547,737	966.58	609.50	405.44	346.38							401,195	548,693
ES-33-ES-36 (12mo rolling)[b]	N/A	2,190,950	N/A	2,438	N/A	1,386							N/A	2,194,773
ES-37	2,200	9,634	1.24	5.41	1.04	4.54							2,202	9,644
ES-38	237	59	0.57	0.14	0.24	0.06							238	59
ES-39	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
ES-40	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
ES-41	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
ES-42	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
ES-43	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
ES-44	5,501	1,375	13.30	3.32	5.58	1.39							5,520	1,380
CB											47	204	47	204
FUG	0.04	0.16			31.90	139.58							31.94	139.73
TOTAL:		2,208,891		2,463		1,538						204		2,213,100

☐ Estimated Emission Calculations Attached (totals and per Unit Ref. No.)

a lb/hr proposed permit limits reflect the worst-case hourly emissions at normal operations only for either natural gas or fuel oil.
[b] tons/yr proposed permit limits reflect the annual operation for all four SCCTs as follows: 12,960 hours normal operation with a maximum of 3,000 hours on fuel oil and 2,000 startups and 2,000 shutdowns with a maximum of 480 startups and 480 shutdowns on fuel oil.

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OPERATING PERIODS:

Company Name: Virginia Electric and Power Company	**Date:** July 31, 2023	**Registration Number:** PRO 50396-26

Unit Ref. No.	Percent Annual Use/Throughput by Season				Normal Process/Equipment Operating Schedule			Maximum Process/Equipment Operating Schedule		
	December / February	March / May	June / August	September / November	Hours per Day	Days per Week	Weeks per Year	Hours per Day	Days per Week	Weeks per Year
CT1-CT4					3,240 hr/yr per turbine with a maximum of 750 hr/yr per turbine on fuel oil plus 2,000 startups and 2,000 shutdowns per year with a maximum of 480 startups and 480 shutdowns per year while firing fuel oil					
FGH1					8,760 hr/yr per heater					
FWP					500 hr/yr					
EG1-6					500 hr/yr per engine					
CB					24	7	52			
FUG					24	7	52			
TK3-10					24	7	52			

Maximum Facility Operating Schedule		
Hours per Day **24**	**Days per Week** **7**	**Weeks per Year** **52**

Appendix B Emissions Calculations

Table B-1: Natural Gas Performance Data

ESTIMATED PERFORMANCE	Units	Case 1	Case 8	Case 2	Case 9	Case 15	Case 3	Case 10	Case 16	Case 21	Case 26	Case 4	Case 11	Case 17	Case 22	Case 27	Case 5	Case 12	Case 18	Case 23	Case 28	Case 6	Case 13	Case 19	Case 24	Case 29	Case 7	Case 14	Case 20	Case 25	Case 30
Case Comments																															
Load Condition	%	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	80.0%	80.0%	80.0%	80.0%	80.0%	70.0%	70.0%	70.0%	69.0%	69.0%	50.0%	50.0%	50.0%	50.0%	50.0%	MECL	MECL	MECL	MECL	MECL
Inlet Loss	in H2O	4.41	4.39	4.45	4.52	4.36	3.91	4.19	4.43	4.2	4.1	2.97	3.19	3.41	3.34	3.09	2.47	2.57	2.77	2.63	2.51	2.46	2.34	1.96	1.86	1.77	1.95	1.91	1.66	1.88	1.65
Exhaust Pressure Loss	in H2O	11.56	11.58	11.37	11.62	11.82	9.57	10.43	11.83	11.88	12	7.2	7.8	8.82	9.1	8.9	6.04	6.38	7.25	7.27	7.23	5.14	5.16	5.15	5.19	5.16	3.89	3.87	3.63	3.77	3.58
Ambient Temperature	deg F	107	98	107	98	59	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10
Ambient Relative Humidity	%	35	43	35	43	60	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57
Evap. Cooler Status		On	On	On	On	On	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note
Evap. Cooler Effectiveness	%	90	90	90	90	90																									
Eavporation rate	pps	5.549	4.295	5.77	4.354	1.731																									
Wet Compression		On	On																												
Water Flow	pps	13.12	12.14																												
Filter anti-icing		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Fuel Type		User Def Gas 13920895																													
Fuel HHV	BTU/lb	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296	23,296
Fuel Temperature	deg F	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Output	kW	242,533	243,359	227,072	229,536	241,505	201,160	214,073	239,024	247,813	250,000	160,928	171,259	191,219	198,250	200,000	140,812	149,851	167,317	170,991	172,500	100,580	107,037	119,512	123,907	125,000	67,300	68,400	67,700	66,400	65,900
Heat Rate (HHV)	BTU/kWh	10,016	9,987	10,069	10,075	9,852	10,147	10,068	9,878	9,768	9,781	10,584	10,395	10,042	9,931	9,996	11,000	10,791	10,399	10,337	10,460	13,074	12,589	11,855	11,754	11,884	15,845	15,702	15,716	16,408	16,537
Heat Cons. (HHV)	MMBTU/hr	2,429	2,430	2,286	2,313	2,379	2,041	2,155	2,361	2,421	2,445	1,703	1,780	1,920	1,969	1,999	1,549	1,617	1,740	1,768	1,804	1,315	1,348	1,417	1,456	1,485	1,066	1,074	1,064	1,090	1,090
Auxiliary Losses	kW	6,457	6,457	6,271	6,271	6,271	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534
Output - Net	kW	236,076	236,902	220,801	223,265	235,234	194,914	207,827	232,778	241,567	242,466	154,682	165,013	184,973	192,004	192,466	134,566	143,605	161,071	164,745	164,966	94,334	100,791	113,266	117,661	117,466	61,054	62,154	61,454	60,154	58,366
Heat Rate (HHV) - Net	BTU/kWh	10,291	10,260	10,355	10,358	10,116	10,472	10,370	10,143	10,021	10,085	11,011	10,789	10,380	10,254	10,387	11,511	11,261	10,802	10,729	10,938	13,940	13,370	12,510	12,379	12,646	17,464	17,280	17,314	18,111	18,671
Exhaust Flow	x10^3 lb/hr	4167	4172	4134	4178	4221	3791	3959	4224	4238	4285	3301	3448	3697	3772	3732	3012	3099	3332	3346	3337	2780	2783	2782	2793	2785	2418	2413	2337	2380	2320
Exhaust Temperature	deg F	1215	1215	1215	1215	1207	1215	1215	1207	1201	1170	1197	1181	1143	1120	1119	1215	1213	1169	1156	1157	1215	1215	1215	1215	1215	1215	1215	1215	1215	1215
Exhaust MolWt	lb/lbmol	27.89	27.94	28.1	28.13	28.33	28.19	28.2	28.35	28.42	28.44	28.21	28.23	28.39	28.46	28.48	28.21	28.22	28.39	28.46	28.47	28.24	28.25	28.4	28.46	28.48	28.27	28.29	28.45	28.52	28.53
Exhaust Energy	MMBTU/hr	1269.2	1277.1	1244	1264.6	1297	1134.8	1193.7	1295.7	1321.3	1338.5	969.2	1003.3	1062.6	1084	1107.7	899.5	930.2	982.7	996.5	1026.7	827.1	834.7	856.1	878	902.1	717.5	721	715.7	744.1	747.4
EXHAUST ANALYSIS % VOL.		Case 1	Case 8	Case 2	Case 9	Case 15	Case 3	Case 10	Case 16	Case 21	Case 26	Case 4	Case 11	Case 17	Case 22	Case 27	Case 5	Case 12	Case 18	Case 23	Case 28	Case 6	Case 13	Case 19	Case 24	Case 29	Case 7	Case 14	Case 20	Case 25	Case 30
Argon		0.84	0.84	0.87	0.87	0.87	0.86	0.87	0.87	0.9	0.89	0.87	0.86	0.9	0.89	0.9	0.87	0.87	0.89	0.9	0.89	0.87	0.87	0.89	0.89	0.89	0.89	0.88	0.9	0.9	0.9
Nitrogen		70.85	71.2	72.31	72.56	73.96	72.96	73.05	74.16	74.61	74.81	73.08	73.2	74.38	74.89	75	73.09	73.17	74.36	74.85	74.98	73.31	73.38	74.43	74.89	75.02	73.48	73.59	74.73	75.25	75.37
Oxygen		10.52	10.6	11.28	11.33	11.5	11.65	11.58	11.62	11.54	11.59	12	12.03	12.25	12.33	12.15	12.03	11.94	12.21	12.23	12.07	12.69	12.54	12.41	12.34	12.19	13.2	13.16	13.28	13.37	13.22
Carbon Dioxide		4.37	4.37	4.17	4.18	4.29	4.08	4.12	4.26	4.36	4.36	3.91	3.92	3.96	3.99	4.1	3.9	3.96	3.98	4.04	4.14	3.59	3.68	3.89	3.99	4.08	3.35	3.39	3.48	3.51	3.61
Water		13.42	12.99	11.37	11.06	9.38	10.45	10.38	9.09	8.6	8.35	10.14	9.99	8.52	7.9	7.85	10.11	10.06	8.56	7.98	7.92	9.54	9.53	8.38	7.89	7.82	9.08	8.98	7.61	6.97	6.9
EMISSIONS RESULTS (per unit)	Units	Case 1	Case 8	Case 2	Case 9	Case 15	Case 3	Case 10	Case 16	Case 21	Case 26	Case 4	Case 11	Case 17	Case 22	Case 27	Case 5	Case 12	Case 18	Case 23	Case 28	Case 6	Case 13	Case 19	Case 24	Case 29	Case 7	Case 14	Case 20	Case 25	Case 30
NOx	ppmvd @ 15% O2	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
NOx AS NO2	lb/hr	231.7	231.9	218.1	220.6	226.9	194.6	205.5	225	230.9	233.3	162.4	169.6	183.1	187.7	190.7	147.7	154.1	165.8	168.5	172.1	125.2	128.4	135.1	138.8	141.6	101.6	102.4	101.4	103.7	103.8
NOx AS NO2	lb/MMBtu	0.0954	0.0954	0.0954	0.0954	0.0954	0.0953	0.0953	0.0953	0.0953	0.0954	0.0953	0.0953	0.0954	0.0953	0.0954	0.0954	0.0953	0.0953	0.0953	0.0954	0.0952	0.0953	0.0953	0.0953	0.0953	0.0953	0.0953	0.0953	0.0952	0.0953
CO	ppmvd	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
CO	lb/hr	34.2	34.4	34.5	35	35.7	31.9	33.3	35.8	36.1	36.6	27.8	29.1	31.5	32.3	32	25.4	26.1	28.4	28.6	28.6	23.6	23.6	23.8	23.9	23.9	20.6	20.6	20.1	20.6	20
VOC	ppmvw	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
VOC	lb/hr	3.52	3.52	3.47	3.5	3.51	3.17	3.31	3.51	3.52	3.55	2.76	2.88	3.07	3.13	3.09	2.52	2.59	2.77	2.77	2.76	2.32	2.32	2.31	2.31	2.31	2.02	2.01	1.94	1.97	1.92
Formaldehyde	ppbvd @ 15% O2	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182
Formaldehyde	lb/h	1.097	1.098	1.033	1.045	1.075	0.921	0.973	1.066	1.094	1.106	0.769	0.803	0.868	0.890	0.904	0.699	0.730	0.786	0.799	0.816	0.593	0.608	0.640	0.658	0.671	0.481	0.484	0.480	0.491	0.492
SOx mass flow rate (as SO2)	lb/hr	3.37	3.37	3.18	3.21	3.3	2.83	2.99	3.28	3.36	3.4	2.37	2.47	2.67	2.73	2.78	2.15	2.25	2.42	2.45	2.51	1.83	1.87	1.97	2.02	2.06	1.48	1.49	1.48	1.51	1.51
Sulfur Mist as H2SO4	lb/hr	0.258	0.258	0.243	0.246	0.253	0.217	0.229	0.251	0.257	0.26	0.181	0.189	0.204	0.209	0.213	0.165	0.172	0.185	0.188	0.192	0.14	0.143	0.151	0.155	0.158	0.113	0.114	0.113	0.116	0.116
Filterable Particulates	lb/h	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Total Particulates	lb/h	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
PM10/2.5	lb/h	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
SOx mass flow rate (as SO2)	lb/hr	8.17	8.18	7.69	7.78	8.01	6.87	7.25	7.94	8.15	8.23	5.73	5.99	6.46	6.63	6.73	5.21	5.44	5.85	5.95	6.07	4.43	4.53	4.77	4.9	5	3.59	3.61	3.58	3.67	3.67
Sulfur Mist as H2SO4	lb/hr	0.626	0.626	0.589	0.596	0.613	0.526	0.555	0.608	0.624	0.63	0.439	0.459	0.495	0.507	0.515	0.399	0.417	0.448	0.455	0.465	0.339	0.347	0.365	0.375	0.383	0.275	0.277	0.274	0.281	0.281
Filterable Particulates	lb/h	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Total Particulates	lb/h	7.2	7.2	7.2	7.2	7.2	7.1	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7	7	7.1	7.1	7.1	7	7	7	7	7	6.9	6.9	6.9	6.9	6.9
PM10/2.5	lb/h	7.2	7.2	7.2	7.2	7.2	7.1	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7	7	7.1	7.1	7.1	7	7	7	7	7	6.9	6.9	6.9	6.9	6.9
Stack Exit Conditions (Includes Tempering Air)																															
Exhaust vol flow	acfm	3694690	3677090	3631610	3650390	3574250	3316830	3448600	3572250	3514710	3401560	2833560	2899670	2930220	2885270	2817480	2631750	2690870	2710530	2652390	2613050	2423830	2416380	2364210	2340570	2299240	2104320	2090670	1980290	1987620	1908780
Exhaust Gas Stack Velocity, ft/sec	ft/sec	130.68	130.06	128.45	129.12	126.42	117.32	121.98	126.35	124.32	120.32	100.23	102.56	103.64	102.05	99.66	93.09	95.18	95.87	93.82	92.43	85.73	85.47	83.62	82.79	81.33	74.43	73.95	70.04	70.30	67.52
Stack Mass flow, per stack	lb/h	6510830	6487710	6429890	6469400	6374300	5884760	6121340	6375030	6286140	6086320	5028550	5147890	5229990	5160740	5042170	4671560	4778490	4839040	4745910	4677850	4305780	4294270	4223970	4191070	4119220	3740760	3718350	3541890	3563820	3424450
Stack Temperature	°F	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
Stack Molecular Weight	lb/lbmole	28.16	28.20	28.29	28.32	28.50	28.35	28.37	28.52	28.58	28.59	28.36	28.37	28.52	28.58	28.60	28.37	28.38	28.53	28.59	28.61	28.39	28.40	28.55	28.62	28.63	28.41	28.42	28.58	28.65	28.67
Stack Diameter	ft	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Stack Height Above Grade	ft	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
EXHAUST ANALYSIS % VOL.		Case 1	Case 8	Case 2	Case 9	Case 15	Case 3	Case 10	Case 16	Case 21	Case 26	Case 4	Case 11	Case 17	Case 22	Case 27	Case 5	Case 12	Case 18	Case 23	Case 28	Case 6	Case 13	Case 19	Case 24	Case 29	Case 7	Case 14	Case 20	Case 25	Case 30
Argon		0.86	0.86	0.88	0.88	0.89	0.88	0.88	0.89	0.9	0.9	0.88	0.88	0.9	0.9	0.91	0.88	0.88	0.9	0.91	0.9	0.88	0.88	0.9	0.9	0.9	0.9	0.89	0.91	0.91	0.91
Nitrogen		72.63	72.89	73.57	73.77	75.07	73.99	74.09	75.2	75.65	75.75	74.03	74.12	75.22	75.67	75.78	74.07	74.16	75.26	75.72	75.84	74.21	74.3	75.39	75.86	75.98	74.32	74.43	75.59	76.1	76.22
Oxygen		14	14.04	14.48	14.5	14.58	14.72	14.66	14.66	14.55	14.32	14.84	14.76	14.71	14.6	14.4	14.96	14.88	14.84	14.75	14.58	15.38	15.28	15.22	15.16	14.99	15.71	15.68	15.79	15.84	15.68
Carbon Dioxide		2.84	2.85	2.71	2.73	2.87	2.66	2.69	2.85	2.97	3.1	2.59	2.65	2.82	2.94	3.06	2.54	2.6	2.77	2.87	2.98	2.34	2.41	2.59	2.69	2.79	2.19	2.22	2.32	2.37	2.47
Water		9.66	9.35	8.35	8.11	6.59	7.75	7.67	6.4	5.93	5.92	7.64	7.58	6.34	5.88	5.85	7.54	7.47	6.24	5.74	5.69	7.17	7.12	5.89	5.39	5.33	6.88	6.77	5.39	4.78	4.71

Table B-1: Natural Gas Performance Data

Stack Exit Emissions (per unit)											
NOx Volume fraction, dry, at 15 % O2	ppm	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
NOx mass flow rate (as NO2)	lb/hr	23.10	23.10	21.70	22.00	22.60	19.40	20.50	22.40	23.00	23.30
CO Volume fraction, dry, at 15 % O2	ppm	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CO mass flow rate	lb/hr	11.20	11.30	10.60	10.70	11.00	9.40	10.00	10.90	11.20	11.30
VOC Volume fraction, dry, at 15 % O2	ppm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
VOC mass flow rate (as methane)	lb/hr	3.20	3.20	3.00	3.10	3.20	2.70	2.90	3.10	3.20	3.20
NH3 Volume fraction, dry, at 15 % O2	ppm	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
NH3 mass flow rate	lb/h	17.10	17.10	16.10	16.30	16.70	14.40	15.20	16.60	17.00	17.20
Formaldehyde	ppbvd @ 15% O2	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00
Formaldehyde	lb/h	0.55	0.55	0.52	0.52	0.54	0.46	0.49	0.53	0.55	0.55
Stack CO2 mass flow rate	lb/h	288571.43	288571.43	271428.57	274285.71	282857.14	242857.14	256190.48	280952.38	287619.05	290476.19
CO2	lb/MWh	1190	1186	1195	1195	1171	1207	1197	1175	1161	1162
0.4 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	3.40	3.40	3.20	3.20	3.30	2.80	3.00	3.30	3.40	3.40
SOx	lb/MMBtu	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
Sulfur Mist as H2SO4	lb/h	2.30	2.30	2.10	2.20	2.20	1.90	2.00	2.20	2.30	2.30
Sulfur Mist as H2SO4	lb/MMBtu	0.0009	0.0009	0.0009	0.0010	0.0009	0.0009	0.0009	0.0009	0.0010	0.0009
Filterable Particulates	lb/h	7.48	7.46	7.27	7.29	7.26	6.95	7.08	7.24	7.24	7.08
Filterable Particulates	lb/MMBtu	0.0031	0.0031	0.0032	0.0032	0.0031	0.0034	0.0033	0.0031	0.0030	0.0029
Total Particulates	lb/h	14.30	14.20	14.00	14.00	13.70	13.60	13.70	13.70	13.50	13.00
PM10/2.5	lb/h	14.30	14.20	14.00	14.00	13.70	13.60	13.70	13.70	13.50	13.00
PM10/2.5	lb/MMBtu	0.0059	0.0058	0.0061	0.0061	0.0058	0.0067	0.0064	0.0058	0.0056	0.0053
1.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	8.20	8.20	7.70	7.80	8.00	6.90	7.30	7.90	8.10	8.20
SOx	lb/MMBtu	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0033	0.0033	0.0034
Sulfur Mist as H2SO4	lb/h	5.50	5.50	5.20	5.30	5.40	4.60	4.90	5.40	5.50	5.60
Sulfur Mist as H2SO4	lb/MMBtu	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
Filterable Particulates	lb/h	11.90	11.90	11.40	11.50	11.50	10.70	11.00	11.50	11.50	11.30
Filterable Particulates	lb/MMBtu	0.0049	0.0049	0.0050	0.0050	0.0048	0.0052	0.0051	0.0049	0.0048	0.0046
Total Particulates	lb/h	19.70	19.60	19.10	19.10	18.90	18.10	18.50	18.80	18.70	18.00
PM10/2.5	lb/h	19.70	19.60	19.10	19.10	18.90	18.10	18.50	18.80	18.70	18.00
PM10/2.5	lb/MMBtu	0.0081	0.0081	0.0084	0.0083	0.0079	0.0089	0.0086	0.0080	0.0077	0.0074
20.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	170.00	170.00	160.00	160.00	165.00	140.00	150.00	165.00	170.00	170.00
SOx	lb/MMBtu	0.0700	0.0699	0.0700	0.0692	0.0693	0.0686	0.0696	0.0699	0.0702	0.0695
SITE CONDITIONS	Units	Case 1	Case 8	Case 2	Case 9	Case 15	Case 3	Case 10	Case 16	Case 21	Case 26
Elevation	ft	80	80	80	80	80	80	80	80	80	80
Site Pressure	psia	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658
Exhaust Loss	in H2O	12.00 @ ISO Conditions									
Humidity		35.00% RH	43.00% RH	35.00% RH	43.00% RH	60.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH
Application		Air-Cooled Generator									
Power Factor (lag)		0.85									
Combustion System		DLN Combustor									

Stack Exit Emissions (per unit)											
NOx Volume fraction, dry, at 15 % O2	ppm	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
NOx mass flow rate (as NO2)	lb/hr	16.20	16.90	18.30	18.70	19.00	14.70	15.40	16.50	16.80	17.20
CO Volume fraction, dry, at 15 % O2	ppm	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CO mass flow rate	lb/hr	7.90	8.20	8.90	9.10	9.30	7.20	7.50	8.10	8.20	8.40
VOC Volume fraction, dry, at 15 % O2	ppm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
VOC mass flow rate (as methane)	lb/hr	2.30	2.40	2.50	2.60	2.70	2.10	2.10	2.30	2.30	2.40
NH3 Volume fraction, dry, at 15 % O2	ppm	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
NH3 mass flow rate	lb/h	12.00	12.50	13.50	13.90	14.10	10.90	11.40	12.20	12.40	12.70
Formaldehyde	ppbvd @ 15% O2	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00
Formaldehyde	lb/h	0.38	0.40	0.43	0.44	0.45	0.35	0.36	0.39	0.40	0.41
Stack CO2 mass flow rate	lb/h	202857.14	211428.57	227619.05	233333.33	237142.86	183809.52	192380.95	206666.67	209523.81	214285.71
CO2	lb/MWh	1261	1235	1190	1177	1186	1305	1284	1235	1225	1242
0.4 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	2.40	2.50	2.70	2.70	2.80	2.10	2.20	2.40	2.50	2.50
SOx	lb/MMBtu	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
Sulfur Mist as H2SO4	lb/h	1.60	1.70	1.80	1.80	1.90	1.50	1.50	1.60	1.70	1.70
Sulfur Mist as H2SO4	lb/MMBtu	0.0009	0.0010	0.0009	0.0009	0.0010	0.0010	0.0009	0.0009	0.0010	0.0009
Filterable Particulates	lb/h	6.44	6.46	6.43	6.36	6.35	6.32	6.38	6.31	6.25	6.26
Filterable Particulates	lb/MMBtu	0.0038	0.0036	0.0033	0.0032	0.0032	0.0041	0.0039	0.0036	0.0035	0.0035
Total Particulates	lb/h	12.80	12.70	12.20	11.90	11.80	12.80	12.80	12.30	12.00	11.90
PM10/2.5	lb/h	12.80	12.70	12.20	11.90	11.80	12.80	12.80	12.30	12.00	11.90
PM10/2.5	lb/MMBtu	0.0075	0.0071	0.0064	0.0060	0.0059	0.0083	0.0079	0.0071	0.0068	0.0066
1.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	5.70	6.00	6.50	6.60	6.70	5.20	5.40	5.90	5.90	6.10
SOx	lb/MMBtu	0.0033	0.0034	0.0034	0.0034	0.0034	0.0034	0.0033	0.0034	0.0033	0.0034
Sulfur Mist as H2SO4	lb/h	3.90	4.00	4.40	4.50	4.50	3.50	3.70	4.00	4.00	4.10
Sulfur Mist as H2SO4	lb/MMBtu	0.0023	0.0022	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
Filterable Particulates	lb/h	9.52	9.63	9.74	9.69	9.71	9.14	9.32	9.36	9.31	9.35
Filterable Particulates	lb/MMBtu	0.0056	0.0054	0.0051	0.0049	0.0049	0.0059	0.0058	0.0054	0.0053	0.0052
Total Particulates	lb/h	16.50	16.50	16.10	15.70	15.60	16.20	16.40	15.90	15.60	15.50
PM10/2.5	lb/h	16.50	16.50	16.10	15.70	15.60	16.20	16.40	15.90	15.60	15.50
PM10/2.5	lb/MMBtu	0.0097	0.0093	0.0084	0.0080	0.0078	0.0105	0.0101	0.0091	0.0088	0.0086
20.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	120.00	125.00	135.00	135.00	140.00	105.00	110.00	120.00	125.00	125.00
SOx	lb/MMBtu	0.0705	0.0702	0.0703	0.0686	0.0700	0.0678	0.0680	0.0690	0.0707	0.0693
SITE CONDITIONS	Units	Case 4	Case 11	Case 17	Case 22	Case 27	Case 5	Case 12	Case 18	Case 23	Case 28
Elevation	ft	80	80	80	80	80	80	80	80	80	80
Site Pressure	psia	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658
Humidity		35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH

Stack Exit Emissions (per unit)											
NOx Volume fraction, dry, at 15 % O2	ppm	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
NOx mass flow rate (as NO2)	lb/hr	12.50	12.80	13.50	13.80	14.10	10.10	10.20	10.10	10.30	10.30
CO Volume fraction, dry, at 15 % O2	ppm	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
CO mass flow rate	lb/hr	6.10	6.20	6.60	6.70	6.90	4.90	5.00	4.90	5.00	5.00
VOC Volume fraction, dry, at 15 % O2	ppm	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
VOC mass flow rate (as methane)	lb/hr	1.70	1.80	1.90	1.90	2.00	1.40	1.40	1.40	1.40	1.40
NH3 Volume fraction, dry, at 15 % O2	ppm	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
NH3 mass flow rate	lb/h	9.20	9.50	10.00	10.20	10.50	7.50	7.50	7.50	7.70	7.70
Formaldehyde	ppbvd @ 15% O2	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00
Formaldehyde	lb/h	0.30	0.30	0.32	0.33	0.34	0.24	0.24	0.24	0.25	0.25
Stack CO2 mass flow rate	lb/h	156190.48	160000	168571.43	173333.33	176190.48	126666.67	127619.05	126666.67	129523.81	129523.81
CO2	lb/MWh	1553	1495	1410	1399	1410	1882	1866	1871	1951	1965
0.4 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	1.80	1.90	2.00	2.00	2.10	1.50	1.50	1.50	1.50	1.50
SOx	lb/MMBtu	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
Sulfur Mist as H2SO4	lb/h	1.20	1.30	1.30	1.40	1.40	1.00	1.00	1.00	1.00	1.00
Sulfur Mist as H2SO4	lb/MMBtu	0.0009	0.0010	0.0009	0.0010	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Filterable Particulates	lb/h	6.01	6.04	6.07	6.08	6.06	5.69	5.69	5.62	5.61	5.56
Filterable Particulates	lb/MMBtu	0.0046	0.0045	0.0043	0.0042	0.0041	0.0053	0.0053	0.0053	0.0051	0.0051
Total Particulates	lb/h	12.40	12.40	12.30	12.20	12.10	12.00	12.00	11.80	11.70	11.50
PM10/2.5	lb/h	12.40	12.40	12.30	12.20	12.10	12.00	12.00	11.80	11.70	11.50
PM10/2.5	lb/MMBtu	0.0094	0.0092	0.0087	0.0084	0.0081	0.0113	0.0112	0.0111	0.0107	0.0106
1.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	4.40	4.50	4.80	4.90	5.00	3.60	3.60	3.60	3.70	3.70
SOx	lb/MMBtu	0.0033	0.0033	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034
Sulfur Mist as H2SO4	lb/h	3.00	3.10	3.20	3.30	3.40	2.40	2.40	2.40	2.50	2.50
Sulfur Mist as H2SO4	lb/MMBtu	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0022	0.0023	0.0023	0.0023
Filterable Particulates	lb/h	8.41	8.49	8.62	8.68	8.69	7.63	7.64	7.53	7.55	7.49
Filterable Particulates	lb/MMBtu	0.0064	0.0063	0.0061	0.0060	0.0058	0.0072	0.0071	0.0071	0.0069	0.0069
Total Particulates	lb/h	15.30	15.40	15.40	15.40	15.30	14.40	14.30	14.10	14.00	13.80
PM10/2.5	lb/h	15.30	15.40	15.40	15.40	15.30	14.40	14.30	14.10	14.00	13.80
PM10/2.5	lb/MMBtu	0.0116	0.0114	0.0109	0.0106	0.0103	0.0135	0.0133	0.0133	0.0128	0.0127
20.0 grains/100 SCF											
SOx mass flow rate (as SO2)	lb/h	90.00	95.00	100.00	100.00	105.00	75.00	75.00	75.00	75.00	75.00
SOx	lb/MMBtu	0.0684	0.0705	0.0706	0.0687	0.0707	0.0703	0.0698	0.0705	0.0688	0.0688
SITE CONDITIONS	Units	Case 6	Case 13	Case 19	Case 24	Case 29	Case 7	Case 14	Case 20	Case 25	Case 30
Elevation	ft	80	80	80	80	80	80	80	80	80	80
Site Pressure	psia	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658
Humidity		35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH

Note: at -10F & RH 57% filter anti-icing will be on, but performance calculation doesn't inlcude impact of filter anti-icing "on"

Emission information based on GE recommended measurement methods.
NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur emissions based on noted "WT%" or "ppmw" noted after Sulfur Content values in the fuel.
Particulates Note: US-Total PM Emissions (filterable + condensable) utilize compliance measurements per US-EPA Test Method 5B dated 1990 (filterable) and US-EPA Test Method 202 dated 1991 (condensable) measured at GT exhaust flange.

Note: Modified Wobbe Index (MWI) is calculated as LHV/(Spec Gravity*Temp)^0.5, in BTU/scf/°R^0.5
Note: SCF is defined at 14.7 psi and 59°F

User: 204002079
Deck Access Level: 0
Job ID:
Customer:
Simulation Frame: 7F.05-0922T-L3
Date/Time: 4/7/23 11:43 PM
GTP Web v5.70.1, 2023

Table B-2: Natural Gas with 10% Hydrogen
Performance Data

ESTIMATED PERFORMANCE	Units	Case 1	Case 7	Case 2	Case 8	Case 13	Case 3	Case 9	Case 14	Case 18	Case 22	Case 4	Case 10	Case 15	Case 19	Case 23	Case 5	Case 11	Case 16	Case 20	Case 24	Case 6	Case 12	Case 17	Case 21	Case 25
Case Comments																										
Load Condition	%	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	80.0%	80.0%	80.0%	80.0%	80.0%	70.0%	70.0%	70.0%	70.0%	69.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Inlet Loss	in H2O	4.41	4.39	4.45	4.52	4.36	3.9	4.19	4.43	4.19	4.11	2.97	3.19	3.4	3.34	3.08	2.47	2.57	2.77	2.68	2.5	2.46	2.33	1.96	1.86	1.77
Exhaust Pressure Loss	in H2O	11.54	11.56	11.36	11.61	11.8	9.55	10.42	11.82	11.86	11.99	7.19	7.79	8.81	9.09	8.87	6.03	6.38	7.24	7.4	7.21	5.13	5.15	5.14	5.18	5.15
Ambient Temperature	deg F	107	98	107	98	59	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10
Ambient Relative Humidity	%	35	43	35	43	60	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57
Evap. Cooler Status		On	On	On	On	On	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Evap. Cooler Effectiveness	%	90	90	90	90	90																				
Eavporation rate	pps	5.547		5.577	4.294			4.354						1.731												
Wet Compression		On	On																							
Water Flow	pps	13.08			12.13																					
Filter anti-icing		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Fuel Type		User Def Gas with 10% H2																								
Fuel HHV	BTU/lb	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777	23,777
Fuel Temperature	deg F	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Output	kW	242,829	243,660	227,404	229,857	241,796	201,469	214,406	239,315	248,102	250,000	161,175	171,525	191,452	198,482	200,000	141,028	150,084	167,520	173,672	172,500	100,734	107,203	119,657	124,051	125,000
Heat Rate (HHV)	BTU/kWh	10,031	10,002	10,085	10,091	9,867	10,161	10,082	9,893	9,783	9,795	10,598	10,409	10,056	9,946	10,015	11,014	10,805	10,414	10,304	10,481	13,088	12,603	11,871	11,770	11,909
Heat Cons. (HHV)	MMBTU/hr	2,436	2,437	2,293	2,319	2,386	2,047	2,162	2,367	2,427	2,449	1,708	1,785	1,925	1,974	2,003	1,553	1,622	1,745	1,789	1,808	1,318	1,351	1,420	1,460	1,489
Auxiliary Losses	kW	6,457	6,457	6,271	6,271	6,271	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534	6,246	6,246	6,246	6,246	7,534
Output - Net	kW	236,372	237,203	221,133	223,586	235,525	195,223	208,160	233,069	241,856	242,466	154,929	165,279	185,206	192,236	192,466	134,782	143,838	161,274	167,426	164,966	94,488	100,957	113,411	117,805	117,466
Heat Rate (HHV) - Net	BTU/kWh	10,312	17,501	10,376	10,281	13,398	10,494	10,380	17,315	10,825	10,275	11,034	10,392	10,137	12,536	10,751	11,535	10,811	10,164	17,350	12,405	13,969	11,284	10,402	10,041	18,149
Exhaust Flow	x10^3 lb/hr	4,164	4,169	4,132	4,176	4,218	3,789	3,957	4,221	4,235	4,286	3,300	3,447	3,695	3,770	3,726	3,010	3,098	3,330	3,379	3,332	2,777	2,781	2,780	2,790	2,782
Exhaust Temperature	deg F	1,215	1,215	1,215	1,215	1,207	1,215	1,215	1,207	1,201	1,168	1,197	1,181	1,143	1,120	1,119	1,215	1,212	1,169	1,152	1,157	1,215	1,215	1,215	1,215	1,215
Exhaust MolWt	lb/lbmol	27.85	27.9	28.06	28.1	28.29	28.15	28.17	28.32	28.38	28.41	28.17	28.19	28.35	28.43	28.44	28.18	28.19	28.35	28.42	28.43	28.21	28.22	28.36	28.43	28.44
Exhaust Energy	MMBTU/hr	1269.6	1277.4	1244.7	1265.3	1297.3	1135.2	1194.2	1296	1321.6	1337.2	969.5	1003.6	1062.8	1084.2	1107.3	899.8	930.5	982.8	1003.7	1026.4	827.1	834.7	856.1	878.1	902.1
EXHAUST ANALYSIS % VOL.		Case 1	Case 7	Case 2	Case 8	Case 13	Case 3	Case 9	Case 14	Case 18	Case 22	Case 4	Case 10	Case 15	Case 19	Case 23	Case 5	Case 11	Case 16	Case 20	Case 24	Case 6	Case 12	Case 17	Case 21	Case 25
Argon		0.85	0.85	0.85	0.86	0.89	0.87	0.87	0.88	0.88	0.88	0.87	0.87	0.88	0.89	0.9	0.87	0.87	0.89	0.9	0.89	0.88	0.87	0.88	0.89	0.89
Nitrogen		70.79	71.13	72.25	72.5	73.89	72.89	72.99	74.09	74.55	74.75	73.02	73.14	74.32	74.83	74.94	73.03	73.11	74.3	74.79	74.91	73.25	73.32	74.37	74.83	74.95
Oxygen		10.54	10.63	11.31	11.36	11.52	11.67	11.6	11.64	11.56	11.64	12.03	12.05	12.28	12.35	12.18	12.05	11.96	12.23	12.26	12.1	12.71	12.56	12.44	12.36	12.22
Carbon Dioxide		4.23	4.24	4.05	4.05	4.16	3.95	4	4.13	4.23	4.22	3.79	3.8	3.84	3.87	3.97	3.78	3.84	3.86	3.91	4.01	3.48	3.57	3.77	3.87	3.96
Water		13.59	13.16	11.54	11.23	9.55	10.62	10.54	9.26	8.78	8.51	10.29	10.14	8.68	8.06	8.02	10.27	10.22	8.72	8.14	8.09	9.68	9.68	8.54	8.05	7.98
EMISSIONS RESULTS (per unit)	Units	Case 1	Case 7	Case 2	Case 8	Case 13	Case 3	Case 9	Case 14	Case 18	Case 22	Case 4	Case 10	Case 15	Case 19	Case 23	Case 5	Case 11	Case 16	Case 20	Case 24	Case 6	Case 12	Case 17	Case 21	Case 25
NOx	ppmvd @ 15% O2	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
NOx AS NO2	lb/hr	257.7	257.6	242.3	245.1	252.4	216.3	228.6	250.3	256.8	258.8	180.4	188.7	203.3	208.7	211.6	164.2	171.4	184.4	189.1	191.0	139.1	142.7	150.0	154.3	157.2
NOx AS NO2	lb/MMBtu	0.1058	0.1057	0.1057	0.1057	0.1058	0.1057	0.1057	0.1057	0.1058	0.1057	0.1056	0.1057	0.1056	0.1057	0.1057	0.1057	0.1057	0.1057	0.1057	0.1056	0.1055	0.1056	0.1056	0.1057	0.1056
CO	ppmvd	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
CO	lb/hr	34.2	34.3	34.5	34.9	35.7	31.8	33.3	35.8	36	36.5	27.8	29.1	31.5	32.3	31.9	25.4	26.1	28.4	28.9	28.5	23.5	23.6	23.7	23.9	23.8
VOC	ppmvw	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
VOC	lb/hr	3.53	3.52	3.47	3.51	3.52	3.17	3.31	3.52	3.52	3.56	2.76	2.88	3.07	3.13	3.09	2.52	2.59	2.77	2.8	2.76	2.32	2.32	2.31	2.31	2.31
Formaldehyde	ppbvd @ 15% O2	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182
Formaldehyde	lb/h	1.097	0.481	1.033	1.098	0.608	0.921	1.045	0.484	0.786	0.890	0.769	0.973	1.075	0.640	0.799	0.699	0.803	1.066	0.480	0.658	0.593	0.730	0.868	1.094	0.491
SOx mass flow rate (as SO2)	lb/hr	3.31	3.31	3.12	3.15	3.24	2.78	2.94	3.22	3.3	3.33	2.32	2.43	2.62	2.68	2.72	2.11	2.2	2.37	2.43	2.46	1.79	1.84	1.93	1.98	2.02
Sulfur Mist as H2SO4	lb/hr	0.254	0.254	0.239	0.241	0.248	0.213	0.225	0.246	0.253	0.255	0.178	0.186	0.2	0.205	0.208	0.162	0.169	0.182	0.186	0.188	0.137	0.141	0.148	0.152	0.155
Filterable Particulates	lb/h	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Total Particulates	lb/h	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.9	6.9	6.9	6.9	6.8	6.8	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8
PM10/2.5	lb/h	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.9	6.9	6.9	6.9	6.8	6.8	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8
SOx mass flow rate (as SO2)	lb/hr	8.03	8.03	7.56	7.64	7.86	6.75	7.12	7.8	8	8.07	5.63	5.88	6.35	6.51	6.6	5.12	5.34	5.75	5.9	5.96	4.35	4.45	4.68	4.81	4.91
Sulfur Mist as H2SO4	lb/hr	0.615	0.615	0.579	0.585	0.602	0.517	0.545	0.597	0.612	0.618	0.431	0.451	0.486	0.498	0.505	0.392	0.409	0.44	0.452	0.456	0.333	0.341	0.358	0.368	0.376
Filterable Particulates	lb/h	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Total Particulates	lb/h	7.2	7.2	7.2	7.2	7.2	7.1	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7	7	7.1	7.1	7.1	7	7	7	7	7
PM10/2.5	lb/h	7.2	7.2	7.2	7.2	7.2	7.1	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7	7	7.1	7.1	7.1	7	7	7	7	7
Stack Exit Conditions (Includes Tempering Air)																										
Exhaust vol flow	acfm	3696340	3678760	3634340	3653090	3575710	3318790	3450630	3573700	3516680	3400080	2835650	2901740	2932000	2886950	2816420	2632870	2690300	2711890	2671180	2612200	2423440	2417090	2365180	2340600	2299250
Exhaust Gas Stack Velocity, ft/sec	ft/sec	130.74	130.12	128.55	129.21	126.48	117.39	122.05	126.41	124.39	120.26	100.30	102.64	103.71	102.11	99.62	93.13	95.16	95.92	94.48	92.40	85.72	85.49	83.66	82.79	81.33
Stack Mass flow, per stack	lb/h	6508120	6485150	6429200	6468540	6371540	5883390	6120090	6372270	6283790	6077840	5028380	5147620	5228550	5159170	5035310	4669870	4773650	4837400	4775050	4672020	4302140	4292390	4222250	4187740	4115890
Stack Temperature	°F	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
Stack Molecular Weight	lb/lbmole	28.14	28.17	28.27	28.30	28.48	28.33	28.34	28.50	28.56	28.57	28.34	28.35	28.50	28.56	28.57	28.34	28.36	28.51	28.57	28.58	28.37	28.38	28.53	28.59	28.61
Stack Diameter	ft	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Stack Height Above Grade	ft	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
EXHAUST ANALYSIS % VOL.		Case 1	Case 7	Case 2	Case 8	Case 13	Case 3	Case 9	Case 14	Case 18	Case 22	Case 4	Case 10	Case 15	Case 19	Case 23	Case 5	Case 11	Case 16	Case 20	Case 24	Case 6	Case 12	Case 17	Case 21	Case 25
Argon		0.87	0.86	0.87	0.88	0.89	0.88	0.88	0.89	0.9	0.9	0.88	0.88	0.89	0.9	0.9	0.88	0.88	0.9	0.91	0.9	0.89	0.88	0.89	0.9	0.9
Nitrogen		72.59	72.84	73.53	73.73	75.02	73.94	74.05	75.15	75.6	75.7	73.99	74.08	75.17	75.63	75.73	74.03	74.12	75.21	75.67	75.79	74.18	74.26	75.35	75.82	75.94
Oxygen		14.01	14.06	14.5	14.52	14.59	14.73	14.67	14.67	14.56	14.34	14.86	14.78	14.73	14.62	14.43	14.97	14.89	14.85	14.75	14.6	15.4	15.29	15.24	15.17	15.01
Carbon Dioxide		2.75	2.77	2.64	2.65	2.79	2.57	2.62	2.77	2.88	3	2.52	2.57	2.74	2.85	2.96	2.46	2.52	2.68	2.79	2.89	2.27	2.34	2.51	2.61	2.71
Water		9.77	9.46	8.46	8.22	6.7	7.86	7.77	6.51	6.05	6.05	7.74	7.68	6.46	6	5.97	7.64	7.58	6.35	5.88	5.81	7.26	7.22	6	5.49	5.44

Table B-2: Natural Gas with 10% Hydrogen
Performance Data

Stack Exit Emissions (per unit)																										
NOx Volume fraction, dry, at 15 % O2	ppm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
NOx mass flow rate (as NO2)	lb/hr	22.9	22.9	21.6	21.8	22.5	19.2	20.3	22.3	22.9	23	16.1	16.8	18.1	18.6	18.8	14.6	15.3	16.4	16.8	17	12.4	12.7	13.3	13.7	14
CO Volume fraction, dry, at 15 % O2	ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CO mass flow rate	lb/hr	11.2	11.2	10.5	10.6	10.9	9.4	9.9	10.9	11.1	11.2	7.8	8.2	8.8	9.1	9.2	7.1	7.4	8	8.2	8.3	6	6.2	6.5	6.7	6.8
VOC Volume fraction, dry, at 15 % O2	ppm	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
VOC mass flow rate (as methane)	lb/hr	3.2	3.2	3	3	3.1	2.7	2.8	3.1	3.2	3.2	2.2	2.3	2.5	2.6	2.6	2	2.1	2.3	2.3	2.4	1.7	1.8	1.9	1.9	2
NH3 Volume fraction, dry, at 15 % O2	ppm	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
NH3 mass flow rate	lb/h	17	17	16	16.1	16.6	14.2	15.1	16.5	16.9	17.1	11.9	12.4	13.4	13.8	14	10.8	11.3	12.2	12.5	12.6	9.2	9.4	9.9	10.2	10.4
Formaldehyde	ppbvd @ 15% O2	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Formaldehyde	lb/h	0.545	0.545	0.512	0.518	0.534	0.457	0.483	0.529	0.543	0.548	0.381	0.399	0.430	0.442	0.448	0.347	0.362	0.390	0.400	0.404	0.294	0.302	0.317	0.326	0.333
Stack CO2 mass flow rate	lb/h	280000	280000	263810	266667	274286	235238	248571	272381	279048	280952	196190	205714	220952	226667	229524	179048	186667	200000	205714	207619	151429	156190	163810	167619	171429
Stack CO2 mass flow rate	lb/MMBtu HHV	115.0	114.9	115.0	115.0	115.0	114.9	115.0	115.1	115.0	114.7	114.9	115.2	114.8	114.8	114.6	115.3	115.1	114.6	115.0	114.8	114.9	115.6	115.3	114.8	115.2
CO2	lb/MWh	1153	1149	1160	1160	1134	1168	1159	1138	1125	1124	1217	1199	1154	1142	1148	1270	1244	1194	1184	1204	1503	1457	1369	1351	1371
0.4 grains/100 SCF																										
SOx mass flow rate (as SO2)	lb/h	3.3	3.3	3.1	3.2	3.2	2.8	2.9	3.2	3.3	3.3	2.3	2.4	2.6	2.7	2.7	2.1	2.2	2.4	2.4	2.5	1.8	1.8	1.9	2	2
SOx	lb/MMBtu	0.0014	0.0014	0.0014	0.0014	0.0013	0.0014	0.0013	0.0014	0.0014	0.0013	0.0013	0.0013	0.0014	0.0014	0.0013	0.0014	0.0014	0.0014	0.0013	0.0014	0.0014	0.0013	0.0013	0.0014	0.0013
Sulfur Mist as H2SO4	lb/h	2.2	2.2	2.1	2.1	2.2	1.9	2	2.2	2.2	2.3	1.6	1.6	1.8	1.8	1.8	1.4	1.5	1.6	1.6	1.7	1.2	1.2	1.3	1.3	1.4
Sulfur Mist as H2SO4	lb/MMBtu	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009
Filterable Particulates	lb/h	7.4	7.4	7.2	7.2	7.2	6.9	7.0	7.2	7.2	7.0	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.2	6.2	6.0	6.0	6.0	6.1	6.0
Filterable Particulates	lb/MMBtu	0.0030	0.0030	0.0031	0.0031	0.0030	0.0034	0.0033	0.0030	0.0030	0.0029	0.0038	0.0036	0.0033	0.0032	0.0032	0.0040	0.0039	0.0036	0.0035	0.0034	0.0045	0.0044	0.0043	0.0041	0.0041
Total Particulates	lb/h	14.2	14.1	13.9	13.9	13.7	13.5	13.6	13.6	13.5	12.9	12.8	12.6	12.2	11.8	11.7	12.8	12.8	12.2	12	11.9	12.4	12.4	12.3	12.2	12.1
PM10/2.5	lb/h	14.2	14.1	13.9	13.9	13.7	13.5	13.6	13.6	13.5	12.9	12.8	12.6	12.2	11.8	11.7	12.8	12.8	12.2	12	11.9	12.4	12.4	12.3	12.2	12.1
PM10/2.5	lb/MMBtu	0.0058	0.0058	0.0061	0.0060	0.0057	0.0066	0.0063	0.0057	0.0056	0.0053	0.0075	0.0071	0.0063	0.0060	0.0058	0.0082	0.0079	0.0070	0.0067	0.0066	0.0094	0.0092	0.0087	0.0084	0.0081
1.0 grains/100 SCF																										
SOx mass flow rate (as SO2)	lb/h	8.0	8.0	7.6	7.6	7.9	6.7	7.1	7.8	8.0	8.1	5.6	5.9	6.3	6.5	6.6	5.1	5.3	5.8	5.9	6.0	4.3	4.5	4.7	4.8	4.9
SOx	lb/MMBtu	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033
Sulfur Mist as H2SO4	lb/h	5.4	5.4	5.1	5.2	5.3	4.6	4.8	5.3	5.4	5.5	3.8	4	4.3	4.4	4.5	3.5	3.6	3.9	4	4	2.9	3	3.2	3.3	3.3
Sulfur Mist as H2SO4	lb/MMBtu	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0023	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0023	0.0023	0.0022
Filterable Particulates	lb/h	11.8	11.8	11.3	11.4	11.4	10.6	10.9	11.3	11.4	11.2	9.42	9.54	9.64	9.59	9.61	9.06	9.23	9.26	9.24	9.26	8.34	8.42	8.54	8.6	8.61
Filterable Particulates	lb/MMBtu	0.0048	0.0048	0.0049	0.0049	0.0048	0.0052	0.0050	0.0048	0.0047	0.0046	0.0055	0.0053	0.0050	0.0049	0.0048	0.0058	0.0057	0.0053	0.0052	0.0051	0.0063	0.0062	0.0060	0.0059	0.0058
Total Particulates	lb/h	19.5	19.5	18.9	18.9	18.7	18	18.3	18.6	18.5	17.8	16.4	16.4	16	15.6	15.5	16.1	16.3	15.8	15.5	15.4	15.2	15.3	15.3	15.3	15.2
PM10/2.5	lb/h	19.5	19.5	18.9	18.9	18.7	18	18.3	18.6	18.5	17.8	16.4	16.4	16	15.6	15.5	16.1	16.3	15.8	15.5	15.4	15.2	15.3	15.3	15.3	15.2
PM10/2.5	lb/MMBtu	0.0080	0.0080	0.0082	0.0081	0.0078	0.0088	0.0085	0.0079	0.0076	0.0073	0.0096	0.0092	0.0083	0.0079	0.0077	0.0104	0.0101	0.0091	0.0087	0.0085	0.0115	0.0113	0.0108	0.0105	0.0102
SOx mass flow rate (as SO2), 20 gr S	lb/h	165.00	165	155	160	160	140	145	160	165	165	115	120	130	135	135	105	110	120	120	125	90	90	95	100	100
SOx	lb/MMBtu	0.0677	0.0677	0.0676	0.0690	0.0671	0.0684	0.0671	0.0676	0.0680	0.0674	0.0673	0.0672	0.0675	0.0684	0.0674	0.0676	0.0678	0.0688	0.0671	0.0691	0.0683	0.0666	0.0669	0.0685	0.0672
SITE CONDITIONS	Units	Case 1	Case 7	Case 2	Case 8	Case 13	Case 3	Case 9	Case 14	Case 18	Case 22	Case 4	Case 10	Case 15	Case 19	Case 23	Case 5	Case 11	Case 16	Case 20	Case 24	Case 6	Case 12	Case 17	Case 21	Case 25
Elevation	ft	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Site Pressure	psia	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658
Exhaust Loss	in H2O	12.00 @ ISO Conditions																								
Humidity		35.00% RH	35.00% RH	35.00% RH	43.00% RH	43.00% RH	35.00% RH	43.00% RH	43.00% RH	60.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	60.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	60.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH
Application		Air-Cooled Generator																								
Power Factor (lag)		0.85																								
Combustion System		DLN Combustor																								

Note: at -10F & RH 57% filter anti-icing will be on, but performance calculation doesn't inlcude impact of filter anti-icing "on"

Emission information based on GE recommended measurement methods.
NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled by algorithms within the SPEEDTRONIC control system.

Sulfur emissions based on noted "WT%" or "ppmw" noted after Sulfur Content values in the fuel.
Particulates Note: US-Total PM Emissions (filterable + condensable) utilize compliance measurements per US-EPA Test Method 5B dated 1990 (filterable) and US-EPA Test Method 202 dated 1991 (condensable) measured at GT exhaust flange.

Note: Modified Wobbe Index (MWI) is calculated as LHV/(Spec Gravity*Temp)^0.5, in BTU/scf/°R^0.5
Note: SCF is defined at 14.7 psi and 59°F

User: 204002079
Deck Access Level: 0
Job ID:
Customer:
Simulation Frame: 7F.05-0922T-L3
Date/Time: 4/7/23 11:43 PM
GTP Web v5.70.1, 2023

Table B-3: Fuel Oil Performance Data

ESTIMATED PERFORMANCE	Units	Case 1	Case 6	Case 11	Case 2	Case 7	Case 12	Case 16	Case 20	Case 3	Case 8	Case 13	Case 17	Case 21	Case 4	Case 9	Case 14	Case 18	Case 22	Case 5	Case 10	Case 15	Case 19	Case 23
Case Comments																								
Load Condition	%	BASE	BASE	BASE	BASE	BASE	BASE	BASE	BASE	80.0%	80.0%	80.0%	80.0%	80.0%	70.0%	70.0%	70.0%	70.0%	70.0%	MECL	MECL	MECL	MECL	MECL
Inlet Loss	in H2O	4.1	4.16	4.45	3.84	3.96	4.5	4.28	4.19	2.51	2.6	2.9	2.92	3.09	2.06	2.11	2.38	2.39	2.79	1.93	1.84	1.65	1.75	1.99
Exhaust Pressure Loss	in H2O	10.63	10.85	12.23	9.56	10.01	12.19	12.3	12.39	6.49	6.79	8	8.41	8.75	5.44	5.65	6.65	7	7.47	4.69	4.71	4.69	4.95	5.28
Ambient Temperature	deg F	107	98	59	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10	107	98	59	29	-10
Ambient Relative Humidity	%	35	43	60	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57	35	43	60	57	57
Evap. Cooler Status		On	On	On	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note	Off	Off	Off	Off	Note
Evap. Cooler Effectiveness	%	90	90	90																				
Evaporation Rate	pps	5.354	4.179	1.749																				
Filter anti-icing		off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off	off
Fuel HHV	BTU/lb	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572	20572
Fuel Temperature	deg F	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Liquid Fuel H/C Ratio		1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92
Output	kW	204,902	207,863	225,603	185,693	193,389	222,839	232,191	234,377	148,554	154,711	178,271	185,753	187,502	129,985	135,372	155,987	162,533	164,064	103,000	107,000	112,000	117,000	118,000
Heat Rate (HHV)	BTU/kWh	10642	10614	10527	10836	10737	10552	10421	10461	11512	11347	10846	10691	10839	12197	11982	11313	11147	11390	13716	13419	13157	13030	13242
Heat Cons. (HHV)	MMBTU/hr	2180.6	2206.4	2375.0	2012.1	2076.5	2351.5	2419.7	2451.7	1710.3	1755.5	1933.3	1985.8	2032.2	1585.4	1622.1	1764.7	1811.8	1868.6	1412.8	1435.8	1473.6	1524.5	1562.6
Auxiliary Losses	kW	7161	7161	7161	7136	7136	7136	7136	8636	7136	7136	7136	7136	8636	7136	7136	7136	7136	8636	7136	7136	7136	7136	8636
Output - Net	kW	197,741	200,702	218,442	178,557	186,253	215,703	225,055	225,741	141,418	147,575	171,135	178,617	178,866	122,849	128,236	148,851	155,397	155,428	95,864	99,864	104,864	109,864	109,364
Heat Rate (HHV) - Net	BTU/kWh	11028	10994	10873	11269	11149	10901	10752	10861	12094	11896	11298	11118	11362	12905	12649	11855	11660	12022	14737	14378	14053	13876	14288
Exhaust Flow	x10^3 lb/hr	4102	4147	4414	3880	3977	4407	4430	4470	3153	3233	3536	3650	3743	2862	2924	3206	3311	3437	2656	2660	2655	2736	2845
Exhaust Temperature	deg F	1091	1088	1077	1104	1097	1077	1072	1050	1168	1158	1122	1090	1066	1210	1199	1147	1115	1094	1215	1215	1215	1199	1166
Exhaust MolWt	lb/lbmol	28.1	28.13	28.31	28.2	28.21	28.33	28.4	28.43	28.14	28.17	28.35	28.43	28.45	28.1	28.13	28.32	28.41	28.44	28.08	28.1	28.25	28.33	28.37
Exhaust Energy	MMBTU/hr	1096.8	1113.1	1204.1	1045.4	1072.4	1200.1	1230.9	1255.5	911.9	931.6	1008.4	1031.2	1067.2	865.7	880.4	938.6	960.1	1007.2	806.7	814	833.1	862.8	896.1
Water Flow	lb/hr	121,030	123,290	136,370	109,070	114,150	135,440	137,490	138,550	99,760	100,360	105,830	107,130	110,440	97,730	98,210	100,570	101,530	103,570	94,100	94,520	95,340	96,530	97,170
EXHAUST ANALYSIS % VOL.		Case 1	Case 6	Case 11	Case 2	Case 7	Case 12	Case 16	Case 20	Case 3	Case 8	Case 13	Case 17	Case 21	Case 4	Case 9	Case 14	Case 18	Case 22	Case 5	Case 10	Case 15	Case 19	Case 23
Argon		0.84	0.84	0.84	0.85	0.84	0.84	0.86	0.87	0.83	0.84	0.85	0.86	0.87	0.83	0.84	0.86	0.87	0.86	0.84	0.83	0.84	0.85	0.85
Nitrogen		69.96	70.18	71.4	70.71	70.75	71.61	72.02	72.2	70.22	70.4	71.65	72.23	72.4	69.89	70.07	71.47	72.06	72.32	69.82	69.9	70.92	71.48	71.82
Oxygen		11.06	11.1	11.3	11.42	11.38	11.41	11.32	11.32	10.96	10.99	11.23	11.4	11.45	10.72	10.75	11.13	11.31	11.42	11.02	10.93	10.94	11.03	11.23
Carbon Dioxide		5.23	5.24	5.34	5.12	5.16	5.3	5.43	5.46	5.35	5.36	5.43	5.42	5.41	5.45	5.46	5.46	5.44	5.42	5.23	5.31	5.49	5.53	5.46
Water		12.91	12.64	11.12	11.9	11.87	10.84	10.37	10.15	12.64	12.41	10.84	10.09	9.87	13.11	12.89	11.09	10.32	9.98	13.09	13.03	11.81	11.11	10.64
GT EMISSIONS (per unit)	Units	Case 1	Case 6	Case 11	Case 2	Case 7	Case 12	Case 16	Case 20	Case 3	Case 8	Case 13	Case 17	Case 21	Case 4	Case 9	Case 14	Case 18	Case 22	Case 5	Case 10	Case 15	Case 19	Case 23
NOx	ppmvd @ 15% O2	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
NOx AS NO2	lb/hr	358.5	362.9	390.1	330.9	341.3	386.4	397.6	403.3	281.2	288.7	317.6	326.3	334.2	260.6	266.5	290.1	298	307.3	232.4	235.9	242.1	250.7	256.8
NOx AS NO2	lb/MMBtu	0.1644	0.1645	0.1643	0.1645	0.1644	0.1643	0.1643	0.1645	0.1644	0.1645	0.1643	0.1643	0.1645	0.1644	0.1643	0.1644	0.1645	0.1645	0.1645	0.1643	0.1643	0.1644	0.1643
CO	ppmvd	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
CO	lb/hr	74.8	75.8	81.5	71.3	73.1	81.6	82.2	83.1	57.6	59.1	65.4	67.9	69.7	52.1	53.3	59.2	61.5	64	48.4	48.4	48.8	50.5	52.7
VOC	ppmvw	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
VOC	lb/hr	8.61	8.69	9.19	8.11	8.31	9.17	9.2	9.27	6.61	6.77	7.35	7.57	7.76	6	6.13	6.67	6.87	7.12	5.58	5.58	5.54	5.69	5.91
SO2	lb/hr	4	4.05	4.36	3.69	3.81	4.32	4.44	4.5	3.14	3.22	3.55	3.65	3.73	2.91	2.98	3.24	3.33	3.43	2.59	2.64	2.7	2.8	2.87
Sulfur Mist	lb/hr	0.306	0.31	0.334	0.283	0.292	0.33	0.34	0.345	0.24	0.247	0.272	0.279	0.286	0.223	0.228	0.248	0.255	0.263	0.199	0.202	0.207	0.214	0.22
Filterable Particulates	lb/h	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Total Particulates	lb/hr	41	41	41	41	41	41	41	41	41	41	41	41	41	40	40	41	41	41	40	40	40	40	40
PM10/2.5	lb/hr	41	41	41	41	41	41	41	41	41	41	41	41	41	40	40	41	41	41	40	40	40	40	40
Formaldehyde	ppbvd @ 15% O2	182	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Formaldehyde	lb/h	1.012	0.512	0.551	0.467	0.482	0.546	0.561	0.570	0.397	0.407	0.448	0.461	0.472	0.367	0.376	0.409	0.421	0.434	0.328	0.333	0.341	0.354	0.362
Stack Exit Conditions (Includes Tempering Air)																								
Exhaust vol flow	acfm	3757960	3770710	3892970	3590930	3640610	3882510	3840780	3746470	3133390	3164760	3265880	3220930	3186070	2974170	2990470	3041090	3001580	3011220	2774700	2766670	2701470	2701350	2680550
Exhaust Gas Stack Velocity, ft/sec	ft/sec	132.92	133.37	137.70	127.01	128.77	137.33	135.85	132.52	110.83	111.94	115.52	113.93	112.69	105.20	105.78	107.57	106.17	106.51	98.14	97.86	95.55	95.55	94.81
Stack Mass flow, per stack	lb/h	5608670	5632580	5849350	5374070	5449600	5837670	5787840	5648540	4686560	4736710	4915560	4858870	4808100	4446630	4473700	4576000	4526780	4544590	4146760	4136820	4061330	4071010	4042520
Stack Temperature	°F	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
Stack Molecular Weight	lb/lbmole	28.25	28.27	28.44	28.32	28.33	28.46	28.52	28.53	28.31	28.33	28.49	28.55	28.56	28.30	28.31	28.48	28.54	28.56	28.28	28.30	28.45	28.52	28.54
Stack Diameter	ft	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
Stack Height Above Grade	ft	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
EXHAUST ANALYSIS % VOL.		Case 1	Case 6	Case 11	Case 2	Case 7	Case 12	Case 16	Case 20	Case 3	Case 8	Case 13	Case 17	Case 21	Case 4	Case 9	Case 14	Case 18	Case 22	Case 5	Case 10	Case 15	Case 19	Case 23
Argon		0.86	0.86	0.86	0.87	0.86	0.86	0.88	0.88	0.86	0.86	0.87	0.88	0.88	0.86	0.86	0.87	0.88	0.88	0.86	0.86	0.87	0.88	0.87
Nitrogen		71.53	71.69	72.82	72.13	72.15	72.97	73.36	73.39	72.05	72.16	73.2	73.6	73.63	72	72.1	73.18	73.59	73.69	71.97	72.05	73.09	73.53	73.63
Oxygen		13.52	13.52	13.58	13.88	13.79	13.66	13.53	13.3	14	13.94	13.86	13.73	13.52	14.11	14.05	13.97	13.84	13.71	14.33	14.27	14.28	14.22	14.06
Carbon Dioxide		3.86	3.89	4.06	3.72	3.79	4.03	4.18	4.35	3.63	3.69	3.94	4.1	4.24	3.55	3.61	3.86	4.01	4.13	3.39	3.45	3.63	3.75	3.88
Water		10.23	10.03	8.67	9.4	9.4	8.46	8.04	8.07	9.46	9.34	8.12	7.69	7.72	9.48	9.38	8.11	7.67	7.59	9.43	9.36	8.12	7.61	7.54

Table B-3: Fuel Oil Performance Data

Stack Exit Emissions (per unit)																								
NOx Volume fraction, dry, at 15 % O2	ppm	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
NOx mass flow rate (as NO2)	lb/hr	42.6	43.1	46.4	39.3	40.5	45.9	47.3	47.9	33.4	34.3	37.7	38.8	39.7	30.9	31.6	34.4	35.4	36.5	27.6	28	28.7	29.8	30.5
CO Volume fraction, dry, at 15 % O2	ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CO mass flow rate	lb/hr	10.4	10.5	11.3	9.6	9.9	11.2	11.5	11.7	8.1	8.3	9.2	9.4	9.7	7.5	7.7	8.4	8.6	8.9	6.7	6.8	7	7.2	7.4
VOC Volume fraction, dry, at 15 % O2	ppm	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
VOC mass flow rate (as methane)	lb/hr	5.9	6	6.5	5.5	5.7	6.4	6.6	6.7	4.7	4.8	5.3	5.4	5.5	4.3	4.4	4.8	4.9	5.1	3.8	3.9	4	4.2	4.3
NH3 Volume fraction, dry, at 15 % O2	ppm	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
NH3 mass flow rate	lb/h	15.8	16	17.2	14.5	15	17	17.5	17.7	12.4	12.7	14	14.4	14.7	11.4	11.7	12.8	13.1	13.5	10.2	10.4	10.6	11	11.3
Formaldehyde	ppbvd @ 15% O2	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
Formaldehyde	lb/h	0.506	0.512	0.551	0.467	0.482	0.546	0.561	0.570	0.397	0.407	0.448	0.461	0.472	0.367	0.376	0.409	0.421	0.434	0.328	0.333	0.341	0.354	0.362
Stack CO2 mass flow rate	lb/h	337142.86	340952.38	367619.05	310476.19	320952.38	363809.52	373333.33	378095.24	264761.9	271428.57	299047.62	306666.67	314285.71	244761.9	250476.19	272380.95	280000	288571.43	219047.62	221904.76	227619.05	236190.48	241904.76
CO2	lb/MWh	1645	1640	1629	1672	1660	1633	1608	1613	1782	1754	1677	1651	1676	1883	1850	1746	1723	1759	2127	2074	2032	2019	2050
SOx mass flow rate (as SO2)	lb/h	4	4.1	4.4	3.7	3.8	4.3	4.4	4.5	3.1	3.2	3.5	3.6	3.7	2.9	3	3.2	3.3	3.4	2.6	2.6	2.7	2.8	2.9
SOx	lb/Mmbtu	0.0018	0.0019	0.0019	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0019
Sulfur Mist as H2SO4	lb/h	2.7	2.7	2.9	2.5	2.6	2.9	3	3	2.1	2.2	2.4	2.5	2.5	2	2	2.2	2.2	2.3	1.8	1.8	1.8	1.9	1.9
Sulfur Mist as H2SO4	lb/Mmbtu	0.0012	0.0012	0.0012	0.0012	0.0013	0.0012	0.0012	0.0012	0.0012	0.0013	0.0012	0.0013	0.0012	0.0013	0.0012	0.0012	0.0012	0.0012	0.0013	0.0013	0.0012	0.0012	0.0012
Filterable Particulates	lb/h	23.9	23.9	24.0	23.7	23.8	24.0	24.0	23.9	23.6	23.6	23.6	23.4	23.3	23.6	23.6	23.4	23.3	23.2	23.3	23.3	23.2	23.2	23.0
Filterable Particulates	lb/MMBtu	0.0110	0.0108	0.0101	0.0118	0.0115	0.0102	0.0099	0.0097	0.0138	0.0134	0.0122	0.0118	0.0115	0.0149	0.0145	0.0133	0.0129	0.0124	0.0165	0.0162	0.0157	0.0152	0.0147
Total Particulates	lb/h	44.8	44.8	44.8	44.7	44.7	44.8	44.7	44.5	44.8	44.7	44.4	44.1	43.9	45	44.9	44.3	44	43.8	44.6	44.6	44.4	44.2	43.8
PM10/2.5	lb/h	44.8	44.8	44.8	44.7	44.7	44.8	44.7	44.5	44.8	44.7	44.4	44.1	43.9	45	44.9	44.3	44	43.8	44.6	44.6	44.4	44.2	43.8
PM10/2.5	lb/MMBtu	0.0205	0.0203	0.0189	0.0222	0.0215	0.0191	0.0185	0.0182	0.0262	0.0255	0.0230	0.0222	0.0216	0.0284	0.0277	0.0251	0.0243	0.0234	0.0316	0.0311	0.0301	0.0290	0.0280
SITE CONDITIONS	Units	Case 1	Case 6	Case 11	Case 2	Case 7	Case 12	Case 16	Case 20	Case 3	Case 8	Case 13	Case 17	Case 21	Case 4	Case 9	Case 14	Case 18	Case 22	Case 5	Case 10	Case 15	Case 19	Case 23
Elevation	ft	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Site Pressure	psia	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658	14.658
Exhaust Loss	in H2O	12.00 @ ISO Conditions																						
Humidity		35.00% RH	43.00% RH	60.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH	35.00% RH	43.00% RH	60.00% RH	57.00% RH	57.00% RH

Note: at -10F & RH 57% filter anti-icing will be on, but performance calculation doesn't inlcude impact of filter anti-icing "on"

Emission information based on GE recommended measurement methods.
NOx emissions are corrected to 15% O2 without heat rate correction and are not corrected
to ISO reference condition per 40CFR 60.335(a)(1)(i). NOx levels shown will be controlled
by algorithms within the SPEEDTRONIC control system.

Sulfur emissions based on noted "WT%" or "ppmw" noted after Sulfur Content values in the fuel.
Particulates Note: US-Total PM Emissions (filterable + condensable) utilize compliance measurements per US-EPA Test Method 5B dated 1990 (filterable) and US-EPA Test Method 202 dated 1991 (condensable) measured at GT exhaust flange.
Liquid Fuel is assumed to have 0.015% Fuel-Bound Nitrogen, or less.
FBN amounts greater than 0.015% will add to the reported NOx value.

Note: Modified Wobbe Index (MWI) is calculated as LHV/(Spec Gravity*Temp)^0.5, in BTU/scf/°R^0.5
Note: SCF is defined at 14.7 psi and 59°F

User: 204002079
Deck Access Level: 0
Job ID:
Customer:
Simulation Frame: 7F.05-0922T-L3
Date/Time: 4/8/23 3:34 PM
GTP Web v5.70.1, 2023

Table B-4: Startup and Shutdown Emissions and Fuel Use

Mode - Natural Gas	~ Time	Total Pounds Per Event							
	(minutes)	NOX	CO	VOC	PM	$PM_{10}/PM_{2.5}$	SO2	CO2	Fuel (MMBTU/event)
Startup from GT Ignition to MECL	30.0	52	366	65	2	4	4	133,819	1,031
Shutdown from MECL to Fuel Cutoff	15.0	20	152	31	1	2	1	34,904	269

Mode - Fuel Oil	~ Time	Total Pounds Per Event							
	(minutes)	NO_X	CO	VOC	PM	$PM_{10}/PM_{2.5}$			Fuel
Startup from GT Ignition to 50% Steady-State GT Load	30.0	143	1,036	101	10	21	2	186,431	1,031
Shutdown from 50% GT Load to Fuel Cutoff	15.0	62	246	47	5	10	1	48,626	269

Notes

1. All data is estimated, not guaranteed and is for one unit.
2. Emissions are based on new and clean conditions.

Sources: Dominion, 2023.

ECT, 2023.

Table B-5. Greenhouse Gas Emissions

Potential Carbon Dioxide Equivalent (CO_2e) Emissions from the Combustion Sources

Emissions Source	Heat Input (MMBtu/hr) HHV	Operating Hours (hr/yr)	Maximum Annual Potential Heat Input (MMBtu/yr)	CO_2 Emissions Factor‡ (kg/MMBtu)	CO_2 Potential Emissions (short tpy) CO_2	CO_2 Potential Emissions (short tpy) CO_2e ¥	CH_4 Emissions Factor § (kg/MMBtu)	CH_4 Potential Emissions (short tpy) CH_4	CH_4 Potential Emissions (short tpy) CO_2e ¥	N_2O Emissions Factor § (kg/MMBtu)	N_2O Potential Emissions (short tpy) N_2O	N_2O Potential Emissions (short tpy) CO_2e ¥	CO_2e Potential Emissions (short tpy)
Scenario 1 - NG Only, with SUSD													
CT1 - Steady State - NG	2,445	3,240	7,922,531	53.06	463,457	463,457	1.0E-03	8.73	218	1.0E-04	0.87	260	463,936
CT2 - Steady State - NG	2,445	3,240	7,922,531	53.06	463,457	463,457	1.0E-03	8.73	218	1.0E-04	0.87	260	463,936
CT3 - Steady State - NG	2,445	3,240	7,922,531	53.06	463,457	463,457	1.0E-03	8.73	218	1.0E-04	0.87	260	463,936
CT4 - Steady State - NG	2,445	3,240	7,922,531	53.06	463,457	463,457	1.0E-03	8.73	218	1.0E-04	0.87	260	463,936
	MMBtu/event	events/yr											
CT1 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT1 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT2 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT2 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT3 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT3 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT4 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT4 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
					2,005,961	2,005,961		37.8	945.1		3.8	1127	**2,008,033**
Scenario 2 - NG with Hydrogen													
CT1 - Steady State - NG w/H_2*	2,420	3,240	7,839,808	53.06	458,618	458,618	1.0E-03	8.64	216	1.0E-04	0.86	258	459,092
CT2 - Steady State - NG w/H_2*	2,420	3,240	7,839,808	53.06	458,618	458,618	1.0E-03	8.64	216	1.0E-04	0.86	258	459,092
CT3 - Steady State - NG w/H_2*	2,420	3,240	7,839,808	53.06	458,618	458,618	1.0E-03	8.64	216	1.0E-04	0.86	258	459,092
CT4 - Steady State - NG w/H_2*	2,420	3,240	7,839,808	53.06	458,618	458,618	1.0E-03	8.64	216	1.0E-04	0.86	258	459,092
	MMBtu/event	events/yr											
CT1 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT1 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT2 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT2 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT3 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT3 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
CT4 SU - NG	1,031	500	515,650	53.06	30,165	30,165	1.0E-03	0.57	14	1.0E-04	0.06	17	30,196
CT4 SD - NG	269	500	134,500	53.06	7,868	7,868	1.0E-03	0.15	4	1.0E-04	0.01	4	7,876
					1,986,604	1,986,604		37.4	936		3.7	1116	**1,988,656**
Scenario 3 - NG & Fuel Oil, with SUSD													
CT1 - Steady State - NG	2,445	2,490	6,088,612	53.06	356,176	356,176	1.0E-03	6.71	168	1.0E-04	0.67	200	356,543
CT2 - Steady State - NG	2,445	2,490	6,088,612	53.06	356,176	356,176	1.0E-03	6.71	168	1.0E-04	0.67	200	356,543
CT3 - Steady State - NG	2,445	2,490	6,088,612	53.06	356,176	356,176	1.0E-03	6.71	168	1.0E-04	0.67	200	356,543
CT4 - Steady State - NG	2,445	2,490	6,088,612	53.06	356,176	356,176	1.0E-03	6.71	168	1.0E-04	0.67	200	356,543
CT1 - Steady State - FO	2,452	750	1,838,752	73.96	149,934	149,934	3.0E-03	6.08	152	6.0E-04	1.22	362	150,448
CT2 - Steady State - FO	2,452	750	1,838,752	73.96	149,934	149,934	3.0E-03	6.08	152	6.0E-04	1.22	362	150,448
CT3 - Steady State - FO	2,452	750	1,838,752	73.96	149,934	149,934	3.0E-03	6.08	152	6.0E-04	1.22	362	150,448
CT4 - Steady State - FO	2,452	750	1,838,752	73.96	149,934	149,934	3.0E-03	6.08	152	6.0E-04	1.22	362	150,448
	MMBtu/event	events/yr											
CT1 SU - NG	1,031	380	391,894	53.06	22,925	22,925	1.0E-03	0.43	11	1.0E-04	0.04	13	22,949
CT1 SD - NG	269	380	102,220	53.06	5,980	5,980	1.0E-03	0.11	3	1.0E-04	0.01	3	5,986
CT2 SU - NG	1,031	380	391,894	53.06	22,925	22,925	1.0E-03	0.43	11	1.0E-04	0.04	13	22,949
CT2 SD - NG	269	380	102,220	53.06	5,980	5,980	1.0E-03	0.11	3	1.0E-04	0.01	3	5,986
CT3 SU - NG	1,031	380	391,894	53.06	22,925	22,925	1.0E-03	0.43	11	1.0E-04	0.04	13	22,949
CT3 SD - NG	269	380	102,220	53.06	5,980	5,980	1.0E-03	0.11	3	1.0E-04	0.01	3	5,986
CT4 SU - NG	1,031	380	391,894	53.06	22,925	22,925	1.0E-03	0.43	11	1.0E-04	0.04	13	22,949
CT4 SD - NG	269	380	102,220	53.06	5,980	5,980	1.0E-03	0.11	3	1.0E-04	0.01	3	5,986
CT1 SU - FO	1,031	120	123,756	73.96	10,091	10,091	3.0E-03	0.41	10	6.0E-04	0.08	24	10,126
CT1 SD - FO	269	120	32,280	73.96	2,632	2,632	3.0E-03	0.11	3	6.0E-04	0.02	6	2,641
CT2 SU - FO	1,031	120	123,756	73.96	10,091	10,091	3.0E-03	0.41	10	6.0E-04	0.08	24	10,126
CT2 SD - FO	269	120	32,280	73.96	2,632	2,632	3.0E-03	0.11	3	6.0E-04	0.02	6	2,641
CT3 SU - FO	1,031	120	123,756	73.96	10,091	10,091	3.0E-03	0.41	10	6.0E-04	0.08	24	10,126
CT3 SD - FO	269	120	32,280	73.96	2,632	2,632	3.0E-03	0.11	3	6.0E-04	0.02	6	2,641
CT4 SU - FO	1,031	120	123,756	73.96	10,091	10,091	3.0E-03	0.41	10	6.0E-04	0.08	24	10,126
CT4 SD - FO	269	120	32,280	73.96	2,632	2,632	3.0E-03	0.11	3	6.0E-04	0.02	6	2,641
					2,190,950	2,190,950		55.42	1386		8.18	2438	**2,194,773**
Auxiliary Equipment													
FGH 1, Normal Operations	18.8	8,760	164,688	53.06	9,634	9,634	1.0E-03	0.182	4.54	1.0E-04	1.82E-02	5.41	9,644
FWP	1.45	500	726	73.96	59	59	3.0E-03	0.002	0.06	6.0E-04	4.80E-04	0.14	59
(6) Black Start Emergency Generators	33.73	500	101,188	73.96	8,251	8,251	3.0E-03	0.335	8.37	6.0E-04	6.69E-02	19.95	8,279
								Total CO_2e Potential Annual Emissions					**2,212,756**

Potential CO_2e Emissions from Natural Gas Piping Components and Maintenance Activities

Component	Number of Components	Emissions Factor per Component (scf/hr) £	(scf/yr)	Annual Emissions (tpy) CO_2 ∂	CH_4 ∂	CO_2e ¥
Valve	640	0.027		0.09	3.08	77.15
Connector	334	0.003		0.01	0.18	4.47
Relief valve	40	0.04		0.01	0.29	7.14
Maintenance			100,000	0.06	2.04	50.97
		Total		**0.16**	**5.58**	**139.73**

Potential CO_2e Emissions from Circuit Breakers

Number of Circuit Breakers	Quantity SF_6 Insulating Gas Per Component (lb)	Quantity SF_6 Insulating Gas Total (lb)	Annual Leak Rate (%)	Annual Emissions SF_6 lb/yr	SF_6 tpy	CO_2e ¥ tpy
16	224	3,584	0.50	17.92	0.0090	204.29
					Total	**204.29**

Total Facility Potential CO_2e Emissions

	Annual ¥ (tpy)
Simple Cycle Turbines	2,194,773
FGH 1	9,644
FWP	59
(6) Black Start Emergency Generators	8,279
NG piping and Maintenance	140
Circuit breakers	204
Total	**2,213,100**

‡ CO2 Emission factors based on the Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-1 to Subpart C of Part 98.
§Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-2 to Subpart C of Part 98.
¥Based on global warming potential of 1 for CO_2, 25 for CH_4, 298 for N_2O, and 22,800 for SF_6. Global Warming Potential factors based on Table A-1 of 40 CFR 98 Mandatory Greenhouse Gas Reporting.
£Based on 40 CFR 98, Table W-1a for Eastern United States.
∂Based on natural gas composition of 98-percent CH_4 and 1-percent CO_2.
*Based on natural gas portion of total NG/H2 heat input

Sources: Dominion, 2023.
ECT, 2023.

Table B-6. Turbine Hazardous Air Pollutant Emissions
GE 7F.05 Simple Cycle Turbine Emissions Calculation
Summary of HAP Emission Rates - Scenario 1

Parameter	Units	NG
Maximum Heat Input (HHV):	MMBtu/hr	2,445
Maximum Annual Hours:	hrs/yr	3,240
SU/SD Events:	events/yr	500

Pollutant	CT Emissions																			
	Emission Factors	Normal Operation	SUSD	CT1		CT2		CT3		CT4		(4) CTs	Fuel Gas Heater 1		Emergency Firewater Pump		(6) Black Start Emergency Generators		Total Facility	
	NG[1] (lb/MMBtu)	NG (lb/hr)	NG[2] (lb/event)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	Total Lb/Hr	Total TPY
1,3-Butadiene	4.3E-07	1.05E-03	5.59E-04	1.05E-03	1.84E-03	1.05E-03	1.84E-03	1.05E-03	1.84E-03	1.05E-03	1.84E-03	7.37E-03			5.68E-05	1.42E-05			4.26E-03	7.39E-03
Acetaldehyde	4.0E-05	9.78E-02	5.20E-02	9.78E-02	1.71E-01	9.78E-02	1.71E-01	9.78E-02	1.71E-01	9.78E-02	1.71E-01	6.86E-01	5.71E-05	2.50E-04	1.11E-03	2.78E-04	8.50E-04	1.27E-03	3.93E-01	6.88E-01
Acrolein	6.4E-06	1.56E-02	8.32E-03	1.56E-02	2.74E-02	1.56E-02	2.74E-02	1.56E-02	2.74E-02	1.56E-02	2.74E-02	1.10E-01	4.98E-05	2.18E-04	1.34E-04	3.36E-05	2.66E-04	3.99E-04	6.30E-02	1.10E-01
Benzene	1.2E-05	2.93E-02	1.56E-02	2.93E-02	5.14E-02	2.93E-02	5.14E-02	2.93E-02	5.14E-02	2.93E-02	5.14E-02	2.06E-01	1.07E-04	4.68E-04	1.35E-03	3.39E-04	2.62E-02	3.93E-02	1.45E-01	2.46E-01
Ethylbenzene	3.2E-05	7.82E-02	4.16E-02	7.82E-02	1.37E-01	7.82E-02	1.37E-01	7.82E-02	1.37E-01	7.82E-02	1.37E-01	5.49E-01	1.27E-04	5.57E-04					3.13E-01	5.49E-01
Formaldehyde[3]	7.1E-04	5.53E-01	9.23E-01	5.53E-01	1.13E+00	5.53E-01	1.13E+00	5.53E-01	1.13E+00	5.53E-01	1.13E+00	4.51E+00	2.27E-04	9.93E-04	1.71E-03	4.28E-04	2.66E-03	3.99E-03	2.22E+00	4.51E+00
Naphthalene	1.3E-06	3.18E-03	1.69E-03	3.18E-03	5.57E-03	3.18E-03	5.57E-03	3.18E-03	5.57E-03	3.18E-03	5.57E-03	2.23E-02	5.53E-06	2.42E-05	1.23E-04	3.08E-05	4.38E-03	6.58E-03	1.72E-02	2.89E-02
Polycyclic Aromatic Hydrocarbons (PAHs)	2.2E-06	5.38E-03	2.86E-03	5.38E-03	9.43E-03	5.38E-03	9.43E-03	5.38E-03	9.43E-03	5.38E-03	9.43E-03	3.77E-02	7.37E-06	3.23E-05	2.44E-04	6.10E-05	7.15E-03	1.07E-02	2.89E-02	4.85E-02
Propylene Oxide	2.9E-05	7.09E-02	3.77E-02	7.09E-02	1.24E-01	7.09E-02	1.24E-01	7.09E-02	1.24E-01	7.09E-02	1.24E-01	4.97E-01	9.77E-03	4.28E-02					2.93E-01	5.40E-01
Toluene	1.3E-04	3.18E-01	1.69E-01	3.18E-01	5.57E-01	3.18E-01	5.57E-01	3.18E-01	5.57E-01	3.18E-01	5.57E-01	2.23E+00	4.88E-04	2.14E-03	5.94E-04	1.48E-04	9.48E-03	1.42E-02	1.28E+00	2.25E+00
Xylene	6.4E-05	1.56E-01	8.32E-02	1.56E-01	2.74E-01	1.56E-01	2.74E-01	1.56E-01	2.74E-01	1.56E-01	2.74E-01	1.10E+00	3.63E-04	1.59E-03	4.14E-04	1.03E-04	6.51E-03	9.76E-03	6.33E-01	1.11E+00
Arsenic	2.0E-07	4.79E-04	2.55E-04	4.79E-04	8.40E-04	4.79E-04	8.40E-04	4.79E-04	8.40E-04	4.79E-04	8.40E-04	3.36E-03	3.69E-06	1.61E-05					1.92E-03	3.38E-03
Beryllium	1.2E-08	2.88E-05	1.53E-05	2.88E-05	5.04E-05	2.88E-05	5.04E-05	2.88E-05	5.04E-05	2.88E-05	5.04E-05	2.02E-04	2.21E-07	9.69E-07					1.15E-04	2.03E-04
Cadmium	1.1E-06	2.64E-03	1.40E-03	2.64E-03	4.62E-03	2.64E-03	4.62E-03	2.64E-03	4.62E-03	2.64E-03	4.62E-03	1.85E-02	2.03E-05	8.88E-05					1.06E-02	1.86E-02
Chromium	1.4E-06	3.36E-03	1.78E-03	3.36E-03	5.88E-03	3.36E-03	5.88E-03	3.36E-03	5.88E-03	3.36E-03	5.88E-03	2.35E-02	2.58E-05	1.13E-04					1.35E-02	2.36E-02
Cobalt	8.2E-08	2.01E-04	1.07E-04	2.01E-04	3.53E-04	2.01E-04	3.53E-04	2.01E-04	3.53E-04	2.01E-04	3.53E-04	1.41E-03	1.55E-06	6.78E-06					8.07E-04	1.42E-03
Lead	4.9E-07	1.20E-03	6.37E-04	1.20E-03	2.10E-03	1.20E-03	2.10E-03	1.20E-03	2.10E-03	1.20E-03	2.10E-03	8.40E-03	4.61E-06	4.04E-05	1.31E-05	3.27E-06	3.04E-04	4.55E-04	5.12E-03	8.90E-03
Manganese	3.7E-07	9.11E-04	4.84E-04	9.11E-04	1.60E-03	9.11E-04	1.60E-03	9.11E-04	1.60E-03	9.11E-04	1.60E-03	6.39E-03	7.00E-06	3.07E-05					3.65E-03	6.42E-03
Mercury	2.5E-07	6.23E-04	3.31E-04	6.23E-04	1.09E-03	6.23E-04	1.09E-03	6.23E-04	1.09E-03	6.23E-04	1.09E-03	4.37E-03	4.79E-06	2.10E-05					2.50E-03	4.39E-03
Nickel	2.1E-06	5.03E-03	2.68E-03	5.03E-03	8.82E-03	5.03E-03	8.82E-03	5.03E-03	8.82E-03	5.03E-03	8.82E-03	3.53E-02	3.87E-05	1.70E-04					2.02E-02	3.55E-02
Selenium	2.4E-08	5.75E-05	3.06E-05	5.75E-05	1.01E-04	5.75E-05	1.01E-04	5.75E-05	1.01E-04	5.75E-05	1.01E-04	4.03E-04	4.42E-07	1.94E-06					2.31E-04	4.05E-04
Hexane													8.48E-05	3.71E-04					8.48E-05	3.71E-04
Max. individual HAP												4.51								4.51
Total HAPs												10.05								10.19

Notes:
CT = Combustion Turbine
[1] EPA AP-42, Table 3.1-3, April 2000. And EPA AP-42, Table 1.4-3 and 1.4-4, July 1998.

[2]NG SUSD (lb of HAP/event) = [Fuel consumed for startup (MMBtu fuel NG/event) + Fuel consumed for shutdown (MMBtu fuel NG/event)] x NG Emission Factor (lb of HAP/MMBtu). Each 'event' is calculated as a combined one startup and one shutdown event.

[3]Formdehyde normal operation based on vendor performance data

Source: ECT, 2023.

Table B-7. Turbine Hazardous Air Pollutant Emissions
GE 7F.05 Simple Cycle Turbine Emissions Calculation
Summary of HAP Emission Rates - Scenario 2

Parameter	Units	NG w/H2
Maximum Heat Input (HHV)[1]:	MMBtu/hr	2,420
Maximum Annual Hours:	hrs/yr	3,240
SU/SD Events:	events/yr	500

Pollutant	CT Emissions											(4) CTs	Fuel Gas Heater 1		Emergency Firewater Pump		(6) Black Start Emergency Generators		Total Facility	
	Emission Factors	Normal Operation	SUSD	CT1		CT2		CT3		CT4										
	NG[2] (lb/MMBtu)	NG w H2 (lb/hr)	NG[3] (lb/event)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	Total Lb/Hr	Total TPY
1,3-Butadiene	4.3E-07	1.04E-03	5.59E-04	1.04E-03	1.83E-03	1.04E-03	1.83E-03	1.04E-03	1.83E-03	1.04E-03	1.83E-03	7.30E-03			5.68E-05	1.42E-05			4.22E-03	7.32E-03
Acetaldehyde	4.0E-05	9.68E-02	5.20E-02	9.68E-02	1.70E-01	9.68E-02	1.70E-01	9.68E-02	1.70E-01	9.68E-02	1.70E-01	6.79E-01	5.71E-05	2.50E-04	1.11E-03	2.78E-04	8.50E-04	1.27E-03	3.89E-01	6.81E-01
Acrolein	6.4E-06	1.55E-02	8.32E-03	1.55E-02	2.72E-02	1.55E-02	2.72E-02	1.55E-02	2.72E-02	1.55E-02	2.72E-02	1.09E-01	4.98E-05	2.18E-04	1.34E-04	3.36E-05	2.66E-04	3.99E-04	6.24E-02	1.09E-01
Benzene	1.2E-05	2.90E-02	1.56E-02	2.90E-02	5.09E-02	2.90E-02	5.09E-02	2.90E-02	5.09E-02	2.90E-02	5.09E-02	2.04E-01	1.07E-04	4.68E-04	1.35E-03	3.39E-04	2.62E-02	3.93E-02	1.44E-01	2.44E-01
Ethylbenzene	3.2E-05	7.74E-02	4.16E-02	7.74E-02	1.36E-01	7.74E-02	1.36E-01	7.74E-02	1.36E-01	7.74E-02	1.36E-01	5.43E-01	1.27E-04	5.57E-04					3.10E-01	5.44E-01
Formaldehyde[4]	7.1E-04	5.48E-01	9.23E-01	5.48E-01	1.12E+00	5.48E-01	1.12E+00	5.48E-01	1.12E+00	5.48E-01	1.12E+00	4.47E+00	2.27E-04	9.93E-04	1.71E-03	4.28E-04	2.66E-03	3.99E-03	2.20E+00	4.48E+00
Naphthalene	1.3E-06	3.15E-03	1.69E-03	3.15E-03	5.52E-03	3.15E-03	5.52E-03	3.15E-03	5.52E-03	3.15E-03	5.52E-03	2.21E-02	5.53E-06	2.42E-05	1.23E-04	3.08E-05	4.38E-03	6.58E-03	1.71E-02	2.87E-02
Polycyclic Aromatic Hydrocarbons (PAHs)	2.2E-06	5.32E-03	2.86E-03	5.32E-03	9.34E-03	5.32E-03	9.34E-03	5.32E-03	9.34E-03	5.32E-03	9.34E-03	3.74E-02	7.37E-06	3.23E-05	2.44E-04	6.10E-05	7.15E-03	1.07E-02	2.87E-02	4.82E-02
Propylene Oxide	2.9E-05	7.02E-02	3.77E-02	7.02E-02	1.23E-01	7.02E-02	1.23E-01	7.02E-02	1.23E-01	7.02E-02	1.23E-01	4.92E-01	9.77E-03	4.28E-02					2.90E-01	5.35E-01
Toluene	1.3E-04	3.15E-01	1.69E-01	3.15E-01	5.52E-01	3.15E-01	5.52E-01	3.15E-01	5.52E-01	3.15E-01	5.52E-01	2.21E+00	4.88E-04	2.14E-03	5.94E-04	1.48E-04	9.48E-03	1.42E-02	1.27E+00	2.22E+00
Xylene	6.4E-05	1.55E-01	8.32E-02	1.55E-01	2.72E-01	1.55E-01	2.72E-01	1.55E-01	2.72E-01	1.55E-01	2.72E-01	1.09E+00	3.63E-04	1.59E-03	4.14E-04	1.03E-04	6.51E-03	9.76E-03	6.27E-01	1.10E+00
Arsenic	2.0E-07	4.74E-04	2.55E-04	4.74E-04	8.32E-04	4.74E-04	8.32E-04	4.74E-04	8.32E-04	4.74E-04	8.32E-04	3.33E-03	3.69E-06	1.61E-05					1.90E-03	3.35E-03
Beryllium	1.2E-08	2.85E-05	1.53E-05	2.85E-05	4.99E-05	2.85E-05	4.99E-05	2.85E-05	4.99E-05	2.85E-05	4.99E-05	2.00E-04	2.21E-07	9.69E-07					1.14E-04	2.01E-04
Cadmium	1.1E-06	2.61E-03	1.40E-03	2.61E-03	4.58E-03	2.61E-03	4.58E-03	2.61E-03	4.58E-03	2.61E-03	4.58E-03	1.83E-02	2.03E-05	8.88E-05					1.05E-02	1.84E-02
Chromium	1.4E-06	3.32E-03	1.78E-03	3.32E-03	5.83E-03	3.32E-03	5.83E-03	3.32E-03	5.83E-03	3.32E-03	5.83E-03	2.33E-02	2.58E-05	1.13E-04					1.33E-02	2.34E-02
Cobalt	8.2E-08	1.99E-04	1.07E-04	1.99E-04	3.50E-04	1.99E-04	3.50E-04	1.99E-04	3.50E-04	1.99E-04	3.50E-04	1.40E-03	1.55E-06	6.78E-06					7.99E-04	1.41E-03
Lead	4.9E-07	1.19E-03	6.37E-04	1.19E-03	2.08E-03	1.19E-03	2.08E-03	1.19E-03	2.08E-03	1.19E-03	2.08E-03	8.32E-03	4.61E-06	4.04E-05	1.31E-05	3.27E-06	3.04E-04	4.55E-04	5.07E-03	8.82E-03
Manganese	3.7E-07	9.01E-04	4.84E-04	9.01E-04	1.58E-03	9.01E-04	1.58E-03	9.01E-04	1.58E-03	9.01E-04	1.58E-03	6.33E-03	7.00E-06	3.07E-05					3.61E-03	6.36E-03
Mercury	2.5E-07	6.17E-04	3.31E-04	6.17E-04	1.08E-03	6.17E-04	1.08E-03	6.17E-04	1.08E-03	6.17E-04	1.08E-03	4.33E-03	4.79E-06	2.10E-05					2.47E-03	4.35E-03
Nickel	2.1E-06	4.98E-03	2.68E-03	4.98E-03	8.74E-03	4.98E-03	8.74E-03	4.98E-03	8.74E-03	4.98E-03	8.74E-03	3.50E-02	3.87E-05	1.70E-04					2.00E-02	3.51E-02
Selenium	2.4E-08	5.69E-05	3.06E-05	5.69E-05	9.99E-05	5.69E-05	9.99E-05	5.69E-05	9.99E-05	5.69E-05	9.99E-05	4.00E-04	4.42E-07	1.94E-06					2.28E-04	4.01E-04
Hexane													8.48E-05	3.71E-04					8.48E-05	3.71E-04
Max. individual HAP												**4.47**								**4.48**
Total HAPs												**9.96**								**10.10**

Notes:
CT = Combustion Turbine
[1] Based on natural gas component of total NG/H2 heat input
[2] EPA AP-42, Table 3.1-3, April 2000. And EPA AP-42, Table 1.4-3 and 1.4-4, July 1998.

[3]NG SUSD (lb of HAP/event) = [Fuel consumed for startup (MMBtu fuel NG/event) + Fuel consumed for shutdown (MMBtu fuel NG/event)] x NG Emission Factor (lb of HAP/MMBtu). Each 'event' is calculated as a combined one startup and one shutdown event.

[4]Formdehyde normal operation based on vendor performance data

Source: ECT, 2023.

Table B-8. Turbine Hazardous Air Pollutant Emissions
GE 7F.05 Simple Cycle Turbine Emissions Calculation
Summary of HAP Emission Rates - Scenario 3

Parameter	Units	NG	FO
Maximum Heat Input (HHV):	MMBtu/hr	2,445	2,452
Maximum Annual Hours:	hrs/yr	2,490	750
SU/SD Events:	events/yr	380	120

Pollutant	CT Emissions: Emission Factors		Normal Operation		SUSD		CT1		CT2		CT3		CT4		(4) CTs	Fuel Gas Heater 1		Emergency Firewater Pump		(6) Black Start Emergency Generators		Total Facility	
	NG[1] (lb/MMBtu)	FO[2] (lb/MMBtu)	NG (lb/hr)	FO (lb/hr)	NG[3] (lb/event)	FO[4] (lb/event)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	Total Lb/Hr	Total TPY
1,3-Butadiene	4.3E-07	1.6E-05	1.05E-03	3.92E-02	5.59E-04	2.08E-02	3.92E-02	1.74E-02	3.92E-02	1.74E-02	3.92E-02	1.74E-02	3.92E-02	1.74E-02	6.95E-02			5.68E-05	1.42E-05			1.57E-01	6.95E-02
Acetaldehyde	4.0E-05		9.78E-02		5.20E-02		9.78E-02	1.32E-01	9.78E-02	1.32E-01	9.78E-02	1.32E-01	9.78E-02	1.32E-01	5.27E-01	5.71E-05	2.50E-04	1.11E-03	2.78E-04	8.50E-04	1.27E-03	3.93E-01	5.28E-01
Acrolein	6.4E-06		1.56E-02		8.32E-03		1.56E-02	2.11E-02	1.56E-02	2.11E-02	1.56E-02	2.11E-02	1.56E-02	2.11E-02	8.43E-02	4.98E-05	2.18E-04	1.34E-04	3.36E-05	2.66E-04	3.99E-04	6.30E-02	8.49E-02
Benzene	1.2E-05	5.5E-05	2.93E-02	1.35E-01	1.56E-02	7.15E-02	1.35E-01	9.44E-02	1.35E-01	9.44E-02	1.35E-01	9.44E-02	1.35E-01	9.44E-02	3.77E-01	1.07E-04	4.68E-04	1.35E-03	3.39E-04	2.62E-02	3.93E-02	5.67E-01	4.17E-01
Ethylbenzene	3.2E-05		7.82E-02		4.16E-02		7.82E-02	1.05E-01	7.82E-02	1.05E-01	7.82E-02	1.05E-01	7.82E-02	1.05E-01	4.21E-01	1.27E-04	5.57E-04					3.13E-01	4.22E-01
Formaldehyde[5]	7.1E-04	2.8E-04	5.53E-01	1.01E+00	9.23E-01	3.64E-01	1.01E+00	1.27E+00	1.01E+00	1.27E+00	1.01E+00	1.27E+00	1.01E+00	1.27E+00	5.06E+00	2.27E-04	9.93E-04	1.71E-03	4.28E-04	2.66E-03	3.99E-03	4.05E+00	5.07E+00
Naphthalene	1.3E-06	3.5E-05	3.18E-03	8.58E-02	1.69E-03	4.55E-02	8.58E-02	3.92E-02	8.58E-02	3.92E-02	8.58E-02	3.92E-02	8.58E-02	3.92E-02	1.57E-01	5.53E-06	2.42E-05	1.23E-04	3.08E-05	4.38E-03	6.58E-03	3.48E-01	1.63E-01
Polycyclic Aromatic Hydrocarbons (PAHs)	2.2E-06	4.0E-05	5.38E-03	9.81E-02	2.86E-03	5.20E-02	9.81E-02	4.71E-02	9.81E-02	4.71E-02	9.81E-02	4.71E-02	9.81E-02	4.71E-02	1.89E-01	7.37E-06	3.23E-05	2.44E-04	6.10E-05	7.15E-03	1.07E-02	4.00E-01	1.99E-01
Propylene Oxide	2.9E-05		7.09E-02		3.77E-02		7.09E-02	9.54E-02	7.09E-02	9.54E-02	7.09E-02	9.54E-02	7.09E-02	9.54E-02	3.82E-01	9.77E-03	4.28E-02					2.93E-01	4.25E-01
Toluene	1.3E-04		3.18E-01		1.69E-01		3.18E-01	4.28E-01	3.18E-01	4.28E-01	3.18E-01	4.28E-01	3.18E-01	4.28E-01	1.71E+00	4.88E-04	2.14E-03	5.94E-04	1.48E-04	9.48E-03	1.42E-02	1.28E+00	1.73E+00
Xylene	6.4E-05		1.56E-01		8.32E-02		1.56E-01	2.11E-01	1.56E-01	2.11E-01	1.56E-01	2.11E-01	1.56E-01	2.11E-01	8.43E-01	3.63E-04	1.59E-03	4.14E-04	1.03E-04	6.51E-03	9.76E-03	6.33E-01	8.54E-01
Arsenic	2.0E-07	1.1E-05	4.79E-04	2.70E-02	2.55E-04	1.43E-02	2.70E-02	1.16E-02	2.70E-02	1.16E-02	2.70E-02	1.16E-02	2.70E-02	1.16E-02	4.65E-02	3.69E-06	1.61E-05					1.08E-01	4.65E-02
Beryllium	1.2E-08	3.1E-07	2.88E-05	7.60E-04	1.53E-05	4.03E-04	7.60E-04	3.48E-04	7.60E-04	3.48E-04	7.60E-04	3.48E-04	7.60E-04	3.48E-04	1.39E-03	2.21E-07	9.69E-07					3.04E-03	1.39E-03
Cadmium	1.1E-06	4.8E-06	2.64E-03	1.18E-02	1.40E-03	6.24E-03	1.18E-02	8.34E-03	1.18E-02	8.34E-03	1.18E-02	8.34E-03	1.18E-02	8.34E-03	3.33E-02	2.03E-05	8.88E-05					4.71E-02	3.34E-02
Chromium	1.4E-06	1.1E-05	3.36E-03	2.70E-02	1.78E-03	1.43E-02	2.70E-02	1.55E-02	2.70E-02	1.55E-02	2.70E-02	1.55E-02	2.70E-02	1.55E-02	6.20E-02	2.58E-05	1.13E-04					1.08E-01	6.21E-02
Cobalt	8.2E-08		2.01E-04		1.07E-04		2.01E-04	2.71E-04	2.01E-04	2.71E-04	2.01E-04	2.71E-04	2.01E-04	2.71E-04	1.08E-03	1.55E-06	6.78E-06					8.07E-04	1.09E-03
Lead	4.9E-07	1.4E-05	1.20E-03	3.43E-02	6.37E-04	1.82E-02	3.43E-02	1.56E-02	3.43E-02	1.56E-02	3.43E-02	1.56E-02	3.43E-02	1.56E-02	6.23E-02	4.61E-06	4.04E-05	1.31E-05	3.27E-06	3.04E-04	4.55E-04	1.38E-01	6.28E-02
Manganese	3.7E-07	7.9E-04	9.11E-04	1.94E+00	4.84E-04	1.03E+00	1.94E+00	7.89E-01	1.94E+00	7.89E-01	1.94E+00	7.89E-01	1.94E+00	7.89E-01	3.16E+00	7.00E-06	3.07E-05					7.75E+00	3.16E+00
Mercury	2.5E-07	1.2E-06	6.23E-04	2.94E-03	3.31E-04	1.56E-03	2.94E-03	2.04E-03	2.94E-03	2.04E-03	2.94E-03	2.04E-03	2.94E-03	2.04E-03	8.14E-03	4.79E-06	2.10E-05					1.18E-02	8.16E-03
Nickel	2.1E-06	4.6E-06	5.03E-03	1.13E-02	2.68E-03	5.98E-03	1.13E-02	1.14E-02	1.13E-02	1.14E-02	1.13E-02	1.14E-02	1.13E-02	1.14E-02	4.55E-02	3.87E-05	1.70E-04					4.51E-02	4.56E-02
Selenium	2.4E-08	2.5E-05	5.75E-05	6.13E-02	3.06E-05	3.25E-02	6.13E-02	2.50E-02	6.13E-02	2.50E-02	6.13E-02	2.50E-02	6.13E-02	2.50E-02	1.00E-01	4.42E-07	1.94E-06					2.45E-01	1.00E-01
Hexane																8.48E-05	3.71E-04					8.48E-05	3.71E-04
Max. individual HAP															**5.06**								**5.07**
Total HAPs															**13.34**								**13.48**

Notes:
CT = Combustion Turbine
[1] EPA AP-42, Table 3.1-3, April 2000. And Table 1.4-3 and 1.4-4, July 1998.
[2] EPA AP-42, Table 3.1-4 and 3.1-5, April 2000.

[3]NG SUSD (lb of HAP/event) = [Fuel consumed for startup (MMBtu fuel NG/event) + Fuel consumed for shutdown (MMBtu fuel NG/event)] x NG Emission Factor (lb of HAP/MMBtu). Each 'event' is calculated as a combined one startup and one shutdown event.

[4]FO SUSD (lb of HAP/event) = [Fuel consumed for startup (MMBtu fuel FO/event) + Fuel consumed for shutdown (MMBtu fuel FO/event)] x FO Emission Factor (lb of HAP/MMBtu). Each 'event' is calculated as a combined one startup and one shutdown event.

[5]Formdehyde normal operation based on vendor performance data

Source: ECT, 2023.

Table B-9. Dominion's Chesterfield Energy Reliability Center - Turbine Emissions Scenarios Project Summary

		Pollutants									
Scenario		**NO_x**	**CO**	**VOC**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**H_2SO_4**	**Pb**	**GHG**
Scenario 1 - 3,240 hours Natural Gas Only; NG SUSD		**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**
	Total Emissions	276.06	634.95	141.10	53.76	101.50	101.50	26.72	17.93	8.77E-03	2,026,360
Scenario 2 - 3,240 hours of Natural Gas With Up To 10% Hydrogen; NG SUSD											
	Total Emissions	274.12	634.30	141.10	53.38	100.85	100.85	25.18	17.33	8.69E-03	2,006,983
Scenario 3 - 2,490 hour of Natural Gas with 750 hours of Fuel Oil; NG and FO SUSD											
	Total Emissions	344.86	818.79	158.85	81.59	153.66	153.66	27.89	18.66	6.28E-02	2,213,100
Overall maximum	Total Emissions	**344.86**	**818.79**	**158.85**	**81.59**	**153.66**	**153.66**	**27.89**	**18.66**	**0.06**	**2,213,100**
	PSD SER	40.00	100.00	40.00	25.00	15.00	10.00	40.00	7.00	0.60	75,000
	Netting Required	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes

Source: Dominion, 2023
ECT, 2023.

Table B-10. Dominion's Chesterfield Energy Reliability Center - Proposed Peaker Emissions and Comparison with the respective SERs

Pollutant	PTE (tpy)	SER (tpy)	Netting Required
NO_x	344.86	40	Yes
CO	818.79	100	Yes
VOC	158.85	40	Yes
PM^2	81.59	25	Yes
PM_{10}	153.66	15	Yes
$PM_{2.5}$	153.66	10	Yes
SO_2	27.89	40	No
H_2SO_4	18.66	7	Yes
Lead	0.06	0.6	No
GHG*	2,213,100	75,000	Yes

Notes:
"Significant" means, in reference to a net emissions increase, a significant emissions increase or the potential of a source to emit a regulated NSR pollutant, or a rate of emissions that would equal or exceed any of the following rates (SER-Significant Emission Rates) as shown in table above.

*A facility can not trigger PSD review solely based on GHG emissions. For GHG emissions to be subject to PSD review, the facility must first trigger PSD for a non-GHG regulated pollutant and GHG emission must be greater than the PSD significant emission rate.

Table B-11. Dominion's Chesterfield Energy Reliability Center - New Source Review Netting Analysis

Pollutant	CERC PTE (Proposed Increases)[1] (tpy)	Contemporaneous Decreases (tpy)[2]	Other Contemporaneous Increases (tpy)[3]	Project Net Emissions (tpy)	New Source Review Significant Emission Rate (tpy)	Major Modification (Y/N)
NO_x	344.86	(453.55)	7.24	(101)	40	N
CO	818.79	(165.28)	21.35	675	100	Y
VOC	158.85	(19.29)	3.26	143	40	Y
PM	81.59	(277.75)	46.86	(149)	25	N
PM_{10}	153.66	(221.96)	14.58	(54)	15	N
$PM_{2.5}$	153.66	(43.99)	3.58	113	10	Y
H_2SO_4	18.66	(427.97)	0.04	(409)	7	N
GHG	2,213,100	(1,700,338)	6,136	518,898	75,000	Y

Notes:

Based on emissions data provided for March 2014 through April 2023 for all pollutants except GHG

GHG emissions based on data provided for Jan 2019 through April 2023

Contemporaneous Decreases valid for any consecutive 24-month period within the 5-year period immediately preceding commencement of construction.

Anticipated commencement of construction (May 2025)

1. PTE based on Chesterfield Energy Reliability Center PTE (with controls)

2. Contemporaneous Decreases represent past actual emissions for units 5 and 6 are based on 24-month annual average from July 2020 thru Jun 2022.

3. Other Contemporaneous Increases represent Potential Emissions from other projects during the 5-year period immediately preceding commencement of construction.

Table B-12. Annual Operating Scenario 1 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Normal Operation on Natural Gas Only including SUSD events

			Emission Rates																			
Source		Operations	NO_x		CO		VOC		PM		PM_{10}		$PM_{2.5}$		SO_2		H_2SO_4		Lead		GHG (CO2e)	
		(hrs/yr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CT1	Gas	3,240	23.30	37.75	11.30	18.31	3.20	5.18	11.9	12.12	19.70	23.17	19.70	23.17	8.20	5.51	5.60	3.73	1.20E-03	1.94E-03	286,380	463,936
CT2	Gas	3,240	23.30	37.75	11.30	18.31	3.20	5.18	11.9	12.12	19.70	23.17	19.70	23.17	8.20	5.51	5.60	3.73	1.20E-03	1.94E-03	286,380	463,936
CT3	Gas	3,240	23.30	37.75	11.30	18.31	3.20	5.18	11.9	12.12	19.70	23.17	19.70	23.17	8.20	5.51	5.60	3.73	1.20E-03	1.94E-03	286,380	463,936
CT4	Gas	3,240	23.30	37.75	11.30	18.31	3.20	5.18	11.9	12.12	19.70	23.17	19.70	23.17	8.20	5.51	5.60	3.73	1.20E-03	1.94E-03	286,380	463,936
Subtotal - Normal Operations				150.98		73.22		20.74		48.47		92.66		92.66		22.03		14.90		7.77E-03		1,855,744
	Startups	(events/yr)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)
CT1	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT2	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT3	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT4	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
	Shutdown																					
CT1	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	9.14E-01	2.28E-01	6.19E-01	1.55E-01	3.07E-06	7.68E-07	31,505	7,876
CT2	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	9.14E-01	2.28E-01	6.19E-01	1.55E-01	3.07E-06	7.68E-07	31,505	7,876
CT3	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	9.14E-01	2.28E-01	6.19E-01	1.55E-01	3.07E-06	7.68E-07	31,505	7,876
CT4	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	9.14E-01	2.28E-01	6.19E-01	1.55E-01	3.07E-06	7.68E-07	31,505	7,876
Subtotal - Startups/Shutdowns				72.10		517.90		96.00		2.70		5.40		5.40		4.42		2.99E+00		5.09E-04		152,289
Total - Combustion Turbine Emissions				223.08		591.12		116.74		51.17		98.06		98.06		26.45		17.90		8.28E-03		2,008,033
			(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Fuel Gas Heater 1		8,760	0.21	0.91	0.70	3.05	0.09	0.41	0.04	0.15	0.13	0.58	0.13	0.58	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05	2,202	9,644
Firewater pump		500	0.88	0.22	1.09	0.27	0.38	0.09	0.06	0.02	0.61	0.15	0.61	0.15	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06	238	59
(6) Black Start Emergency Generators		500	34.57	51.85	27.01	40.51	14.82	22.22	1.54	2.31	1.80	2.70	1.80	2.70	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04	33,117	8,279
Fuel Oil Tanks		8,760					0.37	1.61														
Fugitive Emissions							5.13E-03	2.25E-02	2.51E-02	1.10E-01	5.02E-03	2.20E-02	1.23E-03	5.39E-03							32	140
Circuit Breakers																					47	204
Subtotal - Auxiliary Sources				52.98		43.83		24.36		2.59		3.45		3.44		0.27		3.48E-02		4.99E-04		18,327
Facility Total				276.06		634.95		141.10		53.76		101.52		101.50		26.72		17.93		8.77E-03		2,026,360
PSD Major Source Threshold				250		250		250		250		250		250		250				250		100,000
Major Source?				Yes		Yes		No		No		No		No		No				No		Yes
PSD Significant Emission Rate				40		100		40		25		15		10		40		7		0.6		75,000
Subject to PSD?				Yes		Yes		Yes		Yes		Yes		Yes		No		No		No		Yes

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

- ► NG: PM emissions based on filterable only. $PM_{10}/PM_{2.5}$ emissions based on filterable and condensable.
- ► NG: $PM_{10}/PM_{2.5}$, SO_2, H_2SO_4 Normal Operations, hourly emission rate based on NG sulfur content of 1.0 gr /100 scf and annual based on NG sulfur content of 0.4 gr/100 scf.
- ► NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/ SUSD Event)
- ► NG: H_2SO_4 SUSD, lbm/event = (lbm of H_2SO_4/MMBtu of NG) x (MMBTU of fuel/ SUSD Event of Fuel)
- ► NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2
- ► NG: Pb SUSD, lbm/event =(MMBTU of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)

Table B-13. Annual Operating Scenario 2 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Normal Operation on Natural Gas with Hydrogen including Natural Gas only SUSD events

			Emission Rates																			
Source		**Operations**	**NO_x**		**CO**		**VOC**		**PM**		**PM_{10}**		**$PM_{2.5}$**		**SO_2**		**H_2SO_4**		**Lead**		**GHG (CO2e)**	
		(hrs/yr)	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**
CT1	Gas w/H_2	3,240	23.00	37.26	11.20	18.14	3.20	5.18	11.8	12.02	19.50	23.00	19.50	23.00	8.10	5.35	5.50	3.73	1.19E-03	1.92E-03	283,390	459,092
CT2	Gas w/H_2	3,240	23.00	37.26	11.20	18.14	3.20	5.18	11.8	12.02	19.50	23.00	19.50	23.00	8.10	5.35	5.50	3.73	1.19E-03	1.92E-03	283,390	459,092
CT3	Gas w/H_2	3,240	23.00	37.26	11.20	18.14	3.20	5.18	11.8	12.02	19.50	23.00	19.50	23.00	8.10	5.35	5.50	3.73	1.19E-03	1.92E-03	283,390	459,092
CT4	Gas w/H_2	3,240	23.00	37.26	11.20	18.14	3.20	5.18	11.8	12.02	19.50	23.00	19.50	23.00	8.10	5.35	5.50	3.73	1.19E-03	1.92E-03	283,390	459,092
Subtotal - Normal Operations				149.04		72.58		20.74		48.08		92.02		92.02		21.38		14.90		7.69E-03		1,836,367
	Startups	**(events/yr)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**
CT1	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT2	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT3	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
CT4	Gas	500	52	13.08	366	91.43	65	16.20	1.8	0.45	4	0.90	4	0.90	3.50E+00	8.76E-01	2.37E+00	5.93E-01	5.06E-04	1.26E-04	120,784	30,196
	Shutdown																					
CT1	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	2.13E-02	5.32E-03	1.44E-02	3.60E-03	3.07E-06	7.68E-07	31,505	7,876
CT2	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	2.13E-02	5.32E-03	1.44E-02	3.60E-03	3.07E-06	7.68E-07	31,505	7,876
CT3	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	2.13E-02	5.32E-03	1.44E-02	3.60E-03	3.07E-06	7.68E-07	31,505	7,876
CT4	Gas	500	20	4.95	152	38.05	31	7.80	0.9	0.23	2	0.45	2	0.45	2.13E-02	5.32E-03	1.44E-02	3.60E-03	3.07E-06	7.68E-07	31,505	7,876
Subtotal - Startups/Shutdowns				72.10		517.90		96.00		2.70		5.40		5.40		3.52		2.39E+00		5.09E-04		152,289
Total - Combustion Turbine Emissions				221.14		590.48		116.74		50.78		97.42		97.42		24.91		17.29		8.19E-03		1,988,656
			(lb/hr)	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**
Fuel Gas Heater 1		8,760	0.21	0.91	0.70	3.05	0.09	0.41	0.04	0.15	0.13	0.58	0.13	0.58	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05	2,202	9,644
Firewater pump		500	0.88	0.22	1.09	0.27	0.38	0.09	0.06	0.02	0.61	0.15	0.61	0.15	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06	238	59
(6) Black Start Emergency Generators		500	34.57	51.85	27.01	40.51	14.82	22.22	1.54	2.31	1.80	2.70	1.80	2.70	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04	33,117	8,279
Fuel Oil Tanks		8,760					0.37	1.61														
Fugitive Emissions							5.13E-03	2.25E-02	2.51E-02	1.10E-01	5.02E-03	2.20E-02	1.23E-03	5.39E-03							32	140
Circuit Breakers																					47	204
Subtotal - Auxiliary Sources				52.98		43.83		24.36		2.59		3.45		3.44		0.27		3.48E-02		4.99E-04		18,327
Facility Total				274.12		634.30		141.10		53.38		100.87		100.85		25.18		17.33		8.69E-03		2,006,983
PSD Major Source Threshold				250		250		250		250		250		250		250				250		100,000
Major Source?				Yes		Yes		No		No		No		No		No				No		Yes
PSD Significant Emission Rate				40		100		40		25		15		10		40		7		0.6		75,000
Subject to PSD?				Yes		Yes		Yes		Yes		Yes		Yes		No		No		No		Yes

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

- NG: PM emissions based on filterable only. PM_{10}/$PM_{2.5}$ emissions based on filterable and condensable.
- NG: PM_{10}/$PM_{2.5,}$ SO_2, H_2SO_4 Normal Operations, hourly emission rate based on NG sulfur content of 1.0 gr /100 scf and annual based on NG sulfur content of 0.4 gr/100 scf.
- NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/ SUSD Event)
- NG: H_2SO_4 SUSD, lbm/event = (lbm of H_2SO_4/MMBtu of NG) x (MMBTU of fuel/ SUSD Event of Fuel)
- NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2
- NG: Pb SUSD, lbm/event =(MMBTU of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)

Table B-14. Annual Operating Scenario 3 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Normal Operation on Natural Gas and Fuel Oil including SUSD events

			Emission Rates																			
Source		Operations	NO_x		CO		VOC		PM		PM_{10}		$PM_{2.5}$		SO_2		H_2SO_4		Lead		GHG (CO2e)	
		(hrs/yr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CT1	Gas	2,490	23.30	29.01	11.30	14.07	3.20	3.98	11.9	9.31	19.70	17.80	19.70	17.80	8.20	4.23	5.60E+00	2.86E+00	1.20E-03	1.49E-03	286,380	356,543
	Oil	750	47.90	17.96	11.70	4.39	6.70	2.51	24.0	9.00	45.00	16.88	45.00	16.88	4.50	1.69	3.00E+00	1.13E+00	3.43E-02	1.29E-02	401,195	150,448
CT2	Gas	2,490	23.30	29.01	11.30	14.07	3.20	3.98	11.9	9.31	19.70	17.80	19.70	17.80	8.20	4.23	5.60E+00	2.86E+00	1.20E-03	1.49E-03	286,380	356,543
	Oil	750	47.90	17.96	11.70	4.39	6.70	2.51	24.0	9.00	45.00	16.88	45.00	16.88	4.50	1.69	3.00E+00	1.13E+00	3.43E-02	1.29E-02	401,195	150,448
CT3	Gas	2,490	23.30	29.01	11.30	14.07	3.20	3.98	11.9	9.31	19.70	17.80	19.70	17.80	8.20	4.23	5.60E+00	2.86E+00	1.20E-03	1.49E-03	286,380	356,543
	Oil	750	47.90	17.96	11.70	4.39	6.70	2.51	24.0	9.00	45.00	16.88	45.00	16.88	4.50	1.69	3.00E+00	1.13E+00	3.43E-02	1.29E-02	401,195	150,448
CT4	Gas	2,490	23.30	29.01	11.30	14.07	3.20	3.98	11.9	9.31	19.70	17.80	19.70	17.80	8.20	4.23	5.60E+00	2.86E+00	1.20E-03	1.49E-03	286,380	356,543
	Oil	750	47.90	17.96	11.70	4.39	6.70	2.51	24.0	9.00	45.00	16.88	45.00	16.88	4.50	1.69	3.00E+00	1.13E+00	3.43E-02	1.29E-02	401,195	150,448
Subtotal - Normal Operations				187.88		73.82		25.99		73.25		138.71		138.71		23.68		15.95		0.06		2,027,966
	Startups	(events/yr)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)	(lb/event)	(tpy)
CT1	Gas	380	52	9.94	366	69.48	65	12.31	1.80	0.34	4	0.68	4	0.68	3.50E+00	6.65E-01	2.37E+00	4.51E-01	5.06E-04	9.61E-05	120,784	22,949
	Oil	120	143	8.56	1036	62.15	101	6.08	10.30	0.62	21	1.23	21	1.23	1.92E+00	1.15E-01	1.31E+00	7.88E-02	1.44E-02	8.66E-04	168,763	10,126
CT2	Gas	380	52	9.94	366	69.48	65	12.31	1.80	0.34	4	0.68	4	0.68	3.50E+00	6.65E-01	2.37E+00	4.51E-01	5.06E-04	9.61E-05	120,784	22,949
	Oil	120	143	8.56	1036	62.15	101	6.08	10.30	0.62	21	1.23	21	1.23	1.92E+00	1.15E-01	1.31E+00	7.88E-02	1.44E-02	8.66E-04	168,763	10,126
CT3	Gas	380	52	9.94	366	69.48	65	12.31	1.80	0.34	4	0.68	4	0.68	3.50E+00	6.65E-01	2.37E+00	4.51E-01	5.06E-04	9.61E-05	120,784	22,949
	Oil	120	143	8.56	1036	62.15	101	6.08	10.30	0.62	21	1.23	21	1.23	1.92E+00	1.15E-01	1.31E+00	7.88E-02	1.44E-02	8.66E-04	168,763	10,126
CT4	Gas	380	52	9.94	366	69.48	65	12.31	1.80	0.34	4	0.68	4	0.68	3.50E+00	6.65E-01	2.37E+00	4.51E-01	5.06E-04	9.61E-05	120,784	22,949
	Oil	120	143	8.56	1036	62.15	101	6.08	10.30	0.62	21	1.23	21	1.23	1.92E+00	1.15E-01	1.31E+00	7.88E-02	1.44E-02	8.66E-04	168,763	10,126
	Shutdown																					
CT1	Gas	380	20	3.76	152	28.92	31	5.93	0.90	0.17	2	0.34	2	0.34	9.14E-01	1.74E-01	6.19E-01	1.18E-01	1.32E-04	2.51E-05	31,505	5,986
	Oil	120	62	3.74	246	14.73	47	2.81	5.10	0.31	10	0.62	10	0.62	5.00E-01	3.00E-02	3.43E-01	2.06E-02	3.77E-03	2.26E-04	44,020	2,641
CT2	Gas	380	20	3.76	152	28.92	31	5.93	0.90	0.17	2	0.34	2	0.34	9.14E-01	1.74E-01	6.19E-01	1.18E-01	1.32E-04	2.51E-05	31,505	5,986
	Oil	120	62	3.74	246	14.73	47	2.81	5.10	0.31	10	0.62	10	0.62	5.00E-01	3.00E-02	3.43E-01	2.06E-02	3.77E-03	2.26E-04	44,020	2,641
CT3	Gas	380	20	3.76	152	28.92	31	5.93	0.90	0.17	2	0.34	2	0.34	9.14E-01	1.74E-01	6.19E-01	1.18E-01	1.32E-04	2.51E-05	31,505	5,986
	Oil	120	62	3.74	246	14.73	47	2.81	5.10	0.31	10	0.62	10	0.62	5.00E-01	3.00E-02	3.43E-01	2.06E-02	3.77E-03	2.26E-04	44,020	2,641
CT4	Gas	380	20	3.76	152	28.92	31	5.93	0.90	0.17	2	0.34	2	0.34	9.14E-01	1.74E-01	6.19E-01	1.18E-01	1.32E-04	2.51E-05	31,505	5,986
	Oil	120	62	3.74	246	14.73	47	2.81	5.10	0.31	10	0.62	10	0.62	5.00E-01	3.00E-02	3.43E-01	2.06E-02	3.77E-03	2.26E-04	44,020	2,641
Subtotal - Startups/Shutdowns				104.00		701.14		108.50		5.75		11.50		11.50		3.94		2.67		4.85E-03		166,807
Total - Combustion Turbine Emissions				291.88		774.96		134.49		79.00		150.21		150.21		27.62		18.63		6.23E-02		2,194,773
			(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
Fuel Gas Heater 1		8,760	0.21	0.91	0.70	3.05	0.09	0.41	0.04	0.15	0.13	0.58	0.13	0.58	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05	2,202	9,644
Firewater pump		500	0.88	0.22	1.09	0.27	0.38	0.09	0.06	0.02	0.61	0.15	0.61	0.15	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06	238	59
(6) Black Start Emergency Generators		500	34.57	51.85	27.01	40.51	14.82	22.22	1.54	2.31	1.80	2.70	1.80	2.70	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04	33,117	8,279
Fuel Oil Tanks		8,760					0.37	1.61														
Fugitive Emissions							5.13E-03	2.25E-02	2.51E-02	1.10E-01	5.02E-03	2.20E-02	1.23E-03	5.39E-03							32	140
Circuit Breakers																					47	204
Subtotal - Auxiliary Sources				52.98		43.83		24.36		2.59		3.45		3.44		0.27		3.48E-02		4.99E-04		18,327
Facility Total				344.86		818.79		158.85		81.59		153.66		153.65		27.89		18.66		6.28E-02		2,213,100
PSD Major Source Threshold				250		250		250		250		250		250		250				250		100,000
Major Source?				Yes		Yes		No		No		No		No		No				No		Yes
PSD Significant Emission Rate				40		100		40		25		15		10		40		7		0.6		75,000
Subject to PSD?				Yes		Yes		Yes		Yes		Yes		Yes		No		Yes		No		Yes

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

- ► NG: PM emissions based on filterable only. $PM_{10}/PM_{2.5}$ emissions based on filterable and condensable.
- ► NG: $PM_{10}/PM_{2.5,}$ SO_2, H_2SO_4 Normal Operations, hourly emission rate based on NG sulfur content of 1.0 gr /100 scf and annual based on NG sulfur content of 0.4 gr/100 scf.
- ► NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/ SUSD Event)
- ► FO: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of Oil) x (MMBTU of fuel/ SUSD Event)
- ► NG: H_2SO_4 SUSD, lbm/event = (lbm of H_2SO_4/MMBtu of NG) x (MMBTU of fuel/ SUSD Event of Fuel)
- ► FO: H_2SO_4 SUSD, lbm/event = (lb of H_2SO_4/MMBtu) x (MMBTU of fuel/ SUSD Event of Fuel)
- ► NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2
- ► FO: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (0.000014 lb of Pb/MMBtu) - AP42 Section 3.1, Table 3.1-5
- ► NG: Pb SUSD, lbm/event =(MMBTU of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)
- ► FO: Pb SUSD, lbm/event = (MMBTU of fuel / SUSD Event) x (0.000014 lb of Pb/MMBtu)

Table B-15. Fuel Gas Heater Emissions

POTENTIAL EMISSION INVENTORY WORKSHEET

FGH 1

EMISSION SOURCE TYPE

EXTERNAL COMBUSTION SOURCES < 100 MMBtu/hr

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Natural Gas-Fired Fuel Gas Heater 1
Emission Control Method(s)/ID No.(s):	Low-NOx burners
Emission Point Description:	18.8 MMBtu/hr Rated Capacity (HHV)

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)

Emission (ton/yr) = Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours:	8,760	hrs/yr
Natural Gas Heat Content:	1,020	Btu/scf (HHV)
No. of Fuel Gas Heaters	1	
Maximum Heat Input:	18.80	MMBtu/hr (HHV)

Pollutant	Potential Emission Rates (lb/MMBtu)	Per Stack (lb/hr)	Two Stacks (lb/hr)	Total (tpy)
NO_x	0.011	0.10	0.21	9.06E-01
CO	0.037	0.35	0.70	3.05E+00
VOC	0.005	0.05	0.09	4.12E-01
SO_2	0.0012	0.01	2.21E-02	9.69E-02
PM, Filterable	0.002	0.02	0.04	1.53E-01
$PM_{10}/PM_{2.5}$	0.007	0.07	0.13	5.76E-01
H_2SO_4	0.00026	0.002	4.89E-03	2.14E-02
Lead	4.90E-07	4.61E-06	9.22E-06	4.04E-05
Highest HAP			9.77E-03	4.28E-02
Total HAPs			1.14E-02	4.99E-02

Hazardous Air Pollutant (HAP)	Emission Factor ($lb/10^6$ scf)	Potential Emission Rates (lb/hr)	(tpy)
Bezene	5.8E-03	1.07E-04	4.68E-04
formaldehyde	1.2E-02	2.27E-04	9.93E-04
Total PAH	4.0E-04	7.37E-06	3.23E-05
napthalene	3.0E-04	5.53E-06	2.42E-05
acetaldehyde	3.1E-03	5.71E-05	2.50E-04
acrolein	2.7E-03	4.98E-05	2.18E-04
propylene	5.3E-01	9.77E-03	4.28E-02
toluene	2.7E-02	4.88E-04	2.14E-03
xylene	2.0E-02	3.63E-04	1.59E-03
ethyl benzene	6.9E-03	1.27E-04	5.57E-04
hexane	4.6E-03	8.48E-05	3.71E-04
Arsenic	2.0E-04	3.69E-06	1.61E-05
Beryllium	1.2E-05	2.21E-07	9.69E-07
Cadmium	1.1E-03	2.03E-05	8.88E-05
Chromium	1.4E-03	2.58E-05	1.13E-04
Cobalt	8.4E-05	1.55E-06	6.78E-06
Manganese	3.8E-04	7.00E-06	3.07E-05
Mercury	2.6E-04	4.79E-06	2.10E-05
Nickel	2.1E-03	3.87E-05	1.70E-04
Selenium	2.4E-05	4.42E-07	1.94E-06

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours (annual)	Dominion, 2023.
Natural Gas Heat Content (Btu/scf, HHV)	Dominion, 2023.
Maximum Heat Input (MMBtu/hr, HHV)	Dominion, 2023.
Emission Rates (NOx, CO,VOC)	NOx and CO emission factor based on ultra-low NOx burners (9 ppmvd @ 3% O2) and CO rate of 50 ppmvd @ 3% O2
VOC & PM/PM10/PM2.5	AP-42, Table 1.4-2, July 1998
Emission Rates (SO_2, H_2SO_4)	Based on fuel sulfur content of 0.4 grains/100 scf
Emission Rates (Lead)	AP-42, Table 1.4-2, July 1998
Emission Rates (HAPs)	Ventura County Air Pollution Control District AB2588 Combustion Emission Factors (May 17, 2001)

NOTES AND OBSERVATIONS

Only detected HAP compounds listed.

Assume PM_{10}=$PM_{2.5}$

Table B-16. Diesel Emergency Firewater Pump Emissions

POTENTIAL EMISSION INVENTORY WORKSHEET

EMISSION SOURCE TYPE

INTERNAL COMBUSTION ENGINES < 600 HP

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Firewater Pump
Emission Control Method(s)/ID No.(s):	None
Emission Point Description:	190 -HP Diesel Engine

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Emission Factor (g/hp-hr) x Engine power rating (BHP) x (1 lb / 453.6 g)

Emission (ton/yr) = Emission Factor (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)

Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)

INPUT DATA AND EMISSIONS CALCULATIONS

Potential Hours:	500	hrs/yr	Fuel Flow:	10.6	gal/hr
Testing Hours:	100	hrs/yr			
No. of Engines:	1		Diesel Sulfur Content:	0.0015	weight %
Heat Input:	1.45	MMBtu/hr (HHV)	Diesel Heat Content:	137,000	Btu/gal (HHV)

Pollutant	Emission Factor		Potential Emission Rates		Pollutant	Emission Factor	Potential Emission Rates	
	g/hp-hr	lb/hp-hr	Hourly (lb/hr)	Annual (tpy)		(lb/MMBtu)	Hourly (lb/hr)	Annual (tpy)
NO_x	2.10		0.88	0.22	1,3-Butadiene	3.91E-05	5.68E-05	1.42E-05
CO	2.60		1.09	0.27	Acetaldehyde	7.67E-04	1.11E-03	2.78E-04
VOC	0.90		0.38	0.09	Acrolein	9.25E-05	1.34E-04	3.36E-05
SO_2		2.05E-03	3.90E-01	0.10	Benzene	9.33E-04	1.35E-03	3.39E-04
PM	0.15		0.06	0.02	Formaldehyde	1.18E-03	1.71E-03	4.28E-04
PM_{10}	1.00	2.20E-03	0.61	0.15	Lead	9.00E-06	1.31E-05	3.27E-06
$PM_{2.5}$	1.00	2.20E-03	0.61	0.15	Naphthalene	8.48E-05	1.23E-04	3.08E-05
H_2SO_4		1.57E-04	2.98E-02	7.46E-03	PAH	1.68E-04	2.44E-04	6.10E-05
Highest HAP			1.71E-03	4.28E-04	Toluene	4.09E-04	5.94E-04	1.48E-04
Total HAPs			5.76E-03	1.44E-03	Xylenes	2.85E-04	4.14E-04	1.03E-04

SOURCES OF INPUT DATA

Parameter	Data Source
NOx, CO, VOC	40 CFR 60, Subpart IIII, Table 4. NOx and VOC is a combined rate of 3.0 g/hp-hr. Assume 70% NOx and 30% VOC.
PM	40 CFR 60, Subpart IIII Table 4. Emission rate based on filterable PM only
PM10/PM2.5	AP-42: Section 3.3 Table 3.3-1. Emission rate includes both filterable and condensible PM and PM10=PM2.5
SO_2	AP-42: Section 3.3 Table 3.3-1
H_2SO_4	Based on 5% conversion of SO_2 to SO_3 and 100% conversion of SO_3 to H_2SO_4
HAPS	AP-42: Section 3.3 Table 3.3-2
Lead	AP-42: Section 1.3 Table 1.3-10
Diesel Heat Content	AP-42 Appendix A

NOTES AND OBSERVATIONS

Table B-17. Black Start Diesel Emergency Generator Emissions

POTENTIAL EMISSION INVENTORY WORKSHEET

EMISSION SOURCE TYPE

INTERNAL COMBUSTION ENGINES > 600 HP

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Black Start Generators	
Emission Control Method(s)/ID No.(s):	None	
Emission Point Description:	4,694 -HP Diesel Engine	3500 KW

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Emission Factor (g/hp-hr) x Engine power rating (hp) x (1 lb / 453.6 g)

Emission (ton/yr) = Emission Factor (lb/hr) x Annual Operating Hours (hrs/yr) x (1 ton/ 2,000 lb)

Emission (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)

INPUT DATA AND EMISSIONS CALCULATIONS

Potential Hours:	500	hrs/yr	Fuel Flow:	246.20	gal/ hr
Testing Hours:	100	hrs/yr			
No. of Engines:	6		Diesel Sulfur Conten	0.0015	weight %
Heat Input (per engine):	33.73	MMBtu/hr (HHV)	Diesel Heat Content:	137,000	Btu/gal (HHV)

Pollutant	Emission Factor		Potential Emission Rates		Pollutant	Emission Factor	Potential Emission Rates	
	g/kw-hr	lb/hp-hr	Hourly (lb/hr)	Annual (tpy)		(lb/MMBtu)	Per Unit (lb/hr)	Total (tpy)
NO_x	4.48		34.57	51.85	Acetaldehyde	2.52E-05	8.50E-04	1.27E-03
CO	3.50		27.01	40.51	Acrolein	7.88E-06	2.66E-04	3.99E-04
VOC	1.92		14.82	22.22	Benzene	7.76E-04	2.62E-02	3.93E-02
SO_2			5.21E-02	0.08	Formaldehyde	7.89E-05	2.66E-03	3.99E-03
PM	0.20		1.54	2.31	Lead	9.00E-06	3.04E-04	4.55E-04
PM_{10}	0.23		1.80	2.70	Naphthalene	1.30E-04	4.38E-03	6.58E-03
$PM_{2.5}$	0.23		1.80	2.70	PAH	2.12E-04	7.15E-03	1.07E-02
H_2SO_4			3.99E-03	5.98E-03	Toluene	2.81E-04	9.48E-03	1.42E-02
Highest HAP			2.62E-02	3.93E-02	Xylenes	1.93E-04	6.51E-03	9.76E-03
Total HAPs			5.78E-02	8.67E-02				

SOURCES OF INPUT DATA

Parameter	Data Source
NOx, CO, VOC	40 CFR 60, Subpart IIII and 40 CFR 1039 Tier 2 emission standards. NOx and VOC is a combined rate of 6.4 g/kw-hr. Assume 70% NOx and 30% VOC.
PM	40 CFR 60, Subpart IIII and 40 CFR 1039 Tier 2 emission standards. Emission rate based on filterable PM only
PM10/PM2.5	AP-42: Section 3.4 Table 3.4-1 (condensible rate) plus the PM (filterable) rate from 40 CFR 60, Subpart IIII and 40 CFR 1039 Tier 2 emission standards. (0.0077 lb/MMBtu *33.73 MMBtu/hr* 1 hr/3500 kw * 453.5924 g/lb)
SO_2	Based on Fuel oil sulfur content of 15 ppm
H_2SO_4	Based on 5% conversion of SO_2 to SO_3 and 100% conversion of SO_3 to H_2SO_4
Lead	AP-42: Section 1.3 Table 1.3-10
HAPS	AP-42: Section 3.4 Tables 3.4-3 and 3.4-4
Diesel Heat Content	AP-42 Appendix A

NOTES AND OBSERVATIONS

Table B-18. Dominion's Chesterfield Energy Reliability Center - Turbine Emissions Scenarios Summary for Virginia Minor NSR Applicability

		Pollutants					
Scenario		**Nox**	**PM**	**PM_{10}**	**SO_2**	**H_2SO_4**	**Pb**
Scenario 4		**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**	**(tpy)**
8,760 hrs - Natural Gas Only	Total Emissions	**4,089**	**211**	**351**	**142.20**	**96.94**	**0.02**
	Virginia Minor NSR Threshold	10	15	10	10	6	0.6
	Subject to VA Minor NSR?	Yes	Yes	Yes	Yes	Yes	No
Scenario 5							
8,760 hrs - Natural Gas w/ H2 Only	Total Emissions	**4,531**	**209**	**345**	**140.14**	**95.21**	**0.02**
	Virginia Minor NSR Threshold	10	15	10	10	6	0.6
	Subject to VA Minor NSR?	Yes	Yes	Yes	Yes	Yes	No
Scenario 6							
8,760 hrs - Fuel Oil Only	Total Emissions	**7,030**	**427**	**785**	**78.15**	**52.00**	**0.59**
	Virginia Minor NSR Threshold	10	15	10	10	6	0.6
	Subject to VA Minor NSR?	Yes	Yes	Yes	Yes	Yes	No

Source: Dominion, 2023
ECT, 2023.

Table B-19. Annual Operating Scenario 4 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Virginia Minor NSR Operation Natural Gas including SUSD events

Source		**Operations**	**Nox**		**PM**		**PM_{10}**		**SO_2**		**H_2SO_4**		**Lead**	
		(hrs/yr)	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**
CT1	Gas	8,385	233.30	978.11	11.90	49.89	19.70	82.59	8.20	34.38	5.60	23.48	1.20E-03	5.03E-03
CT2	Gas	8,385	233.30	978.11	11.90	49.89	19.70	82.59	8.20	34.38	5.60	23.48	1.20E-03	5.03E-03
CT3	Gas	8,385	233.30	978.11	11.90	49.89	19.70	82.59	8.20	34.38	5.60	23.48	1.20E-03	5.03E-03
CT4	Gas	8,385	233.30	978.11	11.90	49.89	19.70	82.59	8.20	34.38	5.60	23.48	1.20E-03	5.03E-03
Subtotal - Normal Operations				3,912.44		199.56		330.37		137.51		93.91		0.02
	Startups	**(events/yr)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**
CT1	Gas	500	98.40	24.60	7.38	1.84	13.93	3.48	3.50	0.88	2.37	0.59	5.06E-04	1.26E-04
CT2	Gas	500	98.40	24.60	7.38	1.84	13.93	3.48	3.50	0.88	2.37	0.59	5.06E-04	1.26E-04
CT3	Gas	500	98.40	24.60	7.38	1.84	13.93	3.48	3.50	0.88	2.37	0.59	5.06E-04	1.26E-04
CT4	Gas	500	98.40	24.60	7.38	1.84	13.93	3.48	3.50	0.88	2.37	0.59	5.06E-04	1.26E-04
	Shutdown													
CT1	Gas	500	25.67	6.42	1.92	0.48	3.63	0.91	0.91	0.23	0.62	0.15	1.32E-04	3.30E-05
CT2	Gas	500	25.67	6.42	1.92	0.48	3.63	0.91	0.91	0.23	0.62	0.15	1.32E-04	3.30E-05
CT3	Gas	500	25.67	6.42	1.92	0.48	3.63	0.91	0.91	0.23	0.62	0.15	1.32E-04	3.30E-05
CT4	Gas	500	25.67	6.42	1.92	0.48	3.63	0.91	0.91	0.23	0.62	0.15	1.32E-04	3.30E-05
Subtotal - Startups/Shutdowns				124.06		9.30		17.56		4.42		2.99E+00		6.37E-04
Total - Combustion Turbine Emissions				4,036.51		208.87		347.93		141.93		96.90		2.07E-02
			(lb/hr)	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**	**(lb/hr)**	**(tpy)**
Fuel Gas Heater 1		8,760	2.07E-01	9.06E-01	3.50E-02	1.53E-01	1.32E-01	5.76E-01	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05
Firewater pump		500	8.80E-01	2.20E-01	6.28E-02	1.57E-02	6.07E-01	1.52E-01	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06
(6) Black Start Emergency Generators		500	35	5.19E+01	1.54E+00	2.31E+00	1.80E+00	2.70E+00	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04
Fuel Oil Tanks		8,760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fugitives		8,760	N/A	N/A	2.51E-02	0.11	5.02E-03	0.02	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal - Auxiliary Sources				52.98		2.59		3.45		0.27		3.48E-02		4.99E-04
Facility Total				4,089.48		211.46		351.38		142.20		9.69E+01		2.12E-02
Virginia Minor NSR Threshold				10		15		10		10		6		0.6
Subject to VA NSR?				Yes		Yes		Yes		Yes		Yes		No

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

- ► NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/SUSD event)
- ► NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2
- ► NG: Pb SUSD, lbm/event =(MMBtu of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)

Table B-20. Annual Operating Scenario 5 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Virginia Minor NSR Operation Natural Gas with Hydrogen including Natural Gas SUSD events

Source		Operations	Nox		PM		PM_{10}		SO_2		H_2SO_4		Lead	
		(hrs/yr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CT1	Gas w/H_2	8,385	258.80	1085.02	11.80	49.47	19.50	81.75	8.10	33.96	5.50	23.06	1.19E-03	4.97E-03
CT2	Gas w/H_2	8,385	258.80	1085.02	11.80	49.47	19.50	81.75	8.10	33.96	5.50	23.06	1.19E-03	4.97E-03
CT3	Gas w/H_2	8,385	258.80	1085.02	11.80	49.47	19.50	81.75	8.10	33.96	5.50	23.06	1.19E-03	4.97E-03
CT4	Gas w/H_2	8,385	258.80	1085.02	11.80	49.47	19.50	81.75	8.10	33.96	5.50	23.06	1.19E-03	4.97E-03
Subtotal - Normal Operations				4,340.08		197.89		327.02		135.84		92.24		0.02
	Startups	**(events/yr)**							**(lb/event)**	**(tpy)**			**(lb/event)**	**(tpy)**
CT1	Gas	500	109.12	27.28	6.52	1.63	11.89	2.97	3.43	0.86	2.33	0.58	5.06E-04	1.26E-04
CT2	Gas	500	109.12	27.28	6.52	1.63	11.89	2.97	3.43	0.86	2.33	0.58	5.06E-04	1.26E-04
CT3	Gas	500	109.12	27.28	6.52	1.63	11.89	2.97	3.43	0.86	2.33	0.58	5.06E-04	1.26E-04
CT4	Gas	500	109.12	27.28	6.52	1.63	11.89	2.97	3.43	0.86	2.33	0.58	5.06E-04	1.26E-04
	Shutdown													
CT1	Gas	500	28.46	7.12	1.70	0.43	3.10	0.78	0.60	0.15	0.61	0.15	1.32E-04	3.30E-05
CT2	Gas	500	28.46	7.12	1.70	0.43	3.10	0.78	0.60	0.15	0.61	0.15	1.32E-04	3.30E-05
CT3	Gas	500	28.46	7.12	1.70	0.43	3.10	0.78	0.60	0.15	0.61	0.15	1.32E-04	3.30E-05
CT4	Gas	500	28.46	7.12	1.70	0.43	3.10	0.78	0.60	0.15	0.61	0.15	1.32E-04	3.30E-05
Subtotal - Startups/Shutdowns				137.58		8.23		14.99		4.03		2.94E+00		6.37E-04
Total - Combustion Turbine Emissions				4,477.65		206.11		342.01		139.87		9.52E+01		2.05E-02
									(lb/hr)	**(tpy)**			**(lb/hr)**	**(tpy)**
Fuel Gas Heater 1		8,760	2.07E-01	9.06E-01	3.50E-02	1.53E-01	1.32E-01	5.76E-01	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05
Firewater pump		500	8.80E-01	2.20E-01	6.28E-02	1.57E-02	6.07E-01	1.52E-01	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06
(6) Black Start Emergency Generators		500	35	5.19E+01	1.54E+00	2.31E+00	1.80E+00	2.70E+00	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04
Fuel Oil Tanks		8,760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fugitives		8,760	N/A	N/A	2.51E-02	0.11	5.02E-03	0.02	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal - Auxiliary Sources				52.98		2.59		3.45		0.27		3.48E-02		4.99E-04
Facility Total				4,530.63		208.71		345.46		140.14		9.52E+01		2.10E-02
Virginia Minor NSR Threshold				10		15		10		10		6		0.6
Subject to VA NSR?				Yes		Yes		Yes		Yes		Yes		No

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

► NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/SUSD event)

► NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2

► NG: Pb SUSD, lbm/event =(MMBtu of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)

Table B-21. Annual Operating Scenario 6 - Summary of Facility Pollutant Emission Rates
Chesterfield Energy Reliability Center - GE 7F.05 Turbines
Virginia Minor NSR Operation Fuel Oil including SUSD events

Source		Operations	Nox		PM		PM_{10}		SO_2		H_2SO_4		Lead	
		(hrs/yr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
CT1	FO	8,385	403.30	1690.84	24.00	100.62	45.00	188.66	4.50	18.87	3.00	12.58	3.43E-02	1.44E-01
CT2	FO	8,385	403.30	1690.84	24.00	100.62	45.00	188.66	4.50	18.87	3.00	12.58	3.43E-02	1.44E-01
CT3	FO	8,385	403.30	1690.84	24.00	100.62	45.00	188.66	4.50	18.87	3.00	12.58	3.43E-02	1.44E-01
CT4	FO	8,385	403.30	1690.84	24.00	100.62	45.00	188.66	4.50	18.87	3.00	12.58	3.43E-02	1.44E-01
Subtotal - Normal Operations				6,763.34		402.48		754.65		75.47		50.31		0.58
	Startups	**(events/yr)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**	**(lb/event)**	**(tpy)**
CT1	FO	500	169.65	42.41	17.01	4.25	21.19	5.30	1.92	0.48	1.31	0.33	1.44E-02	3.61E-03
CT2	FO	500	169.65	42.41	17.01	4.25	21.19	5.30	1.92	0.48	1.31	0.33	1.44E-02	3.61E-03
CT3	FO	500	169.65	42.41	17.01	4.25	21.19	5.30	1.92	0.48	1.31	0.33	1.44E-02	3.61E-03
CT4	FO	500	169.65	42.41	17.01	4.25	21.19	5.30	1.92	0.48	1.31	0.33	1.44E-02	3.61E-03
	Shutdown													
CT1	FO	500	44.25	11.06	4.44	1.11	5.53	1.38	0.50	0.12	0.34	0.09	3.77E-03	9.42E-04
CT2	FO	500	44.25	11.06	4.44	1.11	5.53	1.38	0.50	0.12	0.34	0.09	3.77E-03	9.42E-04
CT3	FO	500	44.25	11.06	4.44	1.11	5.53	1.38	0.50	0.12	0.34	0.09	3.77E-03	9.42E-04
CT4	FO	500	44.25	11.06	4.44	1.11	5.53	1.38	0.50	0.12	0.34	0.09	3.77E-03	9.42E-04
Subtotal - Startups/Shutdowns				213.90		21.44		26.71		2.42		1.66E+00		1.82E-02
Total - Combustion Turbine Emissions				6,977.24		423.92		781.36		77.88		5.20E+01		5.94E-01
									(lb/hr)	**(tpy)**			**(lb/hr)**	**(tpy)**
Fuel Gas Heater 1		8,760	2.07E-01	9.06E-01	3.50E-02	1.53E-01	1.32E-01	5.76E-01	2.21E-02	9.69E-02	4.89E-03	2.14E-02	9.22E-06	4.04E-05
Firewater pump		500	8.80E-01	2.20E-01	6.28E-02	1.57E-02	6.07E-01	1.52E-01	3.90E-01	9.74E-02	2.98E-02	7.46E-03	1.31E-05	3.27E-06
(6) Black Start Emergency Generators		500	35	5.19E+01	1.54E+00	2.31E+00	1.80E+00	2.70E+00	5.21E-02	7.81E-02	3.99E-03	5.98E-03	3.04E-04	4.55E-04
Fuel Oil Tanks		8,760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fugitives		8,760	N/A	N/A	2.51E-02	0.11	5.02E-03	0.02	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal - Auxiliary Sources				52.98		2.59		3.45		0.27		3.48E-02		4.99E-04
Facility Total				7,030.22		426.52		784.82		78.15		5.20E+01		5.94E-01
Virginia Minor NSR Threshold				10		15		10		10		6		0.6
Subject to VA NSR?				Yes		Yes		Yes		Yes		Yes		No

Source: Dominion, 2023
ECT, 2023.

ECT NOTES:

- NG: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of NG) x (MMBTU of fuel/SUSD event)
- Fuel Oil: SO_2 SUSD, lbm/event = (lbm of SO_2/MMBtu of Oil) x (MMBtu of Fuel /SUSD event)
- NG: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG) - AP42 Section 1.4, Table 1.4-2
- Fuel Oil: Pb Normal Operations, lbm/hr = (MMBtu/hr) x (0.000014 lb of Pb/MMBtu) - AP42 Section 3.1, Table 3.1-5
- NG: Pb SUSD, lbm/event =(MMBtu of Fuel/SUSD event) x (cf of NG/1,020 Btu) x (0.005 lb of Pb/MMcf of NG)
- Fuel Oil: Pb SUSD, lbm/event = (MMBtu of Fuel/SUSD event) x (0.000014 lb of Pb/MMBtu)

Table B-22. VOC Emissions from Fuel Oil Storage Tanks

Storage Tank	Capacity	Annual Throughput	Annual Emissions	
	gal	gal/yr	lb/yr	Tons/yr
Fuel Oil Storage Tank	12,000,000	60,000,000	3,203	1.60
Black Start Generator No. 1 Tank	3,500	125,400	2.88	1.4E-03
Black Start Generator No. 2 Tank	3,500	125,400	2.88	1.4E-03
Black Start Generator No. 3 Tank	3,500	125,400	2.88	1.4E-03
Black Start Generator No. 4 Tank	3,500	125,400	2.88	1.4E-03
Black Start Generator No. 5 Tank	3,500	125,400	2.88	1.4E-03
Black Start Generator No. 6 Tank	3,500	125,400	2.88	1.4E-03
Firewater Pump Engine Tank	500	5,500	0.18	9.0E-05
			Total	**1.61**

Calculated using Breeze TankESP Pro Version 5.2.0

Table B-23. VOC and HAP Emission from Fugitive Natural Gas Piping Components and Maintenance Activities

Potential VOC and HAP Emissions from Natural Gas Piping Components								
		Emissions	Total Natural gas Leakage Rate		Emissions			
	Number of	Factor per Component			VOC[2]		HAPs[3]	
Component	Components	(scf/hr) £	(scf/yr)	(lb/yr)[1]	lb/yr	tpy	lb/yr	tpy
Valve	640	0.027	151,373	6,360	24.80	0.012	0.00	0.00
Connector	334	0.003	8,778	369	1.44	0.001	0.00	0.00
Relief valve	40	0.04	14,016	589	2.30	0.001	0.00	0.00
Maintenance[4]			100,000	4,202	16.39	0.008	0.00	0.00
		Total	274,166	11,520	**44.93**	**0.022**	**0.00**	**0.00**

£ Based on 40 CFR 98, Table W-1a for Eastern United States.

1. Density of natural gas used 23.8 lb/scf.
2. Based on non-methane, non-ethane VOC content of natural gas of 0.39% (by weight) ref: Saybolt Petroleum Services Analytical Report, Sept 17, 2018.
3. No HAP emissions identified in natural gas analytical report.
4. Conservative estimate of annual natual gas released from maintenance and inspection activities associated with the fuel gas system.

Sources: Saybolt Petroleum Services, 2018.
ECT, 2023.

Table B-24. Uncontrolled Paved Road Particulate Matter Emissions
Chesterfield Energy Reliability Center

Paved Road Surface
E = k (sL)^0.91*(W)^1.02
AP-42, 13.2.1.3, equation 1 (1/11)

where:

0.91 and 1.02 are exponents

E =	emission factor (lb/VMT)
k =	particle size multiplier
sL =	surface silt loading (g/m2)
W =	average vehicle weight (tons)

Particle size multiplier (k)
AP-42, Table 13.2-1.1

Particle Size	(k)
PM-2.5	0.00054
PM-10	0.0022
PM-15	0.0027
PM-30	0.0110

Road type	Silt Loading (g/m2)
paved (low ADT)	0.6

Paved Road - Loaded Tank Truck[1]

	Total PM	PM-10	PM2.5
k =	0.011	0.0022	0.00054
sL =	0.6	0.6	0.6
W =	40.00	40.00	40.00
E (lb/VMT) =	**0.298**	**0.060**	**0.0146**

Estimated Annual Deliveries[2]	Delivery Round Trip Distance[3] (Miles)	VMT (Miles)
2600	0.284	738.4

Fugitive PM Emission Totals			
	Total PM	**PM-10**	**PM-2.5**
lb/yr	219.74	43.95	10.79
tons/yr	**1.10E-01**	**2.20E-02**	**5.39E-03**

[1] All truck traffic conservatively assumed to be loaded weight
[2] Delivery amounts based estimated fuel oil, ammonia, demin water, and support operations.
[3] Distance estimated at 1,500 ft round trip for all truck traffic

Date of last update: 7/26/2023

Netting Analysis Support Information

Contemporaneous Projects
New Source Review Netting Analysis

Coal Combustion Residual Pond Closure Project - February 2021	PM	PM10	PM2.5	NOX	CO	VOC	SO2	Lead	CO2e	H2SO4
Project total Emission (tons)	42.39	12.08	1.49							
Beneficial Use Processing And Material Handling Equipment - November 2021	PM	PM10	PM2.5	NOX	CO	VOC	SO2	Lead	CO2e	H2SO4
Project total Emission (tons)	4.46	2.48	2.07	3.74	18.41	3.07	0.022	1.30E-04	2317	0.022
New Gas Tech Pipeline Heater - April 2022	PM	PM10	PM2.5	NOX	CO	VOC	SO2	Lead	CO2e	H2SO4
Project total Emission (tons)	0.0070	0.0182	0.0182	3.4997	2.9398	0.1925	0.0210	1.75E-05	3819	0.0210
Total Contemporaneous Increases	**46.86**	**14.58**	**3.58**	**7.24**	**21.35**	**3.26**	**0.04**	**1.48E-04**	**6,136**	**0.04**

NOX				
Date	Unit 5	Unit 6	Total	Rolling 24-month annual average
Jan-19	0.0	33.9	33.9	
Feb-19	0.0	3.3	3.3	
Mar-19	0.0	0.0	0.0	
Apr-19	0.0	0.0	0.0	
May-19	0.0	0.0	0.0	
Jun-19	30.5	39.5	70.0	
Jul-19	0.0	50.5	50.5	
Aug-19	19.0	51.0	70.0	
Sep-19	6.1	21.3	27.4	
Oct-19	0.0	0.0	0.0	
Nov-19	0.0	0.0	0.0	
Dec-19	0.0	0.0	0.0	
Jan-20	6.1	29.6	35.7	
Feb-20	0.0	0.0	0.0	
Mar-20	0.0	0.0	0.0	
Apr-20	0.0	0.0	0.0	
May-20	0.0	0.0	0.0	
Jun-20	21.1	9.7	30.8	
Jul-20	36.7	98.6	135.3	
Aug-20	37.4	39.3	76.7	
Sep-20	8.0	14.3	22.3	
Oct-20	0.0	1.1	1.1	
Nov-20	0.0	52.5	52.5	
Dec-20	35.6	52.3	87.9	348.70
Jan-21	0.0	0.0	0.0	331.75
Feb-21	24.4	28.9	53.3	356.75
Mar-21	0.0	19.2	19.2	366.35
Apr-21	5.2	0.0	5.2	368.95
May-21	11.8	0.0	11.8	374.85
Jun-21	17.7	8.3	26.0	352.85
Jul-21	24.3	33.6	57.9	356.55
Aug-21	45.4	24.9	70.3	356.70
Sep-21	30.4	30.9	61.3	373.65
Oct-21	2.8	0.0	2.8	375.05
Nov-21	2.3	0.0	2.3	376.20
Dec-21	10.2	14.5	24.7	388.55
Jan-22	30.2	45.0	75.2	408.30
Feb-22	13.5	15.1	28.6	422.60
Mar-22	7.2	0.0	7.2	426.20
Apr-22	0.0	6.9	6.9	429.65
May-22	4.1	21.4	25.5	442.40
Jun-22	16.7	36.4	53.1	**453.55**
Jul-22	9.4	28.4	37.8	404.80
Aug-22	12.4	44.3	56.7	394.80
Sep-22	5.0	14.5	19.5	393.40
Oct-22	0.0	0.0	0.0	392.85
Nov-22	14.9	24.3	39.2	386.20
Dec-22	14.7	30.9	45.6	365.05
Jan-23	1.5	0.0	1.5	365.80
Feb-23	20.6	12.0	32.6	355.45
Mar-23	4.1	42.0	46.1	368.90
Apr-23	3.1	51.1	54.2	393.40

CO						
Date	Unit 5 - Diesel	Unit 5 - Coal	Unit 6 - Diesel	Unit 6 - Coal	Unit 5 & 6- Total	Rolling 24-month annual average
Jan-19	0.09428	6.287125	0.3999925	9.26055	16.0	
Feb-19	0.04616	0.67245	0.058795	1.306775	2.1	
Mar-19	0.123035	2.17225	0.026635	0	2.3	
Apr-19	0	0	0	0	0.0	
May-19	0	0	0	0	0.0	
Jun-19	0.17236	13.035275	0.621165	13.8727	27.7	
Jul-19	0	0	0.43154	17.2692	17.7	
Aug-19	0.39988	5.09035	0.6086825	14.268575	20.4	
Sep-19	0.050145	3.16465	0.071695	5.669225	9.0	
Oct-19	0	0	0	0	0.0	
Nov-19	0	0	0	0	0.0	
Dec-19	0	0	0	0.2102	0.2	
Jan-20	0.2180375	0.88065	0.6031175	9.546525	11.2	
Feb-20	0	0	0	0	0.0	
Mar-20	0	0	0	0	0.0	
Apr-20	0	0	0	0	0.0	
May-20	0	0	0	0	0.0	
Jun-20	0.7061225	7.998975	0.187375	1.901525	10.8	
Jul-20	0.19253	17.38005	0.061605	35.81675	53.5	
Aug-20	0.28271	18.04235	0.75529	13.891975	33.0	
Sep-20	0.1472175	3.1319	0.050125	5.178775	8.5	
Oct-20	0	0.033525	0.3788525	0.052575	0.5	
Nov-20	0	0	0.86028	17.585975	18.4	
Dec-20	0.22614	16.82975	1.4555825	18.39975	36.9	134.09
Jan-21	0	0	0	0	0.0	126.07
Feb-21	0.1804075	9.772325	0.5108175	11.102375	21.6	135.81
Mar-21	0	0	0.2013075	7.931775	8.1	138.72
Apr-21	0.2281925	1.200825	0	0	1.4	139.43
May-21	0.290275	3.44135	0	0	3.7	141.30
Jun-21	0.28349	5.141925	0.29156	2.208425	7.9	131.41
Jul-21	0.1082025	8.0593	0.50184	11.778	20.4	132.78
Aug-21	0.21153	11.27145	0.5043175	7.300075	19.3	132.24
Sep-21	0.28322	7.166875	0.6478725	9.3608	17.5	136.49
Oct-21	0	0.865	0	0	0.9	136.92
Nov-21	0.119045	0.7263	0	0	0.8	137.35
Dec-21	0.1910925	3.83155	0.2099025	4.648775	8.9	141.68
Jan-22	0.49427	9.214	0.9805675	16.9623	27.7	149.88
Feb-22	0.033945	4.803	0.778805	3.737325	9.4	154.56
Mar-22	0.43447	2.413	0	0	2.8	155.98
Apr-22	0	0	0.50774	0.952625	1.5	156.71
May-22	0.15575	0.444925	0.4405475	3.914925	5.0	159.19
Jun-22	0.16604	7.343375	0.398335	15.0656	23.0	**165.28**
Jul-22	0.4171875	4.75035	0.7723675	11.561675	17.5	147.31
Aug-22	0.5531325	5.290275	0.954365	14.07895	20.9	141.26
Sep-22	0.179015	1.53325	0.4881825	4.9165	7.1	140.56
Oct-22	0	0	0	0	0.0	140.33
Nov-22	0.27621	12.87225	0.295805	0.90175	14.3	138.28
Dec-22	0.2155025	6.777	0.4251075	9.076	16.5	128.07
Jan-23	0.0903525	0.29375	0	0	0.4	128.27
Feb-23	0.1929875	9.7529	0.3411775	3.13975	13.4	124.20
Mar-23	0.101045	1.342075	0.0157075	13.2904	14.7	127.50
Apr-23	0.419535	0.7711	0.5037925	13.6817	15.4	134.48

VOC						
Date	Unit 5 - Distillate	Unit 5 - Coal	Unit 6 - Distillate	Unit 6 - Coal	Total - Unit 5 & 6	Rolling 12-month annual average
Jan-19	0.0037712	0.754455	0.0159997	1.111266	1.9	
Feb-19	0.0018464	0.080694	0.0023518	0.156813	0.2	
Mar-19	0.0049214	0.26067	0.0010654	0	0.3	
Apr-19	0	0	0	0	0.0	
May-19	0	0	0	0	0.0	
Jun-19	0.0068944	1.564233	0.0248466	1.664724	3.3	
Jul-19	0	0	0.0172616	2.072304	2.1	
Aug-19	0.0159952	0.610842	0.0243473	1.712229	2.4	
Sep-19	0.0020058	0.379758	0.0028678	0.680307	1.1	
Oct-19	0	0	0	0	0.0	
Nov-19	0	0	0	0	0.0	
Dec-19	0	0	0	0.025224	0.0	
Jan-20	0.0087215	0.105678	0.0241247	1.145583	1.3	
Feb-20	0	0	0	0	0.0	
Mar-20	0	0	0	0	0.0	
Apr-20	0	0	0	0	0.0	
May-20	0	0	0	0	0.0	
Jun-20	0.0282449	0.959877	0.007495	0.228183	1.2	
Jul-20	0.0077012	2.085606	0.0024642	4.29801	6.4	
Aug-20	0.0113084	2.165082	0.0302116	1.667037	3.9	
Sep-20	0.0058887	0.375828	0.002005	0.621453	1.0	
Oct-20	0	0.004023	0.0151541	0.006309	0.0	
Nov-20	0	0	0.0344112	2.110317	2.1	
Dec-20	0.0090456	2.01957	0.0582233	2.20797	4.3	15.72
Jan-21	0	0	0	0	0.0	14.78
Feb-21	0.0072163	1.172679	0.0204327	1.332285	2.5	15.92
Mar-21	0	0	0.0080523	0.951813	1.0	16.27
Apr-21	0.0091277	0.144099	0	0	0.2	16.35
May-21	0.011611	0.412962	0	0	0.4	16.56
Jun-21	0.0113396	0.617031	0.0116624	0.265011	0.9	15.38
Jul-21	0.0043281	0.967116	0.0200736	1.41336	2.4	15.54
Aug-21	0.0084612	1.352574	0.0201727	0.876009	2.3	15.49
Sep-21	0.0113288	0.860025	0.0259149	1.123296	2.0	15.96
Oct-21	0	0.1038	0	0	0.1	16.02
Nov-21	0.0047618	0.087156	0	0	0.1	16.06
Dec-21	0.0076437	0.459786	0.0083961	0.557853	1.0	16.57
Jan-22	0.0197708	1.10568	0.0392227	2.035476	3.2	17.52
Feb-22	0.0013578	0.57636	0.0311522	0.448479	1.1	18.05
Mar-22	0.0173788	0.28956	0	0	0.3	18.21
Apr-22	0	0	0.0203096	0.114315	0.1	18.27
May-22	0.00623	0.053391	0.0176219	0.469791	0.5	18.55
Jun-22	0.0066416	0.881205	0.0159334	1.807872	2.7	**19.29**
Jul-22	0.0166875	0.570042	0.0308947	1.387401	2.0	17.10
Aug-22	0.0221253	0.634833	0.0381746	1.689474	2.4	16.35
Sep-22	0.0071606	0.18399	0.0195273	0.58998	0.8	16.25
Oct-22	0	0	0	0	0.0	16.24
Nov-22	0.0110484	1.54467	0.0118322	0.10821	1.7	16.00
Dec-22	0.0086201	0.81324	0.0170043	1.08912	1.9	14.82
Jan-23	0.0036141	0.03525	0	0	0.0	14.84
Feb-23	0.0077195	1.170348	0.0136471	0.37677	1.6	14.36
Mar-23	0.0040418	0.161049	0.0006283	1.594848	1.8	14.76
Apr-23	0.0167814	0.092532	0.0201517	1.641804	1.8	15.57

PM						
Date	Unit 5 - Distillate	Unit 5 - Coal	Unit 6 - Distillate	Unit 6 - Coal	Total - Unit 5 & 6	Rolling 24-month annual average
Jun-19	0.04959128	12.9011805	0.210396055	16.6319478	29.8	
Jul-19	0.02428016	1.3798674	0.03092617	2.3469679	3.8	
Aug-19	0.06471641	4.457457	0.01401001	0	4.5	
Sep-19	0	0	0	0	0.0	
Oct-19	0	0	0	0	0.0	
Nov-19	0.09066136	26.7483843	0.32673279	24.9153692	52.1	
Dec-19	0	0	0.22699004	31.0154832	31.2	
Jan-20	0.21033688	10.4453982	0.320166995	25.6263607	36.6	
Feb-20	0.02637627	6.4938618	0.03771157	10.1819281	16.7	
Mar-20	0	0	0	0	0.0	
Apr-20	0	0	0	0	0.0	
May-20	0	0	0	0.3775192	0.4	
Jun-20	0.114687725	1.8070938	0.317239805	17.1455589	19.4	
Jul-20	0	0	0	0	0.0	
Aug-20	0	0	0	0	0.0	
Sep-20	0	0	0	0	0.0	
Oct-20	0	0	0	0	0.0	
Nov-20	0.371420435	16.4138967	0.09855925	3.4151389	20.3	
Dec-20	0.10127078	35.6638626	0.03240423	64.326883	100.1	
Jan-21	0.14870546	37.0229022	0.39728254	24.9499871	62.5	
Feb-21	0.077436405	6.4266588	0.02636575	9.3010799	15.8	
Mar-21	0	0.0687933	0.199276415	0.0944247	0.4	
Apr-21	0	0	0.45250728	31.5844111	32.0	
May-21	0.11894964	34.534647	0.765636395	33.045951	68.5	247.09
Jun-21	0	0	0	0	0.0	232.19
Jul-21	0.094894345	20.0528109	0.268690005	19.9398655	40.4	250.48
Aug-21	0	0	0.105887745	14.2454679	14.4	255.39
Sep-21	0.120029255	2.4640929	0	0	2.6	256.68
Oct-21	0.15268465	7.0616502	0	0	7.2	260.29
Nov-21	0.14911574	10.5512301	0.15336056	3.9663313	14.8	241.66
Dec-21	0.056914515	16.5376836	0.26396784	21.153288	38.0	245.04
Jan-22	0.11126478	23.1290154	0.265271005	13.1109347	36.6	245.05
Feb-22	0.14897372	14.7064275	0.340780935	16.8119968	32.0	252.68
Mar-22	0	1.77498	0	0	1.8	253.57
Apr-22	0.06261767	1.4903676	0	0	1.6	254.35
May-22	0.100514655	7.8623406	0.110408715	8.3491999	16.4	262.37
Jun-22	0.25998602	18.907128	0.515778505	30.4642908	50.1	**277.75**
Jul-22	0.01785507	9.855756	0.40965143	6.7122357	17.0	286.25
Aug-22	0.22853122	4.951476	0	0	5.2	288.84
Sep-22	0	0	0.26707124	1.7109145	2.0	289.83
Oct-22	0.0819245	0.9129861	0.231727985	7.0312053	8.3	293.96
Nov-22	0.08733704	15.0686055	0.20952421	27.0578176	42.4	305.02
Dec-22	0.219440625	9.7477182	0.406265305	20.7647683	31.1	270.52
Jan-23	0.290947695	10.8556443	0.50199599	25.2857942	36.9	257.73
Feb-23	0.09416189	3.146229	0.256783995	8.830034	12.3	255.98
Mar-23	0	0	0	0	0.0	255.80
Apr-23	0.14528646	26.413857	0.15559343	1.619543	28.3	253.95

PM10						
Date	Unit 5 - Distillate	Unit 5 - Coal	Unit 6 - Distillate	Unit 6 - Coal	Total - Unit 5 & 6	Rolling 24-month annual average
Jan-19	0.0433688	9.0786085	0.18399655	12.3720948	21.7	
Feb-19	0.0212336	0.9710178	0.0270457	1.7458514	2.8	
Mar-19	0.0565961	3.136729	0.0122521	0	3.2	
Apr-19	0	0	0	0	0.0	
May-19	0	0	0	0	0.0	
Jun-19	0.0792856	18.8229371	0.2857359	18.5339272	37.7	
Jul-19	0	0	0.1985084	23.0716512	23.3	
Aug-19	0.1839448	7.3504654	0.27999395	19.0628162	26.9	
Sep-19	0.0230667	4.5697546	0.0329797	7.5740846	12.2	
Oct-19	0	0	0	0	0.0	
Nov-19	0	0	0	0	0.0	
Dec-19	0	0	0	0.2808272	0.3	
Jan-20	0.10029725	1.2716586	0.27743405	12.7541574	14.4	
Feb-20	0	0	0	0	0.0	
Mar-20	0	0	0	0	0.0	
Apr-20	0	0	0	0	0.0	
May-20	0	0	0	0	0.0	
Jun-20	0.32481635	11.5505199	0.0861925	2.5404374	14.5	
Jul-20	0.0885638	25.0967922	0.0283383	47.851178	73.1	
Aug-20	0.1300466	26.0531534	0.3474334	18.5596786	45.1	
Sep-20	0.06772005	4.5224636	0.0230575	6.9188434	11.5	
Oct-20	0	0.0484101	0.17427215	0.0702402	0.3	
Nov-20	0	0	0.3957288	23.4948626	23.9	
Dec-20	0.1040244	24.302159	0.66956795	24.582066	49.7	180.22
Jan-21	0	0	0	0	0.0	169.38
Feb-21	0.08298745	14.1112373	0.23497605	14.832773	29.3	182.63
Mar-21	0	0	0.09260145	10.5968514	10.7	186.37
Apr-21	0.10496855	1.7339913	0	0	1.8	187.29
May-21	0.1335265	4.9693094	0	0	5.1	189.84
Jun-21	0.1304054	7.4249397	0.1341176	2.9504558	10.6	176.30
Jul-21	0.04977315	11.6376292	0.2308464	15.735408	27.7	178.49
Aug-21	0.0973038	16.2759738	0.23198605	9.7529002	26.4	178.23
Sep-21	0.1302812	10.3489675	0.29802135	12.5060288	23.3	183.77
Oct-21	0	1.24906	0	0	1.2	184.40
Nov-21	0.0547607	1.0487772	0	0	1.1	184.95
Dec-21	0.08790255	5.5327582	0.09655515	6.2107634	11.9	190.77
Jan-22	0.2273642	13.305016	0.45106105	22.6616328	36.6	201.89
Feb-22	0.0156147	6.935532	0.3582503	4.9930662	12.3	208.04
Mar-22	0.1998562	3.484372	0	0	3.7	209.89
Apr-22	0	0	0.2335604	1.272707	1.5	210.64
May-22	0.071645	0.6424717	0.20265185	5.2303398	6.1	213.71
Jun-22	0.0763784	10.6038335	0.1832341	20.1276416	31.0	**221.96**
Jul-22	0.19190625	6.8595054	0.35528905	15.4463978	22.9	196.85
Aug-22	0.25444095	7.6391571	0.4390079	18.8094772	27.1	187.88
Sep-22	0.0823469	2.214013	0.22456395	6.568444	9.1	186.66
Oct-22	0	0	0	0	0.0	186.51
Nov-22	0.1270566	18.587529	0.1360703	1.204738	20.1	184.59
Dec-22	0.09913115	9.785988	0.19554945	12.125536	22.2	170.87
Jan-23	0.04156215	0.424175	0	0	0.5	171.10
Feb-23	0.08877425	14.0831876	0.15694165	4.194706	18.5	165.73
Mar-23	0.0464807	1.9379563	0.00722545	17.7559744	19.7	170.26
Apr-23	0.1929861	1.1134684	0.23174455	18.2787512	19.8	179.25

PM2.5						
Date	Unit 5 - Distillate	Unit 5 - Coal	Unit 6 - Distillate	Unit 6 - Coal	Total - Unit 5 & 6	Rolling 12-month annual average
Jan-19	0.0292268	1.94900875	0.123997675	2.1484476	4.3	
Feb-19	0.0143096	0.2084595	0.01822645	0.3031718	0.5	
Mar-19	0.03814085	0.6733975	0.00825685	0	0.7	
Apr-19	0	0	0	0	0.0	
May-19	0	0	0	0	0.0	
Jun-19	0.0534316	4.04093525	0.19256115	3.2184664	7.5	
Jul-19	0	0	0.1337774	4.0064544	4.1	
Aug-19	0.1239628	1.5780085	0.188691575	3.3103094	5.2	
Sep-19	0.01554495	0.9810415	0.02222545	1.3152602	2.3	
Oct-19	0	0	0	0	0.0	
Nov-19	0	0	0	0	0.0	
Dec-19	0	0	0	0.0487664	0.0	
Jan-20	0.067591625	0.2730015	0.186966425	2.2147938	2.7	
Feb-20	0	0	0	0	0.0	
Mar-20	0	0	0	0	0.0	
Apr-20	0	0	0	0	0.0	
May-20	0	0	0	0	0.0	
Jun-20	0.218897975	2.47968225	0.05808625	0.4411538	3.2	
Jul-20	0.0596843	5.3878155	0.01909755	8.309486	13.8	
Aug-20	0.0876401	5.5931285	0.2341399	3.2229382	9.1	
Sep-20	0.045637425	0.970889	0.01553875	1.2014758	2.2	
Oct-20	0	0.01039275	0.117444275	0.0121974	0.1	
Nov-20	0	0	0.2666868	4.0799462	4.3	
Dec-20	0.0701034	5.2172225	0.451230575	4.268742	10.0	35.16
Jan-21	0	0	0	0	0.0	33.04
Feb-21	0.055926325	3.02942075	0.158353425	2.575751	5.8	35.68
Mar-21	0	0	0.062405325	1.8401718	1.9	36.27
Apr-21	0.070739675	0.37225575	0	0	0.4	36.49
May-21	0.08998525	1.0668185	0	0	1.2	37.07
Jun-21	0.0878819	1.59399675	0.0903836	0.5123546	2.3	34.46
Jul-21	0.033542775	2.498383	0.1555704	2.732496	5.4	35.10
Aug-21	0.0655743	3.4941495	0.156338425	1.6936174	5.4	35.20
Sep-21	0.0877982	2.22173125	0.200840475	2.1717056	4.7	36.37
Oct-21	0	0.26815	0	0	0.3	36.51
Nov-21	0.03690395	0.225153	0	0	0.3	36.64
Dec-21	0.059238675	1.1877805	0.065069775	1.0785158	2.4	37.81
Jan-22	0.1532237	2.85634	0.303975925	3.9352536	7.2	40.06
Feb-22	0.01052295	1.48893	0.24142955	0.8670594	2.6	41.37
Mar-22	0.1346857	0.74803	0	0	0.9	41.81
Apr-22	0	0	0.1573994	0.221009	0.4	42.00
May-22	0.0482825	0.13792675	0.136569725	0.9082626	1.2	42.61
Jun-22	0.0514724	2.27644625	0.12348385	3.4952192	5.9	**43.99**
Jul-22	0.129328125	1.4726085	0.239433925	2.6823086	4.5	39.36
Aug-22	0.171471075	1.63998525	0.29585315	3.2663164	5.4	37.48
Sep-22	0.05549465	0.4753075	0.151336575	1.140628	1.8	37.27
Oct-22	0	0	0	0	0.0	37.20
Nov-22	0.0856251	3.9903975	0.09169955	0.209206	4.4	37.22
Dec-22	0.066805775	2.10087	0.131783325	2.105632	4.4	34.42
Jan-23	0.028009275	0.0910625	0	0	0.1	34.48
Feb-23	0.059826125	3.023399	0.105765025	0.728422	3.9	33.53
Mar-23	0.03132395	0.41604325	0.004869325	3.0833728	3.5	34.34
Apr-23	0.13005585	0.239041	0.156175675	3.1741544	3.7	35.97

H2SO4				
Date	Unit 5	Unit 6	Total	Rolling 24-month annual average
Jan-19	16.97543549	25.00432498	41.97976047	
Feb-19	1.815711936	3.52841597	5.344127906	
Mar-19	5.865333374	5.59335E-05	5.865389307	
Apr-19	0	0	0	
May-19	0	0	0	
Jun-19	35.19560446	37.45759445	72.6531989	
Jul-19	0	46.62774623	46.62774623	
Aug-19	13.74478475	38.52643073	52.27121548	
Sep-19	8.544660305	15.30705806	23.85171836	
Oct-19	0	0	0	
Nov-19	0	0	0	
Dec-19	0	0.56754	0.56754	
Jan-20	2.378212879	25.77688405	28.15509693	
Feb-20	0	0	0	
Mar-20	0	0	0	
Apr-20	0	0	0	
May-20	0	0	0	
Jun-20	21.59871536	5.134510988	26.73322634	
Jul-20	46.92653931	96.70535437	143.6318937	
Aug-20	48.71493869	37.50991861	86.2248573	
Sep-20	8.456439157	13.98279776	22.43923692	
Oct-20	0.0905175	0.14274809	0.23326559	
Nov-20	0	47.48393909	47.48393909	
Dec-20	45.44079989	49.68238172	95.12318162	349.59
Jan-21	0	0	0	328.60
Feb-21	26.38565636	29.97748522	56.36314157	354.11
Mar-21	0	21.41621525	21.41621525	361.89
Apr-21	3.242706704	0	3.242706704	363.51
May-21	9.292254578	0	9.292254578	368.16
Jun-21	13.88379283	5.963359776	19.84715261	341.75
Jul-21	21.76033723	31.80165386	53.56199109	345.22
Aug-21	30.43335921	19.71126157	50.14462078	344.16
Sep-21	19.35115726	25.27552053	44.62667779	354.54
Oct-21	2.3355	0	2.3355	355.71
Nov-21	1.961259995	0	1.961259995	356.69
Dec-21	10.34558629	12.5521333	22.89771959	367.86
Jan-22	24.87883797	45.80026919	70.67910716	389.12
Feb-22	12.96817128	10.09241299	23.06058428	400.65
Mar-22	6.516012387	0	6.516012387	403.91
Apr-22	0	2.573153754	2.573153754	405.19
May-22	1.201624575	10.57122265	11.77284722	411.08
Jun-22	19.82746118	40.6779565	60.50541769	**427.97**
Jul-22	12.82682109	31.21814447	44.04496557	378.17
Aug-22	14.28490408	38.01516917	52.30007324	361.21
Sep-22	4.140150932	13.27557518	17.41572611	358.70
Oct-22	0	0	0	358.58
Nov-22	34.75565504	2.435346191	37.19100123	353.44
Dec-22	18.29835256	24.50609273	42.80444528	327.28
Jan-23	0.79331474	0	0.79331474	327.67
Feb-23	26.33323527	8.478041473	34.81127675	316.90
Mar-23	3.623814695	35.88411299	39.50792768	325.94
Apr-23	2.082851024	36.94164796	39.02449899	343.83

GHG				
Date	Unit 5	Unit 6	Total	Rolling 24-month annual average
Jan-19	0	101460.2	101460.2	
Feb-19	0	14020.24	14020.24	
Mar-19	0	98.70753	98.70753	
Apr-19	0	0	0	
May-19	0	0	0	
Jun-19	131631.9	159883.9	291515.7	
Jul-19	0	181637	181637	
Aug-19	56126.01	161253.4	217379.4	
Sep-19	32439.35	64459.67	96899.02	
Oct-19	0	0	0	
Nov-19	0	0	0	
Dec-19	0	17.63173	17.63173	
Jan-20	8980.556	93579.81	102560.4	
Feb-20	0	0	0	
Mar-20	0	0	0	
Apr-20	0	0	0	
May-20	0	0	0	
Jun-20	86395.51	21714.5	108110	
Jul-20	170056.2	379741	549797.3	
Aug-20	184288.3	144440.7	328729	
Sep-20	34026.07	53385.03	87411.1	
Oct-20	0	1636.569	1636.569	
Nov-20	0	189718.5	189718.5	
Dec-20	173290.8	199297.5	372588.4	1,321,790
Jan-21	0	0	0	1,271,059
Feb-21	103917	116126.7	220043.8	1,374,071
Mar-21	0	83561.41	83561.41	1,415,803
Apr-21	15127.57	0	15127.57	1,423,366
May-21	37672.27	0	37672.27	1,442,202
Jun-21	59824.65	26218.6	86043.25	1,339,466
Jul-21	87865.65	132153.3	220019	1,358,657
Aug-21	126047.4	81105.28	207152.7	1,353,544
Sep-21	78311.33	106822.7	185134.1	1,397,661
Oct-21	6367.309	0	6367.309	1,400,845
Nov-21	1926.796	0	1926.796	1,401,808
Dec-21	40569.45	60911.82	101481.3	1,452,540
Jan-22	106692.2	168694.7	275386.9	1,538,954
Feb-22	43411.24	45349.32	88760.56	1,583,334
Mar-22	26113.74	0	26113.74	1,596,391
Apr-22	0	8832.535	8832.535	1,600,807
May-22	10332.21	60953.86	71286.08	1,636,450
Jun-22	73644.48	162242	235886.5	**1,700,338**
Jul-22	47796.84	128881.6	176678.4	1,513,779
Aug-22	60414	170678.8	231092.8	1,464,961
Sep-22	18479.13	59706.75	78185.88	1,460,348
Oct-22	0	0	0	1,459,530
Nov-22	45833.57	102781	148614.6	1,438,978
Dec-22	75438.28	112705.2	188143.5	1,346,755
Jan-23	3643.492	0	3643.492	1,348,577
Feb-23	104581.2	35176.95	139758.2	1,308,434
Mar-23	14708.99	151006.1	165715.1	1,349,511

Appendix C Control Technology Review from EPA's RBLC

Table C-1. RBLC NO_X Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	DLNB and good combustion practices.	25 PPM	BACT-PSD
*TN-0187	TENNESSEE VALLEY AUTHORITY - JOHNSONVILLE COMBUSTION	08/31/2022	3/17/2023	Ten Simple Cycle NG Turbines	465.8 MMBtu/hr	dry low-NOx burners selective catalytic reduction	5 PPMVD @ 15% O2	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	water injection	25 PPMDV	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	dry low NOx burners and fire only pipeline natural gas	9 PPMDV	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	DLN combustors and Good Combustion Practices	15 PPMV @ 15% O2	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	SCR, DLN combustors, and good combustion practices	2 PPMV @ 15% O2	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	LOW NOX BURNERS AND SCR	9 PPMVD	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three 229 MW Simple Cycle Combustion Turbines	229 MW		9 PPMVD	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	LNB + SCR	3.1 PPMVD @15%O2	BACT-PSD
TX-0900	ECTOR COUNTY ENERGY CENTER	08/17/2020	9/10/2021	Simple Cycle Turbines	0	Equipped with dry-low NOx burners with best management practices and good combustion practices. Minimize the duration of startup and shutdown events to less than 60 minutes per event. Limit MSS by 140 lb/hr maximum allowable emission rate for each turbine.	9 PPMVD	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUCTGSC1-natural gas fired simple cycle CTG	667 MMBTU/H	DLNB and good combustion practices.	25 PPM	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUCTGSC1-A nominally rated 667 MMBTU/hr natural gas-fired :	667 MMBTU/H	Dry low NOx burners (DLNB) and good combustion practices.	25 PPM	BACT-PSD
LA-0343	SABINE PASS LNG TERMINAL	09/06/2019	8/6/2021	gas turbines during startups, shutdowns, and maintenance	0	good combustion practices	96 PPMV	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	DLN and SCR	5 PPMVD	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 CO - Simple-Cycle Combustion Turbine 1 (Commissioning	2201 MM BTU/hr	Pipeline quality natural gas & dry-low-NOX burners	240 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 CO - Simple-Cycle Combustion Turbine 2 (Commissioning	2201 MM BTU/hr	Pipeline quality natural gas & dry-low-NOX burners	240 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Pipeline quality natural gas & dry-low-NOX burners	86.38 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Pipeline quality natural gas & dry-low-NOX burners	86.38 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Pipeline quality natural gas & dry-low-NOX burners	9 PPMVD @15%O2	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Pipeline quality natural gas & dry-low-NOX burners	9 PPMVD @15%O2	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Low NOx Burners/Combustion Technology	9 PPM	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Dry Low NOx Combustor Design, Good Combustion Practices, and Natural Gas Combustion.	9 PPMV	BACT-PSD
WV-0028	WAVERLY POWER PLANT	03/13/2018	2/20/2019	GE 7FA.004 Turbine	167.8 MW	Dry LNB	69 LB/HR	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Dry low NOx burners	9 PPMVD	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Refrigeration Compression Turbines	967 MMBTU/HR	Dry Low NOx burners. Good combustion practices	9 PPMVD	BACT-PSD
WV-0026	WAVERLY FACILITY	01/23/2017	5/1/2018	GE Model 7FA Turbine	1571 mmbtu/hr	Dry Low-NOx Combustion System (DLNB), Water Injection	9 PPM	BACT-PSD
TX-0734	CLEAR SPRINGS ENERGY CENTER (CSEC)	05/08/2015	4/18/2018	Simple Cycle Turbine	183 MW	dry low-NOx (DLN) burners	9 PPMVD @ 15% O2	BACT-PSD
TX-0816	CORPUS CHRISTI LIQUEFACTION	02/14/2017	4/18/2018	Refrigeration compressor turbines	40000 HP	Dry low emission burners	25 PPMDV	BACT-PSD
TX-0826	MUSTANG STATION	08/16/2017	4/18/2018	Simple Cycle Turbine	162.8 MW	Dry low-NOx burners	9 PPMVD	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Selective Catalytic Reduction, water injection, use of natural gas a low NOx emitting fuel	2.5 PPMVD@15%O2	LAER
IN-0264	MONTPELIER GENERATING STATION	01/06/2017	11/17/2017	PRATT & TWIN-PAC SIMPLE CYCLE TURBINES	270.9 MMBTU/H	WATER INJECTION	25 PPMV	BACT-PSD
CA-1238	PUENTE POWER	10/13/2016	11/9/2017	Gas turbine	262 MW		2.5 PPMVD	OTHER CASE
NY-0106	GREENIDGE STATION	09/07/2016	9/28/2017	Turbine - natural gas	107 MW	Advanced low NOx burners, closed-coupled and staged over-fire air, Selective Non-Catalytic Reduction, and Selective Catalytic Reduction.	0.03 LB/MMBTU	LAER
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	250 LB/H	BACT-PSD
ND-0030	LONESOME CREEK GENERATING STATION	09/16/2013	6/28/2017	Natural Gas Fired Simple Cycle Turbines	412 MMBTU/H	SCR	5 PPMVD	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Dry Low NOx burners (control), natural gas, good combustion practices, limited operating hours (prevention)	9 PPMV	BACT-PSD
ND-0028	R.M. HESKETT STATION	02/22/2013	4/28/2017	Combustion Turbine	986 MMBTU/H	Dry low-NOx combustion (DLN)	9 PPMVD @15% OYYGEN	BACT-PSD
IL-0121	INVENERGY NELSON EXPANSION LLC	09/27/2016	4/28/2017	Two Simple Cycle Combustion Turbines	190 MW	Dry low-NOx combustion technology for natural gas and low-NOx combustion technology and water injection for ULSD.	0.033 LB/MMBTU	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Gas Turbines (8 units)	333 mm btu/hr	Dry Low NOX burners and good combustion practices	25 PPMVD	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and dry low nox burners	15 PPMVD	BACT-PSD
ND-0029	PIONEER GENERATING STATION	05/14/2013	11/3/2016	Natural gas-fired turbines	451 MMBTU/H	Water injection plus SCR	5 PPPMVD	BACT-PSD
TX-0693	ANTELOPE ELK ENERGY CENTER	04/22/2014	7/29/2016	combustion turbine	202 MW	DLN combustors	9 PPMVD	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	Dry low-NOx burners (DLN), good combustion practices	9 PPM	BACT-PSD

Table C-1. RBLC NO_X Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW	Emission controls consist of dry low-NOx combustors (DLN). DLN combustors use two stages of combustion, transitioning from initial startup with fuel and flame in the primary nozzles only, through a lean lean stage with fuel and flame in the primary and secondary nozzles, to fuel in the secondary stage only, extinguishing the primary flame, and in full operation, premix mode, with fuel to both nozzles, but flame only in the second stage. When natural gas and air are well-mixed before combustion, the flame temperature and resulting NOx emissions are greatly reduced compared to conventional diffusion flame combustion.	9 PPMVD @ 15% O2	BACT-PSD
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	(2) 60-MW SIMPLE CYCLE COMBUSTION TURBINES, FIRING NAT	120 MW	USE OF NATURAL GAS, WATER/STEAM INJECTION, AND A SELECTIVE CATAYTIC REDUCTION (SCR) SYSTEM	2.5 PPMVD @ 15% O2	LAER
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	Dry Low NOx burners, good combustion practices, limited operations	9 PPMVD @ 15% O2	BACT-PSD
TX-0768	SHAWNEE ENERGY CENTER	10/09/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW	Dry Low NOx burners	9 PPMVD @ 15% O2	BACT-PSD
TX-0769	VAN ALSTYNE ENERGY CENTER (VAEC)	10/27/2015	7/6/2016	Simple Cycle Turbine	183 MW	DLN burners	9 PPMVD @ 15% O2	BACT-PSD
TX-0777	UNION VALLEY ENERGY CENTER	12/09/2015	7/6/2016	Simple Cycle Turbine	183 MW	dry low NOX burners	9 PPMVD @ 15% O2	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Dry-low-NOx combustion system. Wet injection when firing ULSD.	9 PPMVD@15%O2	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	DLN and wet injection (for ULSD operation)	9 PPMVD@15% O2	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Dry Low NOx burners	9 PPMVD AT 15% O2	BACT-PSD
TX-0686	ANTELOPE ELK ENERGY CENTER	04/22/2014	5/9/2016	Combustion Turbine-Generator(CTG)	202 MW	DLN	9 PPM	BACT-PSD
TX-0694	INDECK WHARTON ENERGY CENTER	02/02/2015	5/9/2016	(3) combustion turbines	220 MW	DLN combustors	9 PPMVD	BACT-PSD
TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	05/20/2014	5/9/2016	(6) simple cycle turbines	65 MW	DLN combustors	15 PPMVD	BACT-PSD
TX-0695	ECTOR COUNTY ENERGY CENTER	08/01/2014	5/9/2016	(2) combustion turbines	180 MW	DLN combustors	9 PPMVD	BACT-PSD
TX-0696	ROANâ€™S PRAIRIE GENERATING STATION	09/22/2014	5/9/2016	(2) simple cycle turbines	600 MW	DLN combustors	9 PPMVD	BACT-PSD
TX-0688	SR BERTRON ELECTRIC GENERATION STATION	12/19/2014	5/9/2016	Simple cycle natural gas turbines	225 MW	DLN	9 PPM	BACT-PSD
TX-0701	ECTOR COUNTY ENERGY CENTER	05/13/2013	5/9/2016	Simple Cycle Combustion Turbines	180 MW	Dry low NOx combustor	9 PPMVD	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water injec	1690 MMBTU/H	Utilize water injection when combusting natural gas or ULSD; Utilize selective catalytic reduction (SCR) with aqueous ammonia injection at all times except during startup and shutdown; Limit the time in startup or shutdown.	2.5 PPMDV AT 15% O2	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Five 200-MW combustion turbines	2000 MMBtu/hr (approx)	Required to employ dry low-NOx technology and wet injection. Water injection must be used when firing ULSD.	9 PPMVD @ 15% 02	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp	Dry low emission combustors	25 PPMVD	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp	dry low emission combustors	25 PPMVD	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	STARTUP HEATER	92.5 MMBTU/H	GOOD COMBUSTION PRACTICES AND PROPER DESIGN, USE NATURAL GAS	183.7 LB/MMCF	BACT-PSD
CO-0076	PUEBLO AIRPORT GENERATING STATION	12/11/2014	2/19/2016	Turbines - two simple cycle gas	799.7 MMBTU/H each	SCR and dry low NOx burners	23 LB/H	BACT-PSD

Table C-2. RBLC CO Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	Dry low NOx burners and good combustion practices.	9 LB/H	BACT-PSD
*TN-0187	TENNESSEE VALLEY AUTHORITY - JOHNSONVILLE COMBUSTION	08/31/2022	3/17/2023	Ten Simple Cycle NG Turbines	465.8 MMBtu/hr	oxidation catalyst	5 PPMVD @ 15% O2	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	utilize efficient combustion/design technology	63.8 LB/HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	utilize efficient combustion/design technology	39 LB/HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good Combustion Practices and burning clean fuels (NG)	15 PPMV @ 15% O2	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Oxidation Catalyst and good combustion practices	5 PPMV @ 15% O2	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	Oxidization catalyst, good combustion practices and the use of gaseous fuel	9 PPMVD	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three 229 MW Simple Cycle Combustion Turbines	229 MW		9 PPMVD	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	catalytic oxidation and carbon monoxide turndown	10 PPMVD @15%O2	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUCTGSC1-natural gas fired simple cycle CTG	667 MMBTU/H	Dry low NOx burners and good combustion practices	9 LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUCTGSC1-A nominally rated 667 MMBTU/hr natural gas-fired	667 MMBTU/H	Dry low NOx burners and good combustion practices.	9 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Good Combustion Practices	25 PPMVD	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 CO - Simple-Cycle Combustion Turbine 1 (Commissioning	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	2000 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 CO - Simple-Cycle Combustion Turbine 2 (Commissioning	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	2000 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Good combustion practices & use of pipeline quality natural gas	800.08 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	800.08 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	6 PPMVD AT 15% OXYGE	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	6 PPMVD AT 15% O2	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Pipeline Quality Natural Gas	13.99 LB	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Proper Equipment Design, Proper Operation, and Good Combustion Practices.	25 PPMV	BACT-PSD
WV-0028	WAVERLY POWER PLANT	03/13/2018	2/20/2019	GE 7FA.004 Turbine	167.8 MW	Combustion Controls	33.9 LB/HR	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Dry low NOx burners	9 PPMVD	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Refrigeration Compression Turbines	967 MMBTU/HR	Dry Low NOx burners. Good combustion practices	25 PPMVD	BACT-PSD
PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	02/12/2016	12/21/2018	Large combustion turbine	0	Oxidation Catalyst and good combustion practice	15.9 LB/HR	BACT-PSD
WV-0026	WAVERLY FACILITY	01/23/2017	5/1/2018	GE Model 7FA Turbine	1571 mmbtu/hr	Good Combustion Practices	9 PPM	BACT-PSD
TX-0734	CLEAR SPRINGS ENERGY CENTER (CSEC)	05/08/2015	4/18/2018	Simple Cycle Turbine	183 MW	DLN burners and good combustion practices	9 PPMVD @ 15% O2	BACT-PSD
TX-0816	CORPUS CHRISTI LIQUEFACTION	02/14/2017	4/18/2018	Refrigeration compressor turbines	40000 HP	Dry low emission burners	29 PPMDV	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Add-on control is CO Oxidation Catalyst, and use of natural gas as fuel for pollution prevention	5 PPMVD@15%O2	OTHER CASE
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Oxidation Catalyst	5 PPMVD@15%O2	OTHER CASE
IN-0264	MONTPELIER GENERATING STATION	01/06/2017	11/17/2017	PRATT & TWIN-PAC SIMPLE CYCLE TURBINES	270.9 MMBTU/H	NATURAL GAS AS PRIMARY FUEL; GOOD COMBUSTION PRACTICES	0.2 LB/MMBTU	BACT-PSD
NY-0106	GREENIDGE STATION	09/07/2016	9/28/2017	Turbine - natural gas	107 MW		0.095 LB/MMBTU	BACT-PSD
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	525 LB/H	BACT-PSD
ND-0030	LONESOME CREEK GENERATING STATION	09/16/2013	6/28/2017	Natural Gas Fired Simple Cycle Turbines	412 MMBTU/H	Oxidation Catalyst	6 PPMVD	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Good combustion practices; limited operating hours	9 PPMVD	BACT-PSD
ND-0028	R.M. HESKETT STATION	02/22/2013	4/28/2017	Combustion Turbine	986 MMBTU/H	Good Combustion	25 PPMVD @ 15% OXYGE	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Gas Turbines (8 units)	333 mm btu/hr	good combustion practices and fueled by natural gas	0.062 LB/MM BTU	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and fueled by natural gas	15 PPMVD	BACT-PSD
ND-0029	PIONEER GENERATING STATION	05/14/2013	11/3/2016	Natural gas-fired turbines	451 MMBTU/H	Catalytic oxidation system	6 PPMVD	BACT-PSD
TX-0693	ANTELOPE ELK ENERGY CENTER	04/22/2014	7/29/2016	combustion turbine	202 MW	DLN combustors, good combustion practices	9 PPMVD	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices	9 PPM	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW	Premixing of fuel and air enhances combustion efficiency and minimizes emissions.	9 PPMVD @ 15% O2	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	combustor designed for complete combustion and therefore minimizes emissions	20 PPMVD @ 15% O2	BACT-PSD
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	dry low NOx burners, good combustion practices, limited operation	9 PPMVD @ 15% O2	BACT-PSD
TX-0768	SHAWNEE ENERGY CENTER	10/09/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW	dry low NOx burners and lmiited operation, clean fuel	9 PPMVD @ 15% O2	BACT-PSD
TX-0769	VAN ALSTYNE ENERGY CENTER (VAEC)	10/27/2015	7/6/2016	Simple Cycle Turbine	183 MW	DLN burners and good combustion practices	9 PPMVD @ 15% O2	BACT-PSD
TX-0777	UNION VALLEY ENERGY CENTER	12/09/2015	7/6/2016	Simple Cycle Turbine	183 MW	dry low NOx burners and good combustion practices	9 PPMVD @ 15% O2	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Good combustion minimizes CO formation	4 PPMVD@15%O2	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Good combustion practices; limited operating hours	9 PPMVD @ 15% O2	BACT-PSD
TX-0686	ANTELOPE ELK ENERGY CENTER	04/22/2014	5/9/2016	Combustion Turbine-Generator(CTG)	202 MW	Good combustion practices; limited hours	9 PPMVD	BACT-PSD
TX-0694	INDECK WHARTON ENERGY CENTER	02/02/2015	5/9/2016	(3) combustion turbines	220 MW	DLN combustors	4 PPMVD	BACT-PSD
TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	05/20/2014	5/9/2016	(6) simple cycle turbines	65 MW	DLN combustors	25 PPMVD	BACT-PSD
TX-0695	ECTOR COUNTY ENERGY CENTER	08/01/2014	5/9/2016	(2) combustion turbines	180 MW	DLN combustors	9 PPMVD	BACT-PSD

Table C-2. RBLC CO Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0696	ROANâ€™S PRAIRIE GENERATING STATION	09/22/2014	5/9/2016	(2) simple cycle turbines	600 MW	DLN combustors	9 PPMVD	BACT-PSD
TX-0688	SR BERTRON ELECTRIC GENERATION STATION	12/19/2014	5/9/2016	Simple cycle natural gas turbines	225 MW	Good Combustion Practices	9 PPM	BACT-PSD
TX-0701	ECTOR COUNTY ENERGY CENTER	05/13/2013	5/9/2016	Simple Cycle Combustion Turbines	180 MW	Good combustion practices	9 PPMVD	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water injec	1690 MMBTU/H	Oxidation catalyst; Limit the time in startup or shutdown.	6 PPMDV AT 15% O2	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Five 200-MW combustion turbines	2000 MMBtu/hr (approx)	Good combustion practices	4 PPMVD @ 15% O2	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp	dry low emission combustors	29 PPMVD	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp	dry low emission combustors	29 PPMVD	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	STARTUP HEATER	92.5 MMBTU/H	GOOD COMBUSTION PRACTICES AND PROPER DESIGN, USE NATURAL GAS	37.23 LB/MMCF	BACT-PSD
CO-0076	PUEBLO AIRPORT GENERATING STATION	12/11/2014	2/19/2016	Turbines - two simple cycle gas	799.7 MMBTU/H each	Catalytic Oxidation.	55 LB/H	BACT-PSD

Table C-3. RBLC VOC Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	Good combustion practices.	5 LB/H	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	utilize efficient combustion/design technology	5.8 LB/HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	will utilize efficient combustion/design technology	3.2 LB/HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good Combustion Practices and burning clean fuels (NG)	0.0022 LB/MMBTU	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Oxidation catalyst and good combustion practices	2 PPMV @ 15% O2	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	Oxidization catalyst, good combustion practices and the use of gaseous fuel	1.7 PPMVD	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	Good combustion practices	0	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUCTGSC1-natural gas fired simple cycle CTG	667 MMBTU/H	Good combustion practices	5 LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUCTGSC1-A nominally rated 667 MMBTU/hr natural gas-fired	667 MMBTU/H	Good combustion practices.	5 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Good Combustion Practices and Use of low sulfur facility fuel gas	0.002 LB/MM BTU	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 CO - Simple-Cycle Combustion Turbine 1 (Commissioning	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 CO - Simple-Cycle Combustion Turbine 2 (Commissioning	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of pipeline quality natural gas	0	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Proper Equipment Design, Proper Operation, and Good Combustion Practices.	1.4 PPMV	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Good combustion practices	2 PPMVD	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Refrigeration Compression Turbines	967 MMBTU/HR	Good combustion practices	2 PPMVD	BACT-PSD
PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	02/12/2016	12/21/2018	Large Combustion turbine	0	Ox Cat and good combustion practices	1.4 PPMVD @ 15% O2	LAER
TX-0816	CORPUS CHRISTI LIQUEFACTION	02/14/2017	4/18/2018	Refrigeration compressor turbines	40000 HP	Good combustion practices	0.68 LB/H	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Add-on VOC control is Oxidation Catalyst, and use of natural gas as fuel for pollution prevention	2 PPMVD@15%O2	OTHER CASE
CA-1238	PUENTE POWER	10/13/2016	11/9/2017	Gas turbine	262 MW		2 PPMVD AS METHANE	OTHER CASE
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	17.6 LB/H	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	2 PPMVD	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Gas Turbines (8 units)	333 mm btu/hr	good combustion practices and fueled by natural gas	0	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and fueled by natural gas	1.6 PPMVD	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices	2 PPM	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW	Premixing of fuel and air enhances combustion efficiency and minimizes emissions.	5.4 LB/H	BACT-PSD
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	Pipeline quality natural gas; limited hours; good combustion practices.	2 PPMVD @ 15% O2	BACT-PSD
TX-0768	SHAWNEE ENERGY CENTER	10/09/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW	Pipeline quality natural gas; limited hours; good combustion practices.	1.4 PPMV	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Good combustion practices	2 PPMVD @ 15% O2	BACT-PSD
TX-0696	ROANâ€™S PRAIRIE GENERATING STATION	09/22/2014	5/9/2016	(2) simple cycle turbines	600 MW	good combustion	1.4 PPMVD	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water injec	1690 MMBTU/H	Oxidation catalyst; Limit the time in startup or shutdown.	0	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Five 200-MW combustion turbines	2000 MMBtu/hr (approx)	Good combustion practice	3.77 LB/H	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp	good combustion practices	0.6 LB/H	BACT-PSD

Table C-4. RBLC $PM/PM_{10}/PM_{2.5}$ Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
PM - Filterable								
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	good combustion practices and the use of gaseous fuel	0.0075 LB/MMBTU	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Good combustion, operation and maintenance practices and use of pipeline quality natural gas	10 LB	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Use of pipeline quality natural gas and good combustion practices.	11.81 TON/YR	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Use of Natural gas a clean burning fuel	5 LB/H	OTHER CASE
NY-0106	GREENIDGE STATION	09/07/2016	9/28/2017	Turbine - natural gas	107 MW	Baghouse with leak detection system.	0.002 LB/MMBTU	BACT-PSD
NY-0113	EDGEWOOD ENERGY LLC	07/09/2013	9/28/2017	Turbines - NG	0		0.0112 LB/MMBTU	BACT-PSD
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	5 LB/H	BACT-PSD
IL-0121	INVENERGY NELSON EXPANSION LLC	09/27/2016	4/28/2017	Two Simple Cycle Combustion Turbines	190 MW	turbine design and good combustion practices	0.0038 LB/MMBTU	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	STARTUP HEATER	92.5 MMBTU/H	GOOD COMBUSTION PRACTICES AND PROPER DESIGN, USE NATURAL GAS	1.9 LB/MMCF	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	TWO (2) NATURAL GAS FIRED COMBUSTION TURBINES	283 MMBTU/H, EACH	GOOD COMBUSTION PRACTICES AND PROPER DESIGN	0.0019 LB/MMBTU	BACT-PSD
PM - Total								
*TN-0187	TENNESSEE VALLEY AUTHORITY - JOHNSONVILLE COMBUSTION	08/31/2022	3/17/2023	Ten Simple Cycle NG Turbines	465.8 MMBtu/hr	good combustion design and operating practices and the use of low sulfur fuel	3.65 LB/HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	fire only pipeline quality natural gas	6 LB/HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	will fire only pipeline quality natural gas	18 LB/HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good Combustion Practices and burning clean fuels (NG)	0.007 LB/MMBTU	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Good combustion practices and burning clean fuel (natural gas)	0.007 LB/MMBTU	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	8.5 T/YR	BACT-PSD
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	Pipeline quality natural gas; limited hours; good combustion practices.	12.09 LB/HR	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Clean fuel prevents PM formation	2 GR. S / 100 SCF GAS	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	Use of clean fuels, and annual VE test	2 GR S / 100 SCF GAS	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Pipeline quality natural gas; limited hours; good combustion practices.	0	BACT-PSD
PM_{10} - Filterable								
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	good combustion practices and the use of gaseous fuel	0.0075 LB/MMBTU	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Good combustion, operation and maintenance practices and use of pipeline quality natural gas	12 LB	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Refrigeration Compression Turbines	967 MMBTU/HR	Good combustion practices and use of pipeline quality natural gas.	7 LB/HR	BACT-PSD
IN-0264	MONTPELIER GENERATING STATION	01/06/2017	11/17/2017	PRATT & TWIN-PAC SIMPLE CYCLE TURBINES	270.9 MMBTU/H	USE NATURAL GAS AS PRIMARY FUEL; GOOD COMBUSTION PRACTICES	0.0066 LB/MMBTU	BACT-PSD
NY-0106	GREENIDGE STATION	09/07/2016	9/28/2017	Turbine - natural gas	107 MW	Baghouse with leak detection system.	8.25 E-3 LB/MMBTU	BACT-PSD
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	5 LB/H	BACT-PSD
PM_{10} - Total								
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	fire only pipeline quality natural gas	6 LB/HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	will fire only pipeline quality natural gas	18 LB/HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good Combustion Practices and burning clean fuels (NG)	0.007 LB/MMBTU	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Good combustion practices and burning clean fuel (natural gas)	0.007 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three 229 MW Simple Cycle Combustion Turbines	229 MW		0.008 LB/MMBTU	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	Good combustion practices and clean natural gas	0	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUCTGSC1-natural gas fired simple cycle CTG	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUCTGSC1-A nominally rated 667 MMBTU/hr natural gas-fired	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Good Combustion Practices and Use of low sulfur facility fuel gas	0.0066 LB/MM BTU	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 CO - Simple-Cycle Combustion Turbine 1 (Commissioning	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 CO - Simple-Cycle Combustion Turbine 2 (Commissioning	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD

Table C-4. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.	8 LB/H	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Use of pipeline quality natural gas and good combustion practices.	11.81 TON/YR	BACT-PSD
TX-0826	MUSTANG STATION	08/16/2017	4/18/2018	Simple Cycle Turbine	162.8 MW	Pipeline quality natural gas and good combustion practices	27 T/YR	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Use of Natural gas a clean burning fuel	5 LB/H	OTHER CASE
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	8.5 T/YR	BACT-PSD
ND-0028	R.M. HESKETT STATION	02/22/2013	4/28/2017	Combustion Turbine	986 MMBTU/H	Good Combustion Practices	7.3 LB/H	BACT-PSD
IL-0121	INVENERGY NELSON EXPANSION LLC	09/27/2016	4/28/2017	Two Simple Cycle Combustion Turbines	190 MW	turbine design and good combustion practices	0.005 LB/MMBTU	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Gas Turbines (8 units)	333 mm btu/hr	good combustion practices and fueled by natural gas	0	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and fueled by natural gas	0.0076 LB/MM BTU	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices, low sulfur fuel	13.4 LB/H	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW	Premixing of fuel and air enhances combustion efficiency and minimizes emissions.	14 LB/H	BACT-PSD
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	(2) 60-MW SIMPLE CYCLE COMBUSTION TURBINES, FIRING NAT	120 MW	GOOD COMBUSTION PRACTICES AND USE OF NATURAL GAS	5 LB/H	BACT-PSD
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	Pipeline quality natural gas; limited hours; good combustion practices.	12.09 LB/HR	BACT-PSD
TX-0768	SHAWNEE ENERGY CENTER	10/09/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW	Pipeline quality natural gas; limited hours; good combustion practices.	84.1 LB/HR	BACT-PSD
TX-0769	VAN ALSTYNE ENERGY CENTER (VAEC)	10/27/2015	7/6/2016	Simple Cycle Turbine	183 MW	Pipeline Quality Natural Gas	8.6 LB/H	BACT-PSD
TX-0777	UNION VALLEY ENERGY CENTER	12/09/2015	7/6/2016	Simple Cycle Turbine	183 MW	pipeline quality natural gas, good combustion practices	8.6 LB/H	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Clean fuel prevents PM formation	2 GR. S / 100 SCF	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	Use of clean fuels	2 GR S / 100 SCF GAS	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Pipeline quality natural gas; limited hours; good combustion practices.	0	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water injec	1690 MMBTU/H	Utilize only natural gas or ULSD fuel; Limit the time in startup or shutdown.	9.1 LB/H TOTAL PM	BACT-PSD
CO-0075	PUEBLO AIRPORT GENERATING STATION	05/30/2014	2/19/2016	Turbine - simple cycle gas	375 MMBTU/H	Firing of pipeline quality natural gas as defined in 40 CFR Part 72. Specifically, the owner or the operator shall demonstrate that the natural gas burned has total sulfur content less than 0.5 grains/100 SCF.	4.8 LB/H	BACT-PSD
$PM_{2.5}$ - Total								
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good Combustion Practices and burning clean fuels (NG)	0.007 LB/MMBTU	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Good combustion practices and burning clean fuel (natural gas)	0.007 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three 229 MW Simple Cycle Combustion Turbines	229 MW		0.008 LB/MMBTU	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	Good combustion practices and clean natural gas	0	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUCTGSC1-natural gas fired simple cycle CTG	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUCTGSC1-A nominally rated 667 MMBTU/hr natural gas-fired :	667 MMBTU/H	Pipeline quality natural gas, inlet air conditioning and good combustion practices.	4.5 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Good Combustion Practices and Use of low sulfur facility fuel gas	0.0066 LB/MM BTU	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 CO - Simple-Cycle Combustion Turbine 1 (Commissioning	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 CO - Simple-Cycle Combustion Turbine 2 (Commissioning	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Good combustion practices and the use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD

Table C-4. RBLC PM/PM$_{10}$/PM$_{2.5}$ Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Good combustion practices & use of low sulfur fuels (pipeline quality natural gas)	6.3 LB/HR	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Good combustion, operation and maintenance practices and use of pipeline quality natural gas	12 LB	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Exclusive Combustion of Fuel Gas and Good Combustion Practices, Including Proper Burner Design.	8 LB/H	BACT-PSD
WV-0028	WAVERLY POWER PLANT	03/13/2018	2/20/2019	GE 7FA.004 Turbine	167.8 MW	Inlet air filtration.	15.09 LB/HR	BACT-PSD
TX-0833	JACKSON COUNTY GENERATORS	01/26/2018	2/19/2019	Combustion Turbines	920 MW	Use of pipeline quality natural gas and good combustion practices.	11.81 TON/YR	BACT-PSD
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	2 COMBUSTION TURBINES	130 MW	EXCLUSIVE USE OF FACILITY PROCESS FUEL GAS OR PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.007 LB/MMBTU	BACT-PSD
WV-0026	WAVERLY FACILITY	01/23/2017	5/1/2018	GE Model 7FA Turbine	1571 mmbtu/hr	Inlet Air Filtration, Use of Natural Gas, Ultra-Low Sulfur Diesel	15 LB/HR	BACT-PSD
TX-0816	CORPUS CHRISTI LIQUEFACTION	02/14/2017	4/18/2018	Refrigeration compressor turbines	40000 HP		0.75 LB/H	BACT-PSD
TX-0826	MUSTANG STATION	08/16/2017	4/18/2018	Simple Cycle Turbine	162.8 MW	Pipeline quality natural gas and good combustion practices	27 T/YR	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Use of natural gas a clean burning fuel	5 LB/H	OTHER CASE
IN-0264	MONTPELIER GENERATING STATION	01/06/2017	11/17/2017	PRATT & TWIN-PAC SIMPLE CYCLE TURBINES	270.9 MMBTU/H	NATURAL GAS PRIMARY FUEL; GOOD COMBUSTION PRACTICES	0.0066 LB/MMBTU	BACT-PSD
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	5 LB/H	BACT-PSD
ND-0030	LONESOME CREEK GENERATING STATION	09/16/2013	6/28/2017	Natural Gas Fired Simple Cycle Turbines	412 MMBTU/H		5 LB/H	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	8.5 T/YR	BACT-PSD
ND-0028	R.M. HESKETT STATION	02/22/2013	4/28/2017	Combustion Turbine	986 MMBTU/H	Good combustion practices.	7.3 LB/H	BACT-PSD
IL-0121	INVENERGY NELSON EXPANSION LLC	09/27/2016	4/28/2017	Two Simple Cycle Combustion Turbines	190 MW	turbine design and good combustion practices	0.005 LB/MMBTU	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and fueled by natural gas	0.0076 LB/MM BTU	BACT-PSD
ND-0029	PIONEER GENERATING STATION	05/14/2013	11/3/2016	Natural gas-fired turbines	451 MMBTU/H		5.4 LB/H	BACT-PSD
TX-0693	ANTELOPE ELK ENERGY CENTER	04/22/2014	7/29/2016	combustion turbine	202 MW		0	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices, low sulfur fuel	13.4 LB/H	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW	Premixing of fuel and air enhances combustion efficiency and minimizes emissions.	14 LB/H	BACT-PSD
TX-0764	NACOGDOCHES POWER ELECTRIC GENERATING PLANT	10/14/2015	7/6/2016	Natural Gas Simple Cycle Turbine (>25 MW)	232 MW	Pipeline quality natural gas; limited hours; good combustion practices.	12.09 LB/HR	BACT-PSD
TX-0768	SHAWNEE ENERGY CENTER	10/09/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW	Pipeline quality natural gas; limited hours; good combustion practices.	84.1 LB/HR	BACT-PSD
TX-0769	VAN ALSTYNE ENERGY CENTER (VAEC)	10/27/2015	7/6/2016	Simple Cycle Turbine	183 MW	Pipeline Quality Natural Gas	8.6 LB/H	BACT-PSD
TX-0777	UNION VALLEY ENERGY CENTER	12/09/2015	7/6/2016	Simple Cycle Turbine	183 MW	pipeline quality natural gas, good combustion practices	8.6 LB/H	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Clean fuel prevents PM formation	2 GR. S / 100 SCF	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	Use of clean fuels	2 GR S / 100 SCF GAS	BACT-PSD
TX-0733	ANTELOPE ELK ENERGY CENTER	05/12/2015	6/8/2016	Simple Cycle Turbine & Generator	202 MW	Pipeline quality natural gas; limited hours; good combustion practices.	0	BACT-PSD
TX-0694	INDECK WHARTON ENERGY CENTER	02/02/2015	5/9/2016	(3) combustion turbines	220 MW		0	BACT-PSD
TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	05/20/2014	5/9/2016	(6) simple cycle turbines	65 MW		0	BACT-PSD
TX-0695	ECTOR COUNTY ENERGY CENTER	08/01/2014	5/9/2016	(2) combustion turbines	180 MW		0	BACT-PSD
TX-0696	ROANâ€™S PRAIRIE GENERATING STATION	09/22/2014	5/9/2016	(2) simple cycle turbines	600 MW		0	BACT-PSD
TX-0701	ECTOR COUNTY ENERGY CENTER	05/13/2013	5/9/2016	Simple Cycle Combustion Turbines	180 MW	Firing pipeline quality natural gas and good combustion practices	0	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Five 200-MW combustion turbines	2000 MMBtu/hr (approx)	Good combustion practice and low-sulfur fuel	0	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp		0.72 LB/H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	STARTUP HEATER	92.5 MMBTU/H	GOOD COMBUSTION PRACTICES AND PROPER DESIGN, USE NATURAL GAS	7.6 LB/MMCF	BACT-PSD
CO-0075	PUEBLO AIRPORT GENERATING STATION	05/30/2014	2/19/2016	Turbine - simple cycle gas	375 MMBTU/H	Firing of pipeline quality natural gas as defined in 40 CFR Part 72. Specifically, the owner or the operator shall demonstrate that the natural gas burned has total sulfur content less than 0.5 grains/100 SCF.	4.8 LB/H	BACT-PSD

Table C-5. RBLC GHG Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUCTGSC1--A nominally rated 667 MMBTU/H natural gas-fired	667 MMBTU/H	Low carbon fuel (pipeline quality natural gas), good combustion practices, and energy efficiency measures.	318404 T/YR	BACT-PSD
*TN-0187	TENNESSEE VALLEY AUTHORITY - JOHNSONVILLE COMBUSTION	08/31/2022	3/17/2023	Ten Simple Cycle NG Turbines	465.8 MMBtu/hr	Efficient turbine operation and good combustion practices	120 LB/MMBTU	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good combustion practices and clean burning fuel (NG)	117.1 LB/MMBTU	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	Good combustion practices and burning clean fuels (natural gas)	117.1 LB/MMBTU	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	good combustion practices and the use of gaseous fuel	0	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three 229 MW Simple Cycle Combustion Turbines	229 MW		120 LB/MMBTU	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Turbines (EQT0020 - EQT0031)	0	Low carbon fuels Energy efficient designs and operation	0	BACT-PSD
TX-0900	ECTOR COUNTY ENERGY CENTER	08/17/2020	9/10/2021	Simple Cycle Turbines	0	Best management practices and good combustion practices, clean fuel	1514 LB/MWHR	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Use Low Carbon Fuel, Energy Efficiency Measures, and Good Combustion Practices	0	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 SUSD - Simple-Cycle Combustion Turbine 1 (Startup/Shu	2201 MM BTU/hR	Facility-wide energy efficiency measures , such as improved combustion measures, and use of pipeline quality natural gas.	120 LB/MM BTU	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 SUSD - Simple-Cycle Combustion Turbine 2 (Startup/Shu	2201 MM BTU/hr	Facility-wide energy efficiency measures , such as improved combustion measures, and use of pipeline quality natural gas.	120 LB/MM BTU	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG01 NO - Simple-Cycle Combustion Turbine 1 (Normal Opera	2201 MM BTU/hr	Facility-wide energy efficiency measures , such as improved combustion measures, and use of pipeline quality natural gas.	50 KG/GJ	BACT-PSD
*LA-0327	WASHINGTON PARISH ENERGY CENTER	05/23/2018	6/3/2021	CTG02 NO - Simple-Cycle Combustion Turbine 2 (Normal Opera	2201 MM BTU/hr	Facility-wide energy efficiency measures , such as improved combustion measures, and use of pipeline quality natural gas.	50 KG/GJ	BACT-PSD
VA-0326	DOSWELL ENERGY CENTER	10/04/2016	6/19/2019	Two (2) GE 7FA simple cycle combustion turbines	1961 MMBTU/HR	Good combustion, maintenance and use of active combustion dynamic monitoring systems.	0	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Exclusively combust low carbon fuel gas, good combustion practices, good operation and maintenance practices, and insulation	1426146 T/YR	BACT-PSD
WV-0028	WAVERLY POWER PLANT	03/13/2018	2/20/2019	GE 7FA.004 Turbine	167.8 MW	Use of natural gas & use of GE 7FA.004	0	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Refrigeration Compression Turbines	967 MMBTU/HR	Good combustion practices and use of pipeline quality natural gas.	0	BACT-PSD
WV-0026	WAVERLY FACILITY	01/23/2017	5/1/2018	GE Model 7FA Turbine	1571 mmbtu/hr	Use of Natural Gas, Selection of GE7FA	1300 LB/MW-HR	BACT-PSD
TX-0735	ANTELOPE ELK ENERGY CENTER	05/20/2015	4/18/2018	Simple Cycle Turbine & Generator	202 MW	Energy efficiency, good design & combustion practices	1304 LB CO2/MWHR	BACT-PSD
TX-0816	CORPUS CHRISTI LIQUEFACTION	02/14/2017	4/18/2018	Refrigeration compressor turbines	40000 HP		1793574 T/YR	BACT-PSD
TX-0826	MUSTANG STATION	08/16/2017	4/18/2018	Simple Cycle Turbine	162.8 MW	Pipeline quality natural gas and good combustion practices	120 LB/MMBTU	BACT-PSD
IN-0264	MONTPELIER GENERATING STATION	01/06/2017	11/17/2017	PRATT & TWIN-PAC SIMPLE CYCLE TURBINES	270.9 MMBTU/H	NATURAL GAS AS PRIMARY FUEL; GOOD COMBUSTION PRACTICES	118 LB/MMBTU	BACT-PSD
TX-0824	JACKSON COUNTY GENERATING FACILITY	06/30/2017	11/16/2017	Simple Cycle Turbines	920 MW	energy efficiency designs, practices, and procedures, CT inlet air cooling, periodic CT burner maintenance and tuning, reduction in heat loss, i.e., insulation of the CT, instrumentation and controls	1316 LB/MW HR	BACT-PSD
NY-0106	GREENIDGE STATION	09/07/2016	9/28/2017	Turbine - natural gas	107 MW		130.17 LB/MMBTU	BACT-PSD
NY-0113	EDGEWOOD ENERGY LLC	07/09/2013	9/28/2017	Turbines - NG	0		1300 LB/MWH	BACT-PSD
*IN-0218	SABIC INNOVATIVE PLASTICS MT. VERNON, LC	12/11/2014	7/12/2017	COMBUSTION TURBINE:COGEN	1812 MMBTU/H		937379 T/YR	
ND-0030	LONESOME CREEK GENERATING STATION	09/16/2013	6/28/2017	Natural Gas Fired Simple Cycle Turbines	412 MMBTU/H	High efficiency turbines	220122 TONS	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	1300 LB/MW H	BACT-PSD
ND-0028	R.M. HESKETT STATION	02/22/2013	4/28/2017	Combustion Turbine	986 MMBTU/H		413198 TONS/12 MONTH	BACT-PSD
IL-0121	INVENERGY NELSON EXPANSION LLC	09/27/2016	4/28/2017	Two Simple Cycle Combustion Turbines	190 MW	Turbine-generator design and proper operation	0	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Gas Turbines (8 units)	333 mm btu/hr	good combustion/operating/maintenance practices and fueled by natural gas; use intake air chiller	0	BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	Gas turbines (9 units)	1069 mm btu/hr	good combustion practices and fueled by natural gas; Use high thermal efficiency turbines	0	BACT-PSD
ND-0029	PIONEER GENERATING STATION	05/14/2013	11/3/2016	Natural gas-fired turbines	451 MMBTU/H		243147 T/12 MON ROLL TOTAL	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practiceS	1341 LB/MW H	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple cycle turbine	171 MW		1434 LB/MWH	BACT-PSD
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW		1434 LB/MWH	BACT-PSD

Table C-5. RBLC GHG Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	(2) 60-MW SIMPLE CYCLE COMBUSTION TURBINES, FIRING NAT	120 MW	USE OF NATURAL GAS. ENERGY EFFICIENCY DESIGN - USE OF INLET FOGGING/WET COMPRESSION, INSULATION BLANKETS TO REDUCE HEAT LOSS, AND FUEL GAS PREHEATING.	1394 LB CO2E/MWH	BACT-PSD
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	(2) 60-MEGAWATT SIMPLE CYLCE COMBUSTION TURBINE, FIRIN	120 MW	LIMITED USE OF ULSD. ENERGY EFFICIENCY DESIGN - USE OF INLET FOGGING/WET COMPRESSION, INSULATION BLANKETS TO REDUCE HEAT LOSS, AND FUEL GAS PREHEATING	1741 LB/MWH CO2E	BACT-PSD
TX-0761	SR BERTRON ELECTRIC GENERATING STATION	09/15/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW) firing na	359 MW		1232 LB /MW H	BACT-PSD
TX-0762	CEDAR BAYOU ELECTRIC GENERATING STATION	09/15/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	359 MW		1232 LB CO2/MWH	BACT-PSD
TX-0780	VAN ALSTYNE ENERGY CENTER	01/13/2016	7/6/2016	Simple Cycle Turbine	183 mw		1461 LB/MWH	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Use of natural gas with restricted use of ULSD as backup fuel	1372 LB/MWH	BACT-PSD
TX-0757	INDECK WHARTON ENERGY CENTER	05/12/2014	7/6/2016	Simple Cycle Combustion Turbine, GE 7FA.05	0		1276 LB CO2/MWHR (GROSS	BACT-PSD
TX-0757	INDECK WHARTON ENERGY CENTER	05/12/2014	7/6/2016	Simple Cycle Combustion Turbine, SGT-5000F(5)	0		1337 LB CO2/MWHR (GROSS	BACT-PSD
TX-0758	ECTOR COUNTY ENERGY CENTER	08/01/2014	7/6/2016	Simple Cycle Combustion Turbine, GE 7FA.03	11707 Btu/kWh (HHV)		1393 LB CO2/MWHR (GROSS	BACT-PSD
TX-0758	ECTOR COUNTY ENERGY CENTER	08/01/2014	7/6/2016	Simple Cycle Combustion Turbine-MSS	0		21 TON CO2E/EVENT	BACT-PSD
TX-0753	GUADALUPE GENERATING STATION	12/02/2014	7/6/2016	Simple Cycle Combustion Turbine Generator	10673 Btu/kWh		1293.3 LB CO2/MWHR (GROSS	BACT-PSD
TX-0753	GUADALUPE GENERATING STATION	12/02/2014	7/6/2016	Simple Cycle Combustion Turbine Generator	10673 Btu/kWh		1293.3 LB CO2/MWHR (GROSS	BACT-PSD
TX-0771	SHAWNEE ENERGY CENTER	11/10/2015	7/6/2016	Simple cycle turbines greater than 25 megawatts (MW)	230 MW		1398 LB/MWH	BACT-PSD
TX-0775	CLEAR SPRINGS ENERGY CENTER (CSEC)	11/13/2015	7/6/2016	Simple Cycle Turbine	183 MW	Low carbon fuel, good combustion, efficient combined cycle design	1461 LB/MW H	BACT-PSD
TX-0778	UNION VALLEY ENERGY CENTER	12/16/2015	7/6/2016	Simple Cycle Turbine	183 MW		1461 LB/MW H	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	Use of low-emitting fuel and efficient turbine	1374 LB CO2E / MWH	BACT-PSD
TX-0679	CORPUS CHRISTI LIQUEFACTION PLANT	02/27/2015	5/9/2016	Refrigeration Compressor Turbines	40000 hp	install efficient turbines, follow the turbine manufacturerâ€™s emission-related written instructions for maintenance activities including prescribed maintenance intervals to assure good combustion and efficient operation. Compressors shall be inspected and maintained according to a written maintenance plan to maintain efficiency.	146754 TPY	BACT-PSD
TX-0679	CORPUS CHRISTI LIQUEFACTION PLANT	02/27/2015	5/9/2016	Refrigeration Compressor Turbine	40000 hp	install efficient turbines, follow the turbine manufacturerâ€™s emission-related written instructions for maintenance activities including prescribed maintenance intervals to assure good combustion and efficient operation. Compressors shall be inspected and maintained according to a written maintenance plan to maintain efficiency.	146754 TPY	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water injec	1690 MMBTU/H	Thermal efficiency Clean fuels	1707 LB OF CO2 /GROSS MW	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	STARTUP HEATER	92.5 MMBTU/H	GOOD COMBUSTION PRACTICES AND PROPER DESIGN, USE NATURAL GAS	59.61 T/MMCF	BACT-PSD
CO-0075	PUEBLO AIRPORT GENERATING STATION	05/30/2014	2/19/2016	Turbine - simple cycle gas	375 MMBTU/H	Good Combustion Control	1600 LB/MW H GROSS	BACT-PSD

Table C-6. RBLC SO_2 Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	fire only pipeline quality natural gas	2 GR S/100 SCF	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	fire only pipeline quality natural gas	2 GR S/100 SCF	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Six (6) Simple Cycle Gas-Turbines (Power Generation)	386 MMBtu/hr	Good combustion practices and clean burning fuel low sulfur natural gas	96 PPMV SULFUR IN FUEL	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Six Simle Cycle Gas-Fired Turbines	1113 MMBtu/hr	pipeline quality natural gas and good combustion practices	16 PPMV SULFUR IN FUEL	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	TURBINE	0	Low sulfur content in fuel	0	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Compressor Turbines (20)	540 mm btu/hr	Good Combustion Practices and Use of low sulfur facility fuel gas	0	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Simple Cycle Combustion Turbines (SCCT1 to SCCT3)	927 MM BTU/h	Exclusive Combustion of low sulfur fuel - Fuel sulfur content <4 ppm, proper engineering practices.	4 PPMV	BACT-PSD
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Natural gas	2143980 MMBTU/YR	Use of natural gas a low sulfur fuel	0.77 LB/H	OTHER CASE
IN-0261	VERMILLION GENERATING STATION	02/28/2017	8/9/2017	SIMPLE CYCLE, NATURAL GAS FIRED COMBUSTION TURBINES	80 MW	GOOD COMBUSTION PRACTICES	0.6 LB/H	BACT-PSD
TX-0819	GAINES COUNTY POWER PLANT	04/28/2017	6/12/2017	Simple Cycle Turbine	227.5 MW	Pipeline quality natural gas; limited hours; good combustion practices	1.54 GR/100 DSCF	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices, low sulfur fuel	1 GR/100 SCF	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Limitation on S in fuel	2 GR. S / 100 SCF	BACT-PSD
FL-0355	FORT MYERS PLANT	09/10/2015	7/6/2016	Combustion Turbines	2262.4 MMBtu/hr gas	Use of clean fuels	2 GR S / 100 SCF GAS	BACT-PSD
TX-0695	ECTOR COUNTY ENERGY CENTER	08/01/2014	5/9/2016	(2) combustion turbines	180 MW		1 GR/100 DSCF	BACT-PSD
TX-0701	ECTOR COUNTY ENERGY CENTER	05/13/2013	5/9/2016	Simple Cycle Combustion Turbines	180 MW	Firing pipeline quality natural gas and good combustion practices.	0	BACT-PSD
TX-0672	CORPUS CHRISTI LIQUEFACTION PLANT	09/12/2014	5/5/2016	Refrigeration compressor turbines	40000 hp		0.31 LB/H	BACT-PSD

Table C-7. RBLC H_2SO_4 Summary for Large Combustion Turbines, Simple Cycle, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE LM6000PC SPRINT Simple cycle combustion turbine	405.3 MMBTU/hr	fire only pipeline quality natural gas	2 GRS/100 SCF	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	GE 7FA Simple Cycle Combustion Turbine	1780 MMBTU/HR	dry low NOx burners and fire only pipeline natural gas	2 GR S/100 SCF	BACT-PSD
TX-0788	NECHES STATION	03/24/2016	7/29/2016	Large Combustion Turbines > 25 MW	232 MW	good combustion practices, low sulfur fuel	1 GR/100 SCF	BACT-PSD
FL-0354	LAUDERDALE PLANT	08/25/2015	7/6/2016	Five 200-MW combustion turbines	2100 MMBtu/hr (approx)	Limitation on S in fuel	2 GR. S / 100 SCF	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	GE LMS-100 combustion turbines, simple cycle with water inje	1690 MMBTU/H	Utilize only natural gas or ULSD fuel.	0	BACT-PSD

Table C-8. RBLC NO_X Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	SCR and water injection	5 PPMVD@15% O2	LAER
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Combustion Turbine firing ULSD	0	SCR	4 PPMDV	LAER
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	DLN, WATER INJECTION	42 PPMVD @ 15% O2	BACT-PSD
TX-0699	TURBINE OVERHAUL CENTER	12/16/2014	5/9/2016	Turbine test cell	0	good combustion practices	0	LAER

Table C-9. RBLC CO Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Oxidation Catalyst	5 PPMVD@15%O2	OTHER CASE
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	combustor designed for complete combustion and theref	20 PPMVD @ 15% O2	BACT-PSD

Table C-10. RBLC VOC Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Oxidation catalyst	4.5 PPMVD@15%O2	LAER
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Combustion Turbine firing ULSD	0		2 PPMDV	LAER
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	combustor designed for complete combustion and theref	3.3 LB/H	BACT-PSD

Table C-11. RBLC PM Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
PM - Filterable								
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Use of ULSD, a clean burning fuel	14 LB/H	OTHER CASE
PM_{10} - Total								
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Use of ULSD a clean burning fuel	14 LB/H	OTHER CASE
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	combustor designed for complete combustion and theref	9.8 LB/H	BACT-PSD
$PM_{2.5}$ - Total								
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Use of ULSD, a clean burning fuel	14 LB/H	OTHER CASE
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW	combustor designed for complete combustion and theref	9.8 LB/H	BACT-PSD

Table C-12. RBLC GHG Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0794	HILL COUNTY GENERATING FACILITY	04/07/2016	7/29/2016	Simple Cycle Turbine	171 MW		1434 LB/MWH	BACT-PSD

Table C-13. RBLC SO_2 Summary for Large Combustion Turbines, Simple Cycle, Liquid Fuel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
NJ-0086	BAYONNNE ENERGY CENTER	08/26/2016	4/17/2018	Simple Cycle Stationary Turbines firing Ultra Low Sulfur Distillat	720 H/YR	Use of ULSD a very low sulfur fuel	0.8 LB/H	OTHER CASE

Table C-14. RBLC NO_X Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2 KW	Good combustion practices and will be NSPS compliant.	6.4	G/KW-H	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051 HP	Certified to meet Tier 2 standards and good combustion practices	6.4	G/KW-H	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341 HP	Good Combustion Practices and meeting NSPS Subpart IIII requirements	6.4	G/KW-H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341 HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	6.4	G/KW-H	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634 Horsepower		5.6	G/KW-HR	BACT-PSD
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	Engine Emergency Generator	0	TIER III ENGINE, OPERATIONS LIMITED TO 100 HRS/YR	3.9	G/HP HR	LAER
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	certified engine	4.8	G/HP-HR	BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937 hp	Compliance with 40 CFR 60 Subpart IIII, good combustion practices, and use of ultra-low sulfur diesel fuel.	4.8	G/HP-HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	utilize efficient combustion/design technology	14	LB/HR	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250 kW		6.4	GRAMS	BACT-PSD
*NE-0064	NORFOLK CRUSH, LLC	11/21/2022	11/30/2022	Emergency Fire Water Pump Engine 1	510 hp		2.38	G/HP-HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490 HP	Operation limited to 500 hours/year and operate and maintain according to the manufacturerâ€™s recommendations.	4.8	G/HP-H	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9 Gal/hr	Good Combustion Practices; Limited Operation; 40 CFR 60 Subpart IIII	3.6	G/HP-HR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500 h/yr	Certified engines, limited operating hours	21.2	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500 h/yr	Certified Engines, Limited Operating Hours	4.4	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500 h/yr	Certified Engines, Limited Operating Hours	3.53	LB/H	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600 HP		4.42	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500 HP		2.83	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6 gph	Good combustion practices, limit operation to 500 hours per year.	3.3	G/HP-HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Emergency Generator	2100 hp	Combustion Control (retarded timing and/or lean burn)	24.6	LB/HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Fire Water Pump	240 bhp	Combustion control (retarded timing and/or lean burn)	1.59	LB/HR	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0	limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0	Good Combustion Practices, The Use of an Engine Turbocharger and Aftercooler.	5.36	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0	The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	5.36	G/KWH	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Diesel-fired emergency fire pumps (2) (P009 and P010)	3131 HP	Tier IV NSPS standards certified by engine manufacturer.	0		BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Emergency Engines (EQT0014 - EQT0017)	0	Comply with standards of 40 CFR 60 Subpart IIII	0		BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour		6.4	G/KW-HOUR	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	Diesel Emergency Engines	0		3	GR/BHP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	VCM Unit Emergency Generator A	1389 hp	Good combustion practices/gaseous fuel burning.	6.9	G/HP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	C/A Emergency Generator B	1800 hp	Good combustion practices/gaseous fuel burning.	6.9	G/HP-HR	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour	Operate and maintain the engine according to the manufacturer's written instructions	6.4	G/KW-HOUR	BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0	100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0	limited to 100 hours per year of non-emergency operation	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100 KW		5.3	G/HP-H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD1--A 1500 HP diesel fueled emergency engine	1500 HP	Good combustion practices and will be NSPS compliant.	6.4	G/KW-H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD2--A 6000 HP diesel fuel fired emergency engine	6000 HP	Good combustion practices and will be NSPS compliant.	6.4	G/KW-H	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04 MMBTU/HR		35.09	LB/HR	OTHER CASE
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD

Table C-14. RBLC NO_X Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A	BASIS
LA-0346	GULF COAST METHANOL COMPLEX	01/04/2018	8/6/2021	emergency generators (4 units)	13410 hp (each)	Comply with standards of 40 CFR 60 Subpart JJJJ	2	G/BHP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	New Pumphouse (XB13) Emergency Generator #1 (EP 08-05)	2922 HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Tunnel Furnace Emergency Generator (EP 08-06)	2937 HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Caster B Emergency Generator (EP 08-07)	2937 HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Air Separation Unit Emergency Generator (EP 08-08)	700 HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800 HP	Tier II diesel engine	6.4	G/KWH	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750 HP	Engine that complies with Table 4 to Subpart IIII of Part 60	4	G/KWH	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500 H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	4.8	G/HP-H	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.4	G/KW-H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	52.58	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	52.58	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	4.6	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	4.6	LB/H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	4.77	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	4.77	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	4.77	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	4.77	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	4.77	G/HP-HR	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good Combustion Practices and meeting NSPS Subpart IIII requirements	6.4	G/KW-H	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0879	MOTIVA PORT ARTHUR TERMINAL	02/19/2020	11/12/2020	Emergency Firewater Engine	0	Meeting the requirements of 40 CFR Part 60, Subpart IIII. Firing ultra-low sulfur diesel fuel (no more than 15 ppm sulfur by weight). Limited to 100 hrs/yr of non-emergency operation. Have a non-resettable runtime meter.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0	Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	4.86	G/KW-HR	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	LIMITED OPERATING HOURS, USE OF ULTRA- LOW SULFUR FUEL AND GOOD COMBUSTION PRACTICES	4.8	G/HP-H	LAER
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NSPS Subpart IIII	6.6	LB/HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	19.23	LB/HR	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Emergency Engine	1500 kW		6.4	G/KW-HR	LAER
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Good Combustion Practices	8	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Selective Catalytic Reduction (SCR) and Good Combustion Practices	0.53	G/KW-HR (ULSD)	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8 MMBTU/H		9.89	LB/H	OTHER CASE
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500 hp	Minimized hours of operations Tier II engine	0.0218	G/HP HR	LAER
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Emergency Generators (P005 and P006)	3131 HP	Tier IV engine Tier IV NSPS standards certified by engine manufacturer.	3.45	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	37.41	LB/H	BACT-PSD

Table C-14. RBLC NO_X Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	14.96	LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII	19.68	LB/H	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Emergency diesel-fired generator (P007)	2682 HP	Comply with NSPS 40 CFR 60 Subpart IIII	28.2	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	24.71	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	4.97	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	23.21	LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	16.1	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	16.07	LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	5.5	LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	State-of-the-art combustion design	27.18	LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	State-of-the-art combustion design	21.6	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good Combustion and Operating Practices.	3.1	G/HP-H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good Combustion and Operating Practices	5.6	G/KW-H	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	4.8	G/HP H	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Good Combustion Practices/Maintenance	6.4	G/KW	N/A
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	29.01	LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Purchased certified to the standards in NSPS Subpart IIII	13.74	LB/H	BACT-PSD
TX-0671	PROJECT JUMBO	12/01/2014	3/6/2019	Engines	0	Each emergency generator's emission factor is based on EPA's Tier 2 standards at 40CFR89.112 for NOx	5.43	G/KW-H	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Emergency Engines	0		0		LAER
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design.	6.4	G/KW-H	BACT-PSD
MI-0434	FLAT ROCK ASSEMBLY PLANT	03/22/2018	2/19/2019	EUENGINE01 through EUENGINE08	3633 BHP	Good combustion practices.	6.4	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	6.4	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Good combustion practices and meeting NSPS IIII requirements.	6.4	G/KW-H	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		4.93	G/HP-HR	LAER
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		3	G/HP-HR	LAER
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		5.45	GM/HP-HR	LAER
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Emergency Generator Engines	0		4.8	G/BHP-HR	LAER
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMIT	4.8	G/HP-H	LAER
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 3 Engine	600 hp	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 4 Engine	600 hp	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
WV-0027	INWOOD	09/15/2017	5/1/2018	Emergency Generator - ESDG14	900 bhp	Engine Design	4.77	G/HP-HR	BACT-PSD
WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	5/1/2018	Emergency Generator	2015.7 HP		0		BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ultra low sulfur diesel a clean burning fuel.	42.3	LB/H	LAER
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices and meeting NSPS IIII requirements.	6.4	G/KW-H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Certified engines, limited operating hours.	21.2	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Certified engines, limited operating hours	4.4	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Certified engines. Limited operating hours.	3.53	LB/H	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Black start generator	3000 KW	Generator equipped with selective catalytic reduction. Compliance demonstrated with vendor emission certification and adherence to vendor-specified maintenance recommendations.	2.11	G/BHP-H	LAER
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	4.42	G/HP-H EACH	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Certified engines, limited operating hours.	22.6	LB/H	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Certified engines, limited operating hours.	3.53	LB/H	BACT-PSD
LA-0318	FLOPAM FACILITY	01/07/2016	4/28/2017	Diesel Engines	0	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Emergency Generator Engines (4 units)	0	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Firewater pump Engines (4 units)	896 hp (each)	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD

Table C-14. RBLC NO_X Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584 HP	Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	27.34	LB/H	BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)	Complying with 40 CFR 60 Subpart IIII	6.4	G/KW-HR	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion practices, Use ultra low sulfur diesel, and comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0308	MORGAN CITY POWER PLANT	09/26/2013	4/28/2017	2000 KW Diesel Fired Emergency Generator Engine	20.4 MMBTU/hr	Good combustion and maintenance practices, and compliance with NSPS 40 CFR 60 Subpart IIII	33.07	LB/H	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	27.37	LB/HR	BACT-PSD
LA-0292	HOLBROOK COMPRESSOR STATION	01/22/2016	9/19/2016	Emergency Generators No. 1 & No. 2	1341 HP	Good equipment design, proper combustion techniques, use of low sulfur fuel, and compliance with 40 CFR 60 Subpart IIII	14.16	LB/HR	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	27.37	LB/HR	BACT-PSD
OK-0154	MOORELAND GENERATING STA	07/02/2013	7/29/2016	DIESEL-FIRED EMERGENCY GENERATOR ENGINE	1341 HP	COMBUSTION CONTROL	0.011	LB/HP-HR	BACT-PSD
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	EMERGENCY GENERATOR	1300 HP	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	4.8	G/HP-H	LAER
FL-0350	ANADARKO PETROLEUM, INC DIAMOND BLACKHAWK DRILLING	12/31/2014	7/7/2016	Main Propulsion Generator Engines	0	Use of good combustion practices based on the most recent manufacturerâ€™s specifications issued for these engines at the time that the engines are operating under this permit	0		BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000 kW	Good combustion practices	4.8	G/B-HP-H	BACT-PSD
MI-0418	WARREN TECHNICAL CENTER	01/14/2015	7/6/2016	FG-BACKUPGENS (Nine (9) DRUPS Emergency Engines)	3490 KW	No add-on controls, but injection timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	8	G/KW-H	BACT-PSD
MI-0418	WARREN TECHNICAL CENTER	01/14/2015	7/6/2016	Four (4) emergency engines in FG-BACKUPGENS	2710 KW	No add-on controls, but injection timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	7.13	G/KW-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	12.7	G/KW-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Emergency Diesel Engine	3300 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0		BACT-PSD
AL-0301	NUCOR STEEL TUSCALOOSA, INC.	07/22/2014	6/8/2016	DIESEL FIRED EMERGENCY GENERATOR	800 HP		0.015	LB/HP-H	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300 HP		3	G/HP-H	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755 HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.67	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0		2.85	G/B-HP-H	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4 MMBTU/H		4.8	GM/BHP-H	LAER
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	4.46	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690 B-HP	GOOD COMBUSTION PRACTICES	4.46	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	4.46	G/BHP-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200 HP	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0		BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0		1.7	LB/MMBTU	LAER
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0		4.4	LB/MMBTU	LAER
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250 KW	Purchased certified to the standards in NSPS Subpart IIII	27.8	LB/H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695 hp		4.8	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610 hp		3	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891 hp		4.8	GRAMS/HP-H	BACT-PSD

Table C-15. RBLC CO Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2 KW	Good combustion practices and will be NSPS compliant.	3.5	G/KW-H	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051 HP	Certified to meet Tier 2 standards and good combustion practices	3.5	G/KW-H	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341 HP	Good Combustion Practices and meeting NSPS Subpart IIII requirements	3.5	G/KW-H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341 HP	Good combustion practices and meeting NSPS IIII requirements.	3.5	G/KW-H	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634 Horsepower		3.5	G/KW-HR	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	oxidation catalyst and certified engine	2.61	G/HP-HR	BACT-PSD
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7 MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0.006	LB/HP HR	BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937 hp	Compliance with 40 CFR 60 Subpart IIII, good combustion practices, and the use of ultra-low sulfur diesel fuel.	2.6	G/HP-HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	utilize efficient combustion/design technology	1.8	LB/HR	BACT-PSD
LA-0388	LACC LLC US - ETHYLENE PLANT	02/25/2022	12/12/2022	Firewater Pump Engine No. 1 and 2	575 hp	Compliance with 40 CFR 60 Subpart IIII	3.97	LB/HR	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250 kW		3.5	GRAMS	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490 HP	Operation limited to 500 hours/year, and operate and maintain generator according to the manufacturerâ€™s recommendations.	2.6	G/HP-H	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9 Gal/hr	Oxidation Catalyst; Limited Operation; 40 CFR 60 Subpart IIII	3.3	G/HP-HR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500 h/yr	Good design and combustion practices	3.5	G/KW-H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500 h/yr	Good Design and Combustion Practices	3.5	G/KW-H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500 h/yr	Good Design and Combustion Practices	3.5	G/KW-H	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600 HP		2.61	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500 HP		2.6	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6 gph	Oxidation Catalyst, Good Combustion Practices, and 500 hour limit per year.	3.3	G/HP-HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Emergency Generator	2100 hp	Good Combustion Practices w/ OxCat. Applicant did not justify why an oxcat is infeasible for an emergency engine	1.94	LB/HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Fire Water Pump	240 bhp	Good Combustion Practices w/ OxCat. Applicant did not justify why an oxcat is infeasible for an emergency engine	1.38	LB/HR	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0	limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
TX-0915	UNIT 5	03/17/2021	3/8/2022	DIESEL GENERATOR	0	LIMITED 500 HR/YR OPERATION	2.61	G/HPHR	BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0	Good Combustion Practices	0.6	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0	Good Combustion Practices	0.6	G/KWH	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Diesel-fired emergency fire pumps (2) (P009 and P010)	3131 HP	Tier IV NSPS standards certified by engine manufacturer.	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Emergency Generators (P005 and P006)	3131 HP	Tier IV engine Good combustion practices	0		BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Emergency Engines (EQT0014 - EQT0017)	0	Comply with standards of 40 CFR 60 Subpart IIII	0		BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour		3.5	G/KW-HOUR	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	Diesel Emergency Engines	0		2.6	G/BHP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	VCM Unit Emergency Generator A	1389 hp	Good combustion practices/gaseous fuel burning.	8.5	G/HP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	C/A Emergency Generator B	1800 hp	Good combustion practices/gaseous fuel burning.	8.5	G/HP-HR	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour	Operate and maintain the engine according to the manufacturer's written instructions	3.5	G/KW-HOUR	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	Two 3300 kW emergency generators	0	Certified engine	3.5	GRAMS PER KWH	BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0	100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUEMGD--emergency engine	4474.2 KW	Good combustion practices and will be NSPS compliant.	3.5	G/KW-H	BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0	limited to 100 hours per year of non-emergency operation	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100 KW		0.15	G/HP-H	BACT-PSD

Table C-15. RBLC CO Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD1--A 1500 HP diesel fueled emergency engine	1500	HP	Good combustion practices and will be NSPS compliant.	3.5	G/KW-H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD2--A 6000 HP diesel fuel fired emergency engine	6000	HP	Good combustion practices and will be NSPS compliant.	3.5	G/KW-H	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04	MMBTU/HR		2.2	LB/HR	OTHER CASE
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0346	GULF COAST METHANOL COMPLEX	01/04/2018	8/6/2021	emergency generators (4 units)	13410	hp (each)	Comply with standards of 40 CFR 60 Subpart JJJJ	4	G/BHP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	New Pumphouse (XB13) Emergency Generator #1 (EP 08-05)	2922	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Tunnel Furnace Emergency Generator (EP 08-06)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Caster B Emergency Generator (EP 08-07)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Air Separation Unit Emergency Generator (EP 08-08)	700	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0		BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800	HP	Tier II diesel engine	3.5	G/KWH	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750	HP	Engine that complies with Table 4 to Subpart IIII of Part 60	3.5	G/KWH	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500	H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	2.6	G/HP-H	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0		Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	3.5	G/KW-H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364	HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	30.86	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364	HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	30.86	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751	HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	4.32	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751	HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	4.32	LB/H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	2.61	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	2.61	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	2.61	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	2.61	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	2.61	G/HP-HR	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Emergency Generators #1, #2, & #3 (EU72, EU73, & EU74)	53.6	gal/hr	The permittee shall prepare and maintain for EU72, EU73, and EU74, within 90 days of startup, a good combustion and operation practices plan (GCOP) that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing CO, VOC, PM, PM10, and PM2.5 emissions. Any revisions requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Divisionâ€™s inspection. The plan shall include, but not be limited to: i. A list of combustion optimization practices and a means of verifying the practices have occurred. ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred. iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.	2.6	G/HP-HR (EU72 &EU73	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68	MMBTU/H	Good Combustion Practices and meeting NSPS Subpart IIII requirements	3.5	G/KW-H	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0		well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0		Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD

Table C-15. RBLC CO Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0872	CONDENSATE SPLITTER FACILITY	10/31/2019	11/12/2020	Emergency Generators	0	Limiting duration and frequency of generator use to 100 hr/yr. Good combustion practices will be used to reduce VOC including maintaining proper air-to-fuel ratio.	0.6	G/KW HR	BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	3.5	G/KW-HR	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND HOURS OF OPERATION LIMITED TO 100 HOURS PER YEAR	2.6	G/HP-H	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NSPS Subpart IIII	0.9	LB/HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	0.51	LB/HR	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Emergency Engine	1500 kW		3.5	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Good Combustion Practices	4.38	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Oxidation Catalyst and Maintain Good Combustion Practices	0.18	G/KW-HR (ULSD)	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8 MMBTU/H		5.79	LB/H	OTHER CASE
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500 hp	Minimized hours of operations Tier II engine	0.0126	G/HP HR	OTHER CASE
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	19.25	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	7.7	LB/H	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Emergency diesel-fired generator (P007)	2682 HP	Comply with NSPS 40 CFR 60 Subpart IIII	15.4	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	12.64	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	4.01	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	12.69	LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	8.8	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	8.8	LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	28.8	LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	State-of-the-art combustion design	16.96	LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	State-of-the-art combustion design	13.5	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good Combustion and Operating Practices.	3.7	G/HP-H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good Combustion and Operating Practices.	3.5	G/KW-H	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	2.6	G/HP H	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Good Combustion Practices/Maintenance	3.5	G/KW	N/A
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	Emergency diesel generator- 2200 kW	500 hrs/yr	good combustion practices	3.5	G/KW-HR	BACT-PSD
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	8.49	LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Purchased certified to the standards in NSPS Subpart IIII	8.57	LB/H	BACT-PSD
*PA-0313	FIRST QUALITY TISSUE LOCK HAVEN PLT	07/27/2017	3/26/2019	Emergency Generator	2500 bhp		3.5	G	
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Emergency Engines	0		0		BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design.	3.5	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	3.5	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Good combustion practices and meeting NSPS IIII requirements.	3.5	G/KW-H	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.26	G/HP-HR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		1	G/HP-HR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.6	GM/HP-HR	BACT-PSD
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Emergency Generator Engines	0		2.61	G/BHP-HR	BACT-PSD
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	GOOD COMBUSTION PRACTICES AND DESIGNED TO MEET EMISSION LIMIT	2.6	G/HP-H	BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 3 Engine	600 hp	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD

Table C-15. RBLC CO Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 4 Engine	600 hp	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	5/1/2018	Emergency Generator	2015.7 HP		0		BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ultra low sulfur diesel oil a clean burning fuel	3.5	LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices and meeting NSPS Subpart IIII requirements.	3.5	G/KW-H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Good design and combustion practices.	3.5	G/KW-H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Good design and combustion practices.	3.5	G/KW-H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Good design and combustion practices.	3.5	G/KW-H	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Emergency generator	0	Good combustion practice.	0.45	G/BHP-H	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Black start generator	3000 KW	Compliance demonstrated with vendor emission certification and adherence to vendor-specified maintenance recommendations.	2.6	G/BHP-H	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	2.61	G/HP-H EACH	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Good design and combustion practices.	3.5	G/KW-H	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Good design and combustion practices.	3.5	G/KW-H	BACT-PSD
LA-0318	FLOPAM FACILITY	01/07/2016	4/28/2017	Diesel Engines	0	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Emergency Generator Engines (4 units)	0	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Firewater pump Engines (4 units)	896 hp (each)	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584 HP	Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	14.81	LB/H	BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion practices, Use ultra low sulfur diesel, and comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	15.43	LB/HR	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	15.43	LB/HR	BACT-PSD
OK-0154	MOORELAND GENERATING STA	07/02/2013	7/29/2016	DIESEL-FIRED EMERGENCY GENERATOR ENGINE	1341 HP	COMBUSTION CONTROL.	0.001	LB/HR	BACT-PSD
TX-0799	BEAUMONT TERMINAL	06/08/2016	7/7/2016	Fire pump engines	0	Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	0.0055	LB/HP-HR	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000 kW	Good combustion practices.	2.6	G/B-HP-H	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Three 3300-kW ULSD emergency generators	0	Use of clean engine	3.5	G / KW-HR	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.8	G/KW-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Emergency Diesel Engine	3300 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0		BACT-PSD
AL-0301	NUCOR STEEL TUSCALOOSA, INC.	07/22/2014	6/8/2016	DIESEL FIRED EMERGENCY GENERATOR	800 HP		0.0055	LB/HP-H	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Four 3100 kW black start emergency generators	2.32 MMBtu/hr (HHV) per e	Good combustion practice	3.5	GRAMS PER KW-HR	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755 HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	3.5	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0		2.6	G/BHP-H	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4 MMBTU/H		2.6	GM/BHP-H	OTHER CASE
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	2.61	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690 B-HP	GOOD COMBUSTION PRACTICES	2.61	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	2.61	G/BHP-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200 HP	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0		BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0		5.1	LB/MMBTU	N/A
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0		7.3	LB/MMBTU	N/A
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180 GAL/H	good combustion practices	3.5	G/KW-H	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250 KW	Purchased certified to the standards in NSPS Subpart IIII	17.35	LB/H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695 hp		2.6	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610 hp		2.6	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891 hp		2.6	GRAMS/HP-H	BACT-PSD

Table C-16. RBLC VOC Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051 HP	Certified to meet Tier 2 standards and good combustion practices	0.4	G/KW-H	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341 HP	Good combustion practices.	0.86	LB/H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341 HP	Good combustion practices	0.86	LB/H	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634 Horsepower		0.8	G/KW-HR	BACT-PSD
LA-0390	DERIDDER SAWMILL	05/10/2022	4/25/2023	GEN-1 - Emergency Generator No. 1	750 horsepower	Good combustion practices and maintenance and compliance with applicable 40 CFR 60 Subpart JJJJ limitation for VOC.	1.98	LB/HR	BACT-PSD
LA-0390	DERIDDER SAWMILL	05/10/2022	4/25/2023	GEN-2 - Emergency Generator No. 2	750 horsepower	Good combustion practices and maintenance and compliance with applicable 40 CFR 60 Subpart JJJJ limitation for VOC	1.98	LB/HR	BACT-PSD
LA-0390	DERIDDER SAWMILL	05/10/2022	4/25/2023	GEN-3 - Emergency Generator No. 2	750 horsepower	Good Combustion practices and maintenance and compliance with applicable 40 CFR 60 Subpart JJJJ limitations for VOC	1.98	LB/HR	BACT-PSD
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	Engine Emergency Generator	0	TIER III	0		LAER
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	certified engine	0.32	G/HP-HR	BACT-PSD
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7 MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0.001	LB/HP HR	BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937 hp	Compliance with 40 CFR 60 Subpart IIII standards, good combustion practices, and the use of ultra-low sulfur diesel fuel.	4.8	G/HP-HR	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	utilize efficient combustion/design technology	0.015	G/BHP-H	BACT-PSD
LA-0388	LACC LLC US - ETHYLENE PLANT	02/25/2022	12/12/2022	Firewater Pump Engine No. 1 and 2	575 hp	Compliance with 40 CFR 60 Subpart IIII	0.32	LB/HR	BACT-PSD
*NE-0064	NORFOLK CRUSH, LLC	11/21/2022	11/30/2022	Emergency Fire Water Pump Engine 1	510 hp		0.62	G/HP-HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490 HP	Operation limited to 500 hours/year and operate and maintain generator according to the manufacturerâ€™s recommendations	0.32	G/HP-H	BACT-PSD
WI-0297	GREEN BAY PACKAGING- MILL DIVISION	12/10/2019	9/16/2022	Diesel-Fired Emergency Fire Pump (P36)	510 HP		200	H/Y	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9 Gal/hr	Oxidation Catalyst; Limited Operation; 40 CFR 60 Subpart IIII	0.19	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600 HP		0.35	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500 HP		0.141	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6 gph	Oxidation Catalyst, Good combustion practices, and limit operation to 500 hours per year.	0.18	G/HP-HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Emergency Generator	2100 hp	Good Combustion Practices w/ OxCat. Applicant did not justify why an oxcat is infeasible for an emergency engine	0.46	LB/HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Fire Water Pump	240 bhp	Good Combustion Practices w/ OxCat. Applicant did not justify why an oxcat is infeasible for an emergency engine	1.59	LB/HR	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0	limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
TX-0915	UNIT 5	03/17/2021	3/8/2022	DIESEL GENERATOR	0	LIMITED 500 HR/YR OPERATION	0.5	G/HPHR	BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0	Good Combustion Practices	0.56	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0	Good Combustion Practices	0.56	G/KWH	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Emergency Engines (EQT0014 - EQT0017)	0	Comply with standards of 40 CFR 60 Subpart IIII	0		BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0	100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
OK-0181	WILDHORSE TERMINAL	09/11/2019	9/10/2021	EMERGENCY USE ENGINES > 500 HP	0	Good combustion practices. Certified to meet EPA Tier 3 engine standards. Each engine shall be limited to operate not more than 500 hours per year.	3	GM/HP-HR	BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0	limited to 100 hours per year of non-emergency operation	0		BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Emergency Generators and Fire Pump	1500 hp	Must meet the standards of 40 CFR 60, Subpart IIII	100	HR/YR	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100 KW		0.86	LB/H	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04 MMBTU/HR		0.85	LB/HR	OTHER CASE
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0346	GULF COAST METHANOL COMPLEX	01/04/2018	8/6/2021	emergency generators (4 units)	13410 hp (each)	Comply with standards of 40 CFR 60 Subpart JJJJ	1	G/BHP-HR	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800 HP	Tier II diesel engine	6.4	G/KWH	BACT-PSD

Table C-16. RBLC VOC Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750 HP	Engine that complies with Table 4 to Subpart IIII of Part 60	4	G/KWH	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	1.9	G/KW-HR	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	3.86	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	3.86	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0.34	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751 HP	Compliance with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0.34	LB/H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Emergency Generators #1, #2, & #3 (EU72, EU73, & EU74)	53.6 gal/hr	The permittee shall prepare and maintain for EU72, EU73, and EU74, within 90 days of startup, a good combustion and operation practices plan (GCOP) that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing CO, VOC, PM, PM10, and PM2.5 emissions. Any revisions requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Divisionâ€™s inspection. The plan shall include, but not be limited to: i. A list of combustion optimization practices and a means of verifying the practices have occurred. ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred. iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.	4.77	G/HP-HR (EU72 &EU73	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0879	MOTIVA PORT ARTHUR TERMINAL	02/19/2020	11/12/2020	Emergency Firewater Engine	0	Meeting the requirements of 40 CFR Part 60, Subpart IIII. Firing ultra-low sulfur diesel fuel (no more than 15 ppm sulfur by weight). Limited to 100 hrs/yr of non-emergency operation. Have a non-resettable runtime meter.	0.1	G/HP HR	BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0	Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0872	CONDENSATE SPLITTER FACILITY	10/31/2019	11/12/2020	Emergency Generators	0	Limiting duration and frequency of generator use to 100 hr/yr. Good combustion practices will be used to reduce VOC including maintaining proper air-to-fuel ratio.	0.12	G/KW HR	BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	1.55	G/KW-HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NNSPS Subpart IIII	0.13	LB/HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	0.04	LB/HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Oxidation Catalyst and Good Combustion Practices	0.21	G/KW-HR (ULSD)	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8 MMBTU/H		0.7	LB/H	OTHER CASE
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500 hp	Minimized hours of operations Tier II engine	0.7	LB/H	OTHER CASE
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A

Table C-16. RBLC VOC Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	37.41	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	14.96	LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII	19.68	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	24.71	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	4.97	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	23.21	LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	2	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	State-of-the-art combustion design	2	LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	1.6	LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	State-of-the-art combustion design	3.84	LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP		3.1	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good combustion and operating practices.	0.44	G/HP-H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good combustion and operating practices.	0.79	G/KW-H	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Good Combustion Practices/Maintenance	6.4	G/KW	N/A
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Purchased certified to the standards in NSPS Subpart IIII	1.93	LB/H	BACT-PSD
*PA-0313	FIRST QUALITY TISSUE LOCK HAVEN PLT	07/27/2017	3/26/2019	Emergency Generator	2500 bhp		3.5	G	
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design.	1.89	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Good combustion practices.	0.86	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Good combustion practices	0.86	LB/H	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.02	G/HP-HR	LAER
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		0.2	G/HP-HR	LAER
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.22	GM/HP-HR	LAER
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	USE ONLY ULSD, GOOD COMBUSTION PRACTICES, AND DESIGNED TO ACHIEVE EMISSION LIMIT	4.8	G/HP-H	LAER
OK-0175	WILDHORSE TERMINAL	06/29/2017	5/11/2018	Emergency Use Engines > 500 HP	0	Good combustion practices. Certified to meet EPA Tier 3 engine standards. Shall be limited to operate at no more than 500 hr/yr.	3	GM/HP-HR	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Fire Pump Engine	550 hp	Good Combustion	0.35	LB/MMBTU	BACT-PSD
WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	5/1/2018	Emergency Generator	2015.7 HP		1.24	LB/H	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ULSD a clean burning fuel, and limited hours of operation	1	LB/H	LAER
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices.	1.87	LB/H	BACT-PSD
VA-0327	PERDUE GRAIN AND OILSEED, LLC	07/12/2017	11/2/2017	Emergency Generator	0		0.49	LB/HR	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Emergency generator	0	Good combustion practice.	0.0331	LB/MMBTU	LAER
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Black start generator	3000 KW	Compliance demonstrated with vendor emission certification and adherence to vendor-specified maintenance recommendations.	0.11	G/BHP-H	LAER
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	0.35	G/HP-H EACH	BACT-PSD
LA-0318	FLOPAM FACILITY	01/07/2016	4/28/2017	Diesel Engines	0	Complying with 40 CFR 60 Subpart IIII	0		LAER
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584 HP	Good combustion practices	27.34	LB/H	BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion practices, Use ultra low sulfur diesel, and comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	0.85	LB/HR	BACT-PSD
LA-0276	BATON ROUGE JUNCTION FACILITY	12/15/2016	4/28/2017	Fire Pump Engines (2 units)	700 hp	Comply with standards of NSPS Subpart IIII	0		BACT-PSD
LA-0292	HOLBROOK COMPRESSOR STATION	01/22/2016	9/19/2016	Emergency Generators No. 1 & No. 2	1341 HP	Good combustion practices consistent with the manufacturer's recommendations to maximize fuel efficiency and minimize emissions	0.83	LB/HR	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0.85	LB/HR	BACT-PSD
OK-0154	MOORELAND GENERATING STA	07/02/2013	7/29/2016	DIESEL-FIRED EMERGENCY GENERATOR ENGINE	1341 HP	COMBUSTION CONTROL.	0.0007	LB/HP-HR	BACT-PSD

Table C-16. RBLC VOC Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
TX-0799	BEAUMONT TERMINAL	06/08/2016	7/7/2016	Fire pump engines	0		Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	0.0007	LB/HP-HR	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910	hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.35	G/KW-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Emergency Diesel Engine	3300	hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0		BACT-PSD
OK-0164	MIDWEST CITY AIR DEPOT	01/08/2015	7/6/2016	Jet Engine Testing Cells	65000	FT-LB THRUST		1.7	TONS PER YEAR	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755	HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.4	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0			0.15	G/B-HP-H	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600	BHP	GOOD COMBUSTION PRACTICES	0.31	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690	B-HP	GOOD COMBUSTION PRACTICES	0.31	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600	BHP	GOOD COMBUSTION PRACTICES	0.31	G/BHP-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200	HP	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0		BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0			0.7	LB/MMBTU	N/A
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0			0.7	LB/MMBTU	N/A
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180	GAL/H	good combustion practices	4	G/KW-H	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250	KW	Purchased certified to the standards in NSPS Subpart IIII	3.93	LB/H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695	hp		0.0007	LB/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610	hp		0.0007	LB/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891	hp		0.0007	LB/HP-H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
PM - Filterable										
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2	KW	Good combustion practices, burn ultra-low diesel fuel, and will be NSPS compliant.	0.2	G/KWH	OTHER CASE
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341	HP	Diesel particulate filter, Good Combustion Practices and meeting NSPS Subpart IIII requirements	0.2	G/KW-H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341	HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.2	G/KW-H	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634	Horsepower		0.2	G/KW-HR	BACT-PSD
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7	MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0.0003	LB/HP HR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.66	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.22	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.18	LB/H	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0		limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
TX-0915	UNIT 5	03/17/2021	3/8/2022	DIESEL GENERATOR	0		LIMITED 500 HR/YR OPERATION	0.022	G/HPHR	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	Diesel Emergency Engines	0			0.15	G/BHP-HR	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	1,500 kW Emergency Diesel Generator	14.82	MMBtu/hour	Operate and maintain the engine according to the manufacturer's written instructions	0.2	G/KW-HOUR	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	Two 3300 kW emergency generators	0		Clean fuel	0.2	GRAMS PER KWH	BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0		100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUEMGD--emergency engine	4474.2	KW	Good combustion practices, burn ultra-low diesel fuel, and will be NSPS compliant.	0.2	G/KW-H	OTHER CASE
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0		limited to 100 hours per year of non-emergency operation	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	New Pumphouse (XB13) Emergency Generator #1 (EP 08-05)	2922	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Tunnel Furnace Emergency Generator (EP 08-06)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Caster B Emergency Generator (EP 08-07)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Air Separation Unit Emergency Generator (EP 08-08)	700	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500	H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP-H	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0		Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.02	G/KW-H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Emergency Generators #1, #2, & #3 (EU72, EU73, & EU74)	53.6 gal/hr	The permittee shall prepare and maintain for EU72, EU73, and EU74, within 90 days of startup, a good combustion and operation practices plan (GCOP) that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing CO, VOC, PM, PM10, and PM2.5 emissions. Any revisions requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Divisionâ€™s inspection. The plan shall include, but not be limited to: i. A list of combustion optimization practices and a means of verifying the practices have occurred. ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred. iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.	0.149	G/HP-HR (EU72 &EU73	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good Combustion Practices and meeting NSPS Subpart IIII requirements	0.2	G/KW-H	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.2	G/KW-HR	BACT-PSD
KS-0040	JOHNS MANVILLE AT MCPHERSON	12/03/2019	8/25/2020	Emergency Diesel Engines	0	Emergency Diesel Engine and Fire Pump Subject to NSPS Subpart IIII - Combustion Control and Limited Operating Hours.	0.2	GR/KWH	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Clean Fuel and Good Combustion Practices	0.15	G/KW-HR (ULSD)	BACT-PSD
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500 hp	Minimized hours of operations Tier II engine	0.15	LB/H	OTHER CASE
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design	0.2	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.2	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS IIII requirements.	0.2	G/KW-H	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.025	GM/HP-HR	BACT-PSD
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices and meeting NSPS Subpart IIII requirements.	0.2	G/KW-H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Emergency generator	0	Ultra low sulfur diesel with maximum sulfur content 0.0015 percent.	0.03	G/BHP-H	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Black start generator	3000 KW	Compliance demonstrated with vendor emission certification and adherence to vendor-specified maintenance recommendations.	0.15	G/BHP-H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	EMERGENCY GENERATORS	1500 KW	GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII	0.02	G/KW-H	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000 kW	Good combustion practices.	0.15	G/B-HP-H	BACT-PSD
AL-0301	NUCOR STEEL TUSCALOOSA, INC.	07/22/2014	6/8/2016	DIESEL FIRED EMERGENCY GENERATOR	800 HP		0.0007	LB/HP-H	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300 HP		0.15	G/HP-H	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755 HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0		0.15	G/B-HP-H	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690 B-HP	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	0.15	G/BHP-H	BACT-PSD
PM - Total									
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051 HP	Certified to meet Tier 2 standards and good combustion practices	0.2	G/KW-H	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	certified engine	0.15	G/HP-H	BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	utilize efficient combustion/design technology	0.066	G/BHP-H	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250 kW		0.2	GRAMS	BACT-PSD
*NE-0064	NORFOLK CRUSH, LLC	11/21/2022	11/30/2022	Emergency Fire Water Pump Engine 1	510 hp		0.15	G/HP-HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490 HP	Limited to operate 500 hours/year, sulfur content of the diesel fuel oil fired may not exceed 15 ppm, and operate and maintain according to the manufacturerâ€™s recommendations.	0.15	G/HP-H	BACT-PSD
WI-0294	CARDINAL FG COMPANY	08/26/2019	9/16/2022	P10- Diesel emergency Generator	0		0.05	G/B-HP-H	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9 Gal/hr	Good Combustion Practices; Limited Operation; 40 CFR 60 Subpart IIII	0.19	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6 gph	Good combustion practices, ULSD, and limit operation to 500 hours per year.	0.045	G/HP-HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Emergency Generator	2100 hp	Clean Fuels and Good Combustion Practices.	0.23	LB/HR	BACT-PSD
*WV-0033	MAIDSVILLE	01/05/2022	6/28/2022	Fire Water Pump	240 bhp	Clean Fuels & Good Combustion Practices	0.08	LB/HR	BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0	Good Combustion Practices and The Use of Ultra-low Sulfur Fuel	17	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0	The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	0.17	G/KWH	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour		0.2	G/KW-HOUR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	VCM Unit Emergency Generator A	1389 hp	Good combustion practices/gaseous fuel burning.	0.4	G/HP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	C/A Emergency Generator B	1800 hp	Good combustion practices/gaseous fuel burning.	0.4	G/HP-HR	BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Emergency Generators and Fire Pump	1500 hp	Meet emission standards of 40 CFR 60, Subpart IIII	100	HRS/YR	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100 KW	Good combustion practices and ultra low sulfur diesel	0.04	G/HP-H	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800 HP	Tier II diesel engine	0.2	G/KWH	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750 HP	Engine that complies with Table 4 to Subpart IIII of Part 60	0.2	G/KWH	BACT-PSD
*IA-0117	SHELL ROCK SOY PROCESSING	03/17/2021	4/20/2021	Emergency Fire Pump Engine	510 bhp		0.17	LB/HR	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Emergency Engine	1500 kW		0.2	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Clean Fuel and Good Combustion Practices	0.29	G/KW-HR (ULSD)	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8 MMBTU/H		0.02	TPY	OTHER CASE
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	1.1	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	0.44	LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII	0.62	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	0.73	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	0.23	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	0.73	LB/H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	0.77	LB/H	BACT-PSD
*PA-0313	FIRST QUALITY TISSUE LOCK HAVEN PLT	07/27/2017	3/26/2019	Emergency Generator	2500 bhp		0.2	G	
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Emergency Engines	0		0		BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.04	G/HP-HR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		0.2	G/HP-HR	BACT-PSD
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Emergency Generator Engines	0		0.15	G/BHP-HR	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	BACT-PSD
FL-0349	STATOIL GULF SERVICES, LLC	08/14/2014	7/7/2016	Source Wide Limits	0	PSD Avoidance	10	TONS PER YEAR	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Three 3300-kW ULSD emergency generators	0	Use of clean fuel	0.2	G / KW-HR	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.43	G/KW-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Emergency Diesel Engine	3300 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0		BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Four 3100 kW black start emergency generators	2.32 MMBtu/hr (HHV) per e	Good combustion practice	0.2	GRAMS PER KW-HR	BACT-PSD
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180 GAL/H	good combustion practices	0.2	G/KW-H	BACT-PSD
PM_{10} - Filterable									
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7 MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0.0003	LB/HP HR	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0	limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
TX-0915	UNIT 5	03/17/2021	3/8/2022	DIESEL GENERATOR	0	LIMITED 500 HR/YR OPERATION	0.022	G/HPHR	BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0	100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0	limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0	Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
KS-0040	JOHNS MANVILLE AT MCPHERSON	12/03/2019	8/25/2020	Emergency Diesel Engines	0	One diesel engine and fire pump subject to NSPS Subpart IIII - Combustion Control and Limited Operating Hours.	0.2	G/KWH	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Clean Fuel and Good Combustion Practices	0.15	G/KW-HR (ULSD)	BACT-PSD
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500 hp	Minimized hours of operations Tier II engine	0.15	LB/H	OTHER CASE
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Emergency Generators (P005 and P006)	3131 HP	Tier IV engine Good combustion practices	0.15	LB/H	BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584 HP	Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.86	LB/H	BACT-PSD
LA-0308	MORGAN CITY POWER PLANT	09/26/2013	4/28/2017	2000 KW Diesel Fired Emergency Generator Engine	20.4 MMBTU/hr	Good combustion and maintenance practices, and compliance with NSPS 40 CFR 60 Subpart IIII	1.06	LB/H	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300 HP		0.15	G/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695 hp		0.15	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610 hp		0.15	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891 hp		0.15	GRAMS/HP-H	BACT-PSD
PM_{10} - Total									
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2 KW	Good combustion practices, burn ultra-low diesel fuel, and be NSPS compliant.	1	LB/H	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051 HP	Certified to meet Tier 2 standards and good combustion practices	0.07	LB/H	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341 HP	Diesel particulate filter, Good Combustion Practices and meeting NSPS Subpart IIII requirements	0.54	LB/H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.54	LB/H	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634 Horsepower		0.2	G/KW-HR	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	certified engine	0.15	G/HP-H	BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937 hp	Compliance with 40 CFR 60 Subpart IIII, good combustion practices, and use of ultra-low sulfur diesel fuel.	0.15	G/HP-HR	BACT-PSD

Table C-17. RBLC $PM/PM_{10}/PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900	BHP	utilize efficient combustion/design technology	0.066	G/BHP-H	BACT-PSD
LA-0388	LACC LLC US - ETHYLENE PLANT	02/25/2022	12/12/2022	Firewater Pump Engine No. 1 and 2	575	hp	Compliance with 40 CFR 60 Subpart IIII	0.23	LB/HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490	HP	Limited to operate 500 hours/year, sulfur content of the diesel fuel oil fired may not exceed 15 ppm, and operate and maintain according to the manufacturerâ€™s recommendations.	0.15	G/HP-H	BACT-PSD
WI-0294	CARDINAL FG COMPANY	08/26/2019	9/16/2022	P10- Diesel emergency Generator	0			0.05	G/BHP-H	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9	Gal/hr	Good Combustion Practices; Limited Operation; 40 CFR 60 Subpart IIII	0.19	G/HP-HR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.66	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.22	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.18	LB/H	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600	HP		0.15	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500	HP		0.15	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6	gph	Good combustion practices, ULSD, and limit operation to 500 hours per year.	0.045	G/HP-HR	BACT-PSD
VA-0333	NORFOLK NAVAL SHIPYARD	12/09/2020	3/8/2022	One (1) emergency engine generator	2220	HP		1.1	LB	BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0		Good Combustion Practices and The Use of Ultra-low Sulfur Fuel	0.17	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0		The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	0.17	G/KWH	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Diesel-fired emergency fire pumps (2) (P009 and P010)	3131	HP	Tier IV engine and Good combustion practices	0.15	G/B-HP-H	BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Emergency Engines (EQT0014 - EQT0017)	0		Comply with standards of 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	VCM Unit Emergency Generator A	1389	hp	Good combustion practices/gaseous fuel burning.	0.4	G/HP-HR	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	C/A Emergency Generator B	1800	hp	Good combustion practices/gaseous fuel burning.	0.4	G/HP-HR	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUEMGD--emergency engine	4474.2	KW	Good combustion practices, burn ultra-low diesel fuel and be NSPS compliant.	1	LB/H	BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Emergency Generators and Fire Pump	1500	hp	Must meet the standards of 40 CFR 60, Subpart IIII	100	HR/YR	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100	KW	Good combustion practices and ultra low sulfur diesel	7.85	LB/1000 GAL	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD1--A 1500 HP diesel fueled emergency engine	1500	HP	Good combustion practices, burn ultra-low sulfur diesel fuel and be NSPS compliant.	0.69	LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD2--A 6000 HP diesel fuel fired emergency engine	6000	HP	Good combustion practices, burn ultra low sulfur diesel fuel, and be NSPS compliant.	2.7	LB/H	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04	MMBTU/HR		0.4	LB/HR	BACT-PSD
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0346	GULF COAST METHANOL COMPLEX	01/04/2018	8/6/2021	emergency generators (4 units)	13410	hp (each)		0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	New Pumphouse (XB13) Emergency Generator #1 (EP 08-05)	2922	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Tunnel Furnace Emergency Generator (EP 08-06)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Caster B Emergency Generator (EP 08-07)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Air Separation Unit Emergency Generator (EP 08-08)	700	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800	HP	Tier II diesel engine	0.2	G/KWH	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750	HP	Engine that complies with Table 4 to Subpart IIII of Part 60	0.2	G/KWH	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500	H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP-HR	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0		Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.02	G/KW-H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364	HP	Proper design and operation; use of ultra-low sulfur diesel	1.76	LB/H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364 HP	Proper design and operation; use of ultra-low sulfur diesel	1.76	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751 HP	Proper design and operation; use of ultra-low sulfur diesel	0.25	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751 HP	Proper design and operation; use of ultra-low sulfur diesel	0.25	LB/H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Emergency Generators #1, #2, & #3 (EU72, EU73, & EU74)	53.6 gal/hr	The permittee shall prepare and maintain for EU72, EU73, and EU74, within 90 days of startup, a good combustion and operation practices plan (GCOP) that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing CO, VOC, PM, PM10, and PM2.5 emissions. Any revisions requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Divisionâ€™s inspection. The plan shall include, but not be limited to: i. A list of combustion optimization practices and a means of verifying the practices have occurred. ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred. iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.	0.149	G/HP-HR (EU72 &EU73	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices	1.58	LB/H	BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.2	G/KW-HR	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NSPS Subpart IIII	0.15	LB/HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	0.08	LB/HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Clean Fuel and Good Combustion Practices	0.29	G/KW-HR (ULSD)	BACT-PSD
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	1.1	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	0.44	LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII	0.62	LB/H	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Emergency diesel-fired generator (P007)	2682 HP	Comply with NSPS 40 CFR 60 Subpart IIII	1.01	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	0.73	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	0.23	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	0.73	LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	0.5	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	0.5	LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	0.2	LB/H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	State-of-the-art combustion design	0.97	LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	State-of-the-art combustion design	0.77	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good combustion and operating practices.	0.3	G/HP-H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good combustion and operating practices.	0.2	G/KW-H	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP H	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.4	G/KW	N/A
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	0.77	LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Purchased certified to the standards in NSPS Subpart IIII	0.49	LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design	1.18	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.54	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.54	LB/H	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.04	G/HP-HR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		0.2	G/HP-HR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.025	GM/HP-HR	BACT-PSD
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/HP-H	BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 3 Engine	600 hp	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 4 Engine	600 hp	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Fire Pump Engine	550 hp		0.2	GM/HP-HR	BACT-PSD
WV-0027	INWOOD	09/15/2017	5/1/2018	Emergency Generator - ESDG14	900 bhp	ULSD	0.2	G/HP-HR	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices.	1.58	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
LA-0318	FLOPAM FACILITY	01/07/2016	4/28/2017	Diesel Engines	0	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Emergency Generator Engines (4 units)	0	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Firewater pump Engines (4 units)	896 hp (each)	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)	Complying with 40 CFR 60 Subpart IIII	0.2	G/KW-HR	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion practices, Use ultra low sulfur diesel, and comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	0.88	LB/HR	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	EMERGENCY GENERATORS	1500 KW	GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII	0.04	G/KW-H	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0.88	LB/HR	BACT-PSD

Table C-17. RBLC $PM/PM_{10}/PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
MD-0043	PERRYMAN GENERATING STATION	07/01/2014	7/25/2016	EMERGENCY GENERATOR	1300	HP	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	0.17	G/HP-H	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000	kW	Good combustion practices.	0.15	G/B-HP-H	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910	hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.24	G/KW-H	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755	HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0			0.15	G/B-HP-H	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4	MMBTU/H		0.15	GM/BHP-H	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600	BHP	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690	B-HP	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600	BHP	GOOD COMBUSTION PRACTICES	0.15	G/BHP-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200	HP	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0		BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0			0.038	LB/MMBTU	N/A
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0			0.038	LB/MMBTU	N/A
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180	GAL/H	good combustion practices	0.2	G/KW-H	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250	KW	Purchased certified to the standards in NSPS Subpart IIII	0.99	LB/H	BACT-PSD
$PM_{2.5}$ - Filterable										
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7	MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0.003	LB/HP HR	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0		limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0		100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0		limited to 100 hours per year of non-emergency operation	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0		Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0		Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
KS-0040	JOHNS MANVILLE AT MCPHERSON	12/03/2019	8/25/2020	Emergency Diesel Engines	0		One diesel fuel emergency engine and one fire pump subject to NSPS Subpart IIII - Combustion Control and Limited Operating Hours.	0.2	GR/KWH	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5	MMBtu/hr	Clean Fuel and Good Combustion Practices	0.15	G/KW-HR (ULSD)	BACT-PSD
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500	hp	Minimized hours of operations Tier II engine	0.15	LB/H	OTHER CASE
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Emergency Generators (P005 and P006)	3131	HP	Tier IV engine Good combustion practices	0.15	LB/H	BACT-PSD
WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	5/1/2018	Emergency Generator	2015.7	HP		0		BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584	HP	Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.86	LB/H	BACT-PSD
LA-0308	MORGAN CITY POWER PLANT	09/26/2013	4/28/2017	2000 KW Diesel Fired Emergency Generator Engine	20.4	MMBTU/hr	Good combustion and maintenance practices, and compliance with NSPS 40 CFR 60 Subpart IIII	1.06	LB/H	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300	HP		0.15	G/HP-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200	HP	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0		BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695	hp		0.15	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610	hp		0.15	GRAMS/HP-H	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891	hp		0.15	GRAMS/HP-H	BACT-PSD
$PM_{2.5}$ - Total										
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2	KW	Ultra-low sulfur diesel fuel	1	LB/H	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051	HP	Certified to meet Tier 2 standards and good combustion practices	0.07	LB/H	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341	HP	Diesel particulate filter, Good Combustion Practices and meeting NSPS Subpart IIII requirements	0.52	LB/H	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341	HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.52	LB/H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634	Horsepower		0.2	G/KW-HR	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000	Horsepower	certified engine	0.15	G/HP-H	BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937	hp	Compliance with 40 CFR 60 Subpart IIII (Tier 2 non-road engines) standards, good combustion practices, and the use of ultra-low sulfur diesel fuel.	0.15	G/HP-HR	BACT-PSD
LA-0388	LACC LLC US - ETHYLENE PLANT	02/25/2022	12/12/2022	Firewater Pump Engine No. 1 and 2	575	hp	Compliance with 40 CFR 60 Subpart IIII	0.23	LB/HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490	HP	Limited to operate 500 hours/year, sulfur content of the diesel fuel oil fired may not exceed 15 ppm, and operate and maintain according to the manufacturerâ€™s recommendations.	0.15	G/HP-H	BACT-PSD
WI-0294	CARDINAL FG COMPANY	08/26/2019	9/16/2022	P10- Diesel emergency Generator	0			0.05	G/BHP-H	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9	Gal/hr	Good Combustion Practices; Limited Operation; 40 CFR 60 Subpart IIII	0.19	G/HP-HR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.66	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.22	LB/H	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500	h/yr	Certified Engines, Good Design, Operation, and Combustion Practices, Operational Restrictions/Limited Use	0.18	LB/H	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600	HP		0.15	G/HP-HR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500	HP		0.15	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6	gph	Good combustion practices, ULSD, and limit operation to 500 hours per year.	0.045	G/HP-HR	BACT-PSD
VA-0333	NORFOLK NAVAL SHIPYARD	12/09/2020	3/8/2022	One (1) emergency engine generator	2220	HP		1.1	LB	BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0		Good Combustion Practices and The Use of Ultra-low Sulfur Fuel	0.17	G/KWH	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0		The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	0.17	G/KWH	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Diesel-fired emergency fire pumps (2) (P009 and P010)	3131	HP	Tier IV engine and Good combustion practices	0.15	G/B-HP-H	BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Emergency Engines (EQT0014 - EQT0017)	0		Comply with standards of 40 CFR 60 Subpart IIII	0		BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUEMGD--emergency engine	4474.2	KW	ultra-low sulfur diesel fuel	1	LB/H	BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Emergency Generators and Fire Pump	1500	hp	Meet the standards of 40 CFR 60, Subpart IIII	100	HR/YR	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100	KW	Good combustion practices and ultra low sulfur diesel.	7.55	LB/1000 GAL	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD1--A 1500 HP diesel fueled emergency engine	1500	HP	Ultra low-sulfur diesel fuel.	0.69	LB/H	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD2--A 6000 HP diesel fuel fired emergency engine	6000	HP	Ultra low sulfur diesel fuel.	2.7	LB/H	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04	MMBTU/HR		0.4	LB/HR	BACT-PSD
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0346	GULF COAST METHANOL COMPLEX	01/04/2018	8/6/2021	emergency generators (4 units)	13410	hp (each)		0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	New Pumphouse (XB13) Emergency Generator #1 (EP 08-05)	2922	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Tunnel Furnace Emergency Generator (EP 08-06)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Caster B Emergency Generator (EP 08-07)	2937	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Air Separation Unit Emergency Generator (EP 08-08)	700	HP	The permittee must develop a Good Combustion and Operating Practices (GCOP) Plan	0.15	G/HP-HR	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800	HP	Tier II diesel engine	0.2	G/KWH	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750	HP	Engine that complies with Table 4 to Subpart IIII of Part 60	0.2	G/KWH	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500	H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP-HR	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0		Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.02	G/KW-HR	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364	HP	Proper burner design and operation	1.76	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364	HP	Proper design and operation; use of ultra-low sulfur diesel	1.76	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751	HP	Proper design and operation; use of ultra-low sulfur diesel	0.25	LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751	HP	Proper design and operation; use of ultra-low sulfur diesel	0.25	LB/H	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922	HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0.15	G/HP-HR	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Emergency Generators #1, #2, & #3 (EU72, EU73, & EU74)	53.6 gal/hr	The permittee shall prepare and maintain for EU72, EU73, and EU74, within 90 days of startup, a good combustion and operation practices plan (GCOP) that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing CO, VOC, PM, PM10, and PM2.5 emissions. Any revisions requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Divisionâ€™s inspection. The plan shall include, but not be limited to: i. A list of combustion optimization practices and a means of verifying the practices have occurred. ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred. iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.	0.149	G/HP-HR (EU72 &EU73	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices	1.58	LB/H	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.2	G/KW-HR	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NSPS IIII	0.15	LB/HR	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	0.08	LB/HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Clean Fuel and Good Combustion Practices	0.29	G/KW-HR (ULSD)	BACT-PSD
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0		0		N/A
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	1.1	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	certified to the meet the emissions standards in Table 4 of 40 CFR Part 60, Subpart IIII, shall employ good combustion practices per the manufacturerâ€™s operating manual	0.44	LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Good combustion practices (ULSD) and compliance with 40 CFR Part 60, Subpart IIII	0.62	LB/H	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Emergency diesel-fired generator (P007)	2682 HP	Comply with NSPS 40 CFR 60 Subpart IIII	1.01	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Good combustion design	0.73	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Good combustion design	0.23	LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	Certified to the meet the emissions standards in 40 CFR 89.112 and 89.113 pursuant to 40 CFR 60.4205(b) and 60.4202(a)(2). Good combustion practices per the manufacturerâ€™s operating manual.	0.73	LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	0.5	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	0.5	LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	0.2	LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	State-of-the-art combustion design	0.97	LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	State-of-the-art combustion design	0.77	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good combustion and operating practices.	0.3	G/HP-H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good combustion and operating practices.	0.2	G/KW-H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	Good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.15	G/HP H	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.4	G/KR	N/A
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	0.77	LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Purchased certified to the standards in NSPS Subpart IIII	0.49	LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	State of the art combustion design.	1.18	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.52	LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.52	LB/H	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.04	G/HP-HR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		2	HP-HR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.025	GM/HP-HR	BACT-PSD
MD-0044	COVE POINT LNG TERMINAL	06/09/2014	5/14/2018	EMERGENCY GENERATOR	1550 HP	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/HP-H	BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 3 Engine	600 hp	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 4 Engine	600 hp	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Fire Pump Engine	550 hp		0.2	GM/HP-HR	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Diesel Fired Emergency Generator	44 H/YR	use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices.	1.58	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Emergency Generator Engines (4 units)	0	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Firewater pump Engines (4 units)	896 hp (each)	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)	Complying with 40 CFR 60 Subpart IIII	0.2	G/KW-HR	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion practices, Use ultra low sulfur diesel, and comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	0.88	LB/HR	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	EMERGENCY GENERATORS	1500 KW	GOOD OPERATING PRACTICES, LIMITED HOURS OF OPERATION, COMPLIANCE WITH NSPS SUBPART IIII	0.04	G/KW-H	BACT-PSD
LA-0292	HOLBROOK COMPRESSOR STATION	01/22/2016	9/19/2016	Emergency Generators No. 1 & No. 2	1341 HP	Use of a certified engine, low sulfur diesel, and limiting non-emergency use to no more than 100 hours per year	0.44	LB/HR	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0.88	LB/HR	BACT-PSD
OK-0154	MOORELAND GENERATING STA	07/02/2013	7/29/2016	DIESEL-FIRED EMERGENCY GENERATOR ENGINE	1341 HP	COMBUSTION CONTROL.	0.44	LB/HR	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000 kW	Good combustion practices	0.15	G/B-HP-H	BACT-PSD

Table C-17. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Main Propulsion Generator Diesel Engines	9910 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.24	G/KW-H	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755 HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0		0.15	G/B-HP-H	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4 MMBTU/H		0.15	GM/BHP-H	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690 B-HP	GOOD COMBUSTION PRACTICES	0.15	LB/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	0.15	G/BHP-H	BACT-PSD
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180 GAL/H	good combustion practices	0.2	G/KW-H	BACT-PSD
AK-0081	POINT THOMSON PRODUCTION FACILITY	06/12/2013	1/8/2014	Combustion	610 hp	Good operation and combustion practices	0.15	G/KW-H	OTHER CASE

Table C-18. RBLC GHG Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
*MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/15/2023	EUEMGD	4474.2	KW	low carbon fuel (pipeline quality natural gas), good combustion practices, and energy efficiency measures.	590	T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	5,051 bhp (3,768 kWm) Diesel-Fired Emergency Generators: P001 through P	5051	HP	Good combustion practices and proper maintenance and operation	162.7	LB/MMBTU	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341	HP	Good combustion practices	383	T/YR	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341	HP	Good combustion practices	383	T/YR	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634	Horsepower		163	LB/MMBTU	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000	Horsepower	Good engineering design and manufacturerâ€™s recommended operating and maintenance procedures.	163.6	LB/MMBTU	BACT-PSD
*TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	4/3/2023	EMERGENCY GENERATOR	18.7	MMBTU/HR	GOOD COMBUSTION PRACTICES, LIMITED TO 100 HR/YR	0		BACT-PSD
*LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	3/6/2023	Emergency Diesel Generator Engine	2937	hp	Compliance with 40 CFR 60 Subpart IIII, good combustion practices, and the use of ultra-low sulfur diesel fuel.	74.21	KG/MM BTU	BACT-PSD
LA-0388	LACC LLC US - ETHYLENE PLANT	02/25/2022	12/12/2022	Firewater Pump Engine No. 1 and 2	575	hp	Compliance with 40 CFR 60 Subpart IIII	33	T/YR	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250	kW		508	TONS/YEAR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490	HP	Certified to at least meet EPAâ€™s criteria for Tier 2 reciprocating internal combustion engines and the 40 CFR 60, Subpart IIII emission limitations, operation limited to 500 hours/year, and operate and maintain generator according to the manufacturerâ€™s recommendations.	0		BACT-PSD
WI-0297	GREEN BAY PACKAGING- MILL DIVISION	12/10/2019	9/16/2022	Diesel-Fired Emergency Fire Pump (P36)	510	HP		200	H/Y	BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9	Gal/hr	Good Combustion Practices; Limited Operation;	163.6	LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE1 in FGRICE)	500	h/yr	Good Combustion and Design Practices	590	T/YR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Emergency diesel generator engine (EUEMRGRICE2 in FGRICE)	500	h/yr	Good Combustion and Design Practices	209	T/YR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Diesel fire pump engine (EUFIREPUMP in FGRICE)	500	h/yr	Good Combustion and Design Practices	56	T/YR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	emergency generator EU 014a	3600	HP		1044	TON/YR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	fire water pump EU-015	500	HP		527.4	G/HP-HR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6	gph	Good combustion practices and limit operation to 500 hours per year	163.6	LB/MMBTU	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0		limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
VA-0333	NORFOLK NAVAL SHIPYARD	12/09/2020	3/8/2022	One (1) emergency engine generator	2220	HP		2.543	LB	BACT-PSD
TX-0915	UNIT 5	03/17/2021	3/8/2022	DIESEL GENERATOR	0		LIMITED 500 HR/YR OPERATION	0		BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0		Good Combustion Practices and The Use of Ultra-low Sulfur Fuel	0		BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0		The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	0		BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Diesel-fired emergency fire pumps (2) (P009 and P010)	3131	HP	Tier IV engine and good combustion practices	521.6	G/B-HP-H	BACT-PSD
LA-0383	LAKE CHARLES LNG EXPORT TERMINAL	09/03/2020	3/4/2022	Emergency Engines (EQT0011 - EQT0016)	0		Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUEMGD--emergency engine	4474.2	KW	low carbon fuel (pipeline quality natural gas), good combustion practices, and energy efficiency measures.	590	T/YR	BACT-PSD
TX-0905	DIAMOND GREEN DIESEL PORT ARTHUR FACILITY	09/16/2020	9/10/2021	EMERGENCY GENERATOR	0		limited to 100 hours per year of non-emergency operation	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550	hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGEMENGINE	1100	KW		444	T/YR	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD1--A 1500 HP diesel fueled emergency engine	1500	HP	Good combustion practices and energy efficiency measures.	406	T/YR	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUEMGD2--A 6000 HP diesel fuel fired emergency engine	6000	HP	Good combustion practices and energy efficiency measures.	1590	T/YR	BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04	MMBTU/HR		163.61	LB/MMBTU	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800	HP	Tier II diesel engine	811	TONS	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750	HP	Engine that complies with Table 4 to Subpart IIII of Part 60	217	TONS	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500	H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	1203	T/YR	BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0		Good Combustion Practices	164	LB/MMBTU	BACT-PSD

Table C-18. RBLC GHG Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_AV	BASIS
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 1	5364 HP	Proper design and operation; energy efficiency measures	0		BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Emergency Diesel Generator 2	5364 HP	Proper design and operation; energy efficiency measures	0		BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 1	751 HP	Proper design and operation; use of ultra-low sulfur diesel	0		BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Fire Pump Diesel Engine 2	751 HP	Proper design and operation; use of ultra-low sulfur diesel	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices	928	T/YR	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	well-designed and properly maintained engines and each limited to 100 hours per year of non-emergency use.	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0	Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
TX-0872	CONDENSATE SPLITTER FACILITY	10/31/2019	11/12/2020	Emergency Generators	0	Limiting duration and frequency of generator use to 100 hr/yr. Good combustion practices will be used to reduce VOC including maintaining proper air-to-fuel ratio.	0		BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Combustion Practices	163	LB/MMBTU	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	650 horsepower	Compliance with NSPS Subpart IIII	37	TPY	BACT-PSD
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017	5/1/2020	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	1474 horsepower	Compliance with NSPS Subpart IIII	84	TPY	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Emergency Engine	1500 kW		225	TONS/YEAR	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Black Start and Emergency Internal Cumbustion Engines	1500 kWe	Good Combustion Practices	2781	TPY	BACT-PSD
AK-0084	DONLIN GOLD PROJECT	06/30/2017	4/16/2020	Twelve (12) Large ULSD/Natural Gas-Fired Internal Combustion Engines	143.5 MMBtu/hr	Good Cumbustion Practices	1299630	TPY (ULSD)	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8 MMBTU/H		80.5	TPY	OTHER CASE
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Emergency Generators (P005 and P006)	3131 HP	Tier IV engine Good combustion practices	3632	LB/H	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Emergency Diesel-fired Generator Engine (P007)	3353 HP	good operating practices (proper maintenance and operation)	200	T/YR	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	1,000 kW Emergency Generators (P008 - P010)	1341 HP	good operating practices (proper maintenance and operation)	80	T/YR	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	Efficient design and proper maintenance and operation	109.2	T/YR	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Emergency diesel-fired generator (P007)	2682 HP	Equipment design and maintenance requirements	163.6	LB/MMBTU	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Efficient design	116.8	T/YR	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Efficient design	40.1	T/YR	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	good operating practices (proper maintenance and operation)	120	T/YR	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	state of the art combustion design	445	T/YR	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	Efficient design	445	T/YR	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Emergency Generator (P009)	5000 HP	good combustion control and operating practices and engines designed to meet the stands of 40 CFR Part 60, Subpart IIII	1289	T/YR	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	Efficient design	858	T/YR	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	Efficient design	683	T/YR	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634 kW	Good Combustion Practices and Good Operation and Maintenance Practices.	44	T/YR	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364 HP	Good Combustion of Practices and Good Operation and Maintenance Practices	1481	T/YR	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	use of S15 ULSD and high efficiency design and operation	981	T/YR	BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Good Combustion Practices/Maintenance	163.6	LB/MMBTU	N/A
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	474	T/YR	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW		433.96	T/YR	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Emergency Engines	0		0		BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	Energy efficient design.	161	T/YR	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341 HP	Good combustion practices.	383	T/YR	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341 HP	Good combustion practices.	383	T/YR	BACT-PSD

Table C-18. RBLC GHG Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A	BASIS
OH-0359	DTE MARIETTA	03/31/2014	2/19/2019	black start generator w/ 1,141 hp diesel engine (P002)	1141 HP	Fuel efficient engine (good combustion practices)	65.3	T/YR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		44	TPY	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Fire Pump Engine	0		14	TPY	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		81	TONS	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Fire Pump Engine	550 hp	Good Combustion	0		BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 3 Engine	600 hp	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0323	MONSANTO LULING PLANT	01/09/2017	5/11/2018	Fire Water Diesel Pump No. 4 Engine	600 hp	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0		BACT-PSD
WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	5/1/2018	Emergency Generator	2015.7 HP		2416	LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68 MMBTU/H	Good combustion practices	928	T/YR	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	500 H/YR	Good combustion and design practices.	209	T/YR	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	500 H/YR	Good combustion and design practices.	70	T/YR	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	500 H/YR	Good combustion and design practices.	56	T/YR	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	3600 HP EACH	GOOD COMBUSTION PRACTICES	1044	TON/12 CONSEC. MON	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	500 H/YR	Good combustion and design practices.	223	T/YR	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	Dieself fire pump engine (EUFIREPUMP in FGRICE)	500 H/YR	Good combustion and design practices.	56	T/YR	BACT-PSD
LA-0308	MORGAN CITY POWER PLANT	09/26/2013	4/28/2017	2000 KW Diesel Fired Emergency Generator Engine	20.4 MMBTU/hr	Good combustion practices	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Emergency Generator Engines (4 units)	0	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	4/28/2017	Firewater pump Engines (4 units)	896 hp (each)	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0		BACT-PSD
LA-0316	CAMERON LNG FACILITY	02/17/2017	4/28/2017	emergency generator engines (6 units)	3353 hp	good combustion practices	0		BACT-PSD
LA-0313	ST. CHARLES POWER STATION	08/31/2016	4/28/2017	SCPS Emergency Diesel Generator 1	2584 HP	Good combustion practices	0		BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922 hp (each)		0		BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Diesel Engines	0	good combustion/operating/maintenance practices	0		BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023 hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682 HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	56	TPY	BACT-PSD
LA-0292	HOLBROOK COMPRESSOR STATION	01/22/2016	9/19/2016	Emergency Generators No. 1 & No. 2	1341 HP		77	TPY	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682 HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	56	TPY	BACT-PSD
OK-0154	MOORELAND GENERATING STA	07/02/2013	7/29/2016	DIESEL-FIRED EMERGENCY GENERATOR ENGINE	1341 HP	A TIER 3 CERTIFIED ENGINE OPERATED < 100 HR/YR.	81.2	TPY	BACT-PSD
TX-0799	BEAUMONT TERMINAL	06/08/2016	7/7/2016	Fire pump engines	0	Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	72.16	T/YR	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-EMGEN7-8; Two (2) 1,000kW diesel-fueled emergency reciprocating inte	1000 kW	Good combustion practices.	1731.4	T/YR	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Source Wide Emissions	0	good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure where applicable	74571	TONS	BACT-PSD
TX-0766	GOLDEN PASS LNG EXPORT TERMINAL	09/11/2015	7/6/2016	Emergency Engine Generators	750 hp	Equipment specifications & work practices - Good combustion practices and limited operational hours	40	HR/YR	BACT-PSD
OK-0164	MIDWEST CITY AIR DEPOT	01/08/2015	7/6/2016	Jet Engine Testing Cells	65000 FT-LB THRUST		2481	TONS PER YEAR	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300 HP		31.11	CO2E	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	526.39	G/B-HP-H	BACT-PSD
IL-0114	CRONUS CHEMICALS, LLC	09/05/2014	5/5/2016	Emergency Generator	3755 HP	Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	432	TPY	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0		183	T/YR	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4 MMBTU/H		162.85	LB/MMBTU	BACT-PSD
CO-0067	LANCASTER PLANT	06/04/2013	5/5/2016	Emergency Generator	19950 gal per year	NSPS IIII compliant.	0		BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	DIESEL-FIRED EMERGENCY GENERATOR	4690 B-HP	GOOD COMBUSTION PRACTICES	526.39	G/B-HP-H	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	DIESEL FIRED EMERGENCY GENERATOR	3600 BHP	GOOD COMBUSTION PRACTICES	526.39	G/BHP-H	BACT-PSD
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180 GAL/H	good combustion practices	1.55	LB/KW-H	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	EMERGENCY DIESEL GENERATOR (2205-B)	1200 HP	ENERGY EFFICIENCY MEASURES	0		BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0		74000	T/YR	N/A
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0		74000	T/YR	N/A
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLE	07/12/2013	5/4/2016	Emergency Generators	180 GAL/H	good combustion practices	509	TONS/YR	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250 KW		878	T/YR	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Emergency Camp Generators	2695 hp		2332	TONS/YEAR	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Fine Water Pumps	610 hp		565	TONS/YEAR	BACT-PSD
AK-0082	POINT THOMSON PRODUCTION FACILITY	01/23/2015	2/19/2016	Bulk Tank Generator Engines	891 hp		7194	TONS/YEAR	BACT-PSD
AK-0081	POINT THOMSON PRODUCTION FACILITY	06/12/2013	1/8/2014	Combustion	610 hp	Good Combustion and Operating Practices	0		OTHER CASE

Table C-19. RBLC SO_2 Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (South Plant): Emergency engine	1341 HP	Good Combustion Practices and meeting NSPS Subpart IIII requirements	15	PPM	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUEMENGINE (North Plant): Emergency engine	1341 HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	BACT-PSD
AR-0177	NUCOR STEEL ARKANSAS	11/21/2022	4/25/2023	SN-230 Galvanizing Line No, 2 Emergency Generator	3634 Horsepower	Fuel Specification	15	PPM FUEL	BACT-PSD
*IN-0359	NUCOR STEEL	03/30/2023	4/11/2023	Emergency Generator (CC-GEN1)	3000 Horsepower	ultra-low sulfur diesel fuel (0.0015%S)	0		BACT-PSD
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	use low sulfur fuel oil	0.05	% SULFUR	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250 kW	Use of ultra-low sulfur diesel, with a sulfur content < 15 ppm sulfur.	0		BACT-PSD
AK-0088	LIQUEFACTION PLANT	07/07/2022	8/16/2022	Diesel Fire Pump Engine	27.9 Gal/hr	Good Combustion Practices; ULSD; Limited Operation;	15	PPMW SULFUR IN FUEL	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	One (1) Black Start Generator Engine	186.6 gph	Good combustion practices, ULSD, and limit operation to 500 hours per year.	15	PPMW SULFUR IN FUEL	BACT-PSD
TX-0933	NACERO PENWELL FACILITY	11/17/2021	3/8/2022	Emergency Generators	0	limited to 100 hours per year of non-emergency operation. EPA Tier 2 (40 CFR Â§ 1039.101) exhaust emission standards	0		BACT-PSD
WI-0286	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	P42 -Diesel Fired Emergency Generator	0	Good Combustion Practices and The Use of Ultra-low Sulfur Fuel	0		BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	Diesel-Fired Emergency Generators	0	The Use of Ultra-Low Sulfur Fuel and Good Combustion Practices	0		BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour		15	PPM S IN FUEL	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	Diesel Emergency Engines	0		15	PPM	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	1,500 kW Emergency Diesel Generator	14.82 MMBtu/hour	Clean fuel	15	PPM S IN FUEL	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	Two 3300 kW emergency generators	0	Clean fuel	15	PPM S IN FUEL	BACT-PSD
TX-0904	MOTIVA POLYETHYLENE MANUFACTURING COMPLEX	09/09/2020	12/1/2021	EMERGENCY GENERATOR	0	100 HOURS OPERATIONS, Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Generator Diesel Engines	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Emergency Fire Water Pumps	550 hp	Compliance with the limitations imposed by 40 CFR 63 Subpart IIII and operating the engine in accordance with the engine manufacturer's instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0		BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04 MMBTU/HR		0.029	LB/HR	OTHER CASE
LA-0350	BENTELER STEEL TUBE FACILITY	03/28/2018	8/6/2021	emergency generators (3 units) EQT0039, EQT0040, EQT0041	0	Comply with 40 CFR 60 Subpart IIII	0		BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency generator EU-6006	2800 HP	ULSD	15	PPM	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Emergency fire pump EU-6008	750 HP	Engine that complies with Table 4 to Subpart IIII of Part 60 fuel sulfur limitation	15	PPM	BACT-PSD
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500 H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.0015	LB/MMBTU	BACT-PSD
TX-0911	FORMOSA POINT COMFORT PLANT	12/15/2020	5/10/2021	EMERGENCY GENERATOR ENGINE	0	ULTRA LOW SULFUR FUEL	0		BACT-PSD
AR-0161	SUN BIO MATERIAL COMPANY	09/23/2019	5/5/2021	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.007	G/KW-HR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-02 - North Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-03 - South Water System Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-04 - Emergency Fire Water Pump	920 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-07 - Air Separation Plant Emergency Generator	700 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 10-01 - Caster Emergency Generator	2922 HP	This EP is required to have a Good Combustion and Operating Practices (GCOP) Plan.	0		BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	EUEMENGINE (diesel fuel emergency engine)	22.68 MMBTU/H	Good Combustion Practices and meeting NSPS Subpart IIII requirements	15	PPM	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	EMERGENCY GENERATORS & FIRE WATER PUMP ENGINES	0	ultra-low sulfur diesel (15 ppmw sulfur content).	0		BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency generator	0	Tier 4 exhaust emission standards specified in 40 CFR Â§ 1039.101, limited to 100 hours per year of non-emergency operation	15	PPMW	BACT-PSD
TX-0876	PORT ARTHUR ETHANE CRACKER UNIT	02/06/2020	11/12/2020	Emergency firewater pumps	0	Tier 3 exhaust emission standards specified in 40 CFR Â§ 89.112, limited to 100 hours per year of non-emergency operation	0		BACT-PSD
AR-0163	BIG RIVER STEEL LLC	06/09/2019	11/10/2020	Emergency Engines	0	Good Operating Practices, limited hours of operation, Compliance with NSPS Subpart IIII	0.0015	% SULFUR FUEL	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET NSPS SUBPART IIII LIMITS	0.006	G/B-HP-H	BACT-PSD

Table C-19. RBLC SO_2 Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput		Control Method Description	Emission Limit	EMISSION_LIMIT_1_A	BASIS
TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	04/01/2015	1/31/2020	Emergency Diesel Generator	1500	hp	Low sulfur fuel 15 ppmw	0.61	LB/H	OTHER CASE
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860	HP	ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)	0.0015	LB/MMBTU	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206	HP	ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)	0.0015	LB/MMBTU	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529	HP	Ultra low sulfur diesel fuel	0.016	LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529	HP	Ultra low sulfur diesel fuel	0.016	LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947	HP	Ultra low sulfur diesel fuel	0.03	LB/H	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Firewater Pumps	634	kW	Ultra-Low Sulfur Diesel Fuel with Sulfur Content of 15 ppmv.	0.04	LB/GAL	BACT-PSD
LA-0331	CALCASIEU PASS LNG PROJECT	09/21/2018	6/19/2019	Large Emergency Engines (>50kW)	5364	HP	Ultra-low sulfur diesel fuel with sulfur content of 15 ppmv.	0	LB/HP-H	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500	H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0		BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0		Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0015	LB/MMBTU	N/A
TX-0671	PROJECT JUMBO	12/01/2014	3/6/2019	Engines	0		Ultra low sulfur fuel engines burn will meet the sulfur requirement of 15 ppm in 40CFR80.510(b)	0.0649	G/KW-H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (North Plant): Emergency Engine	1341	HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUEMENGINE (South Plant): Emergency Engine	1341	HP	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	EUEMENGINE (Diesel fuel emergency engine)	22.68	MMBTU/H	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Emergency generator	0		Ultra low sulfur diesel with maximum sulfur content 0.0015 percent.	0.0014	LB/MMBTU	BACT-PSD
LA-0309	BENTELER STEEL TUBE FACILITY	06/04/2015	4/28/2017	Emergency Generator Engines	2922	hp (each)		0		BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Diesel Engines (Emergency)	4023	hp	Complying with 40 CFR 60 Subpart IIII	0		BACT-PSD
LA-0296	LAKE CHARLES CHEMICAL COMPLEX LDPE UNIT	05/23/2014	4/28/2017	Emergency Diesel Generators (EQTs 622, 671, 773, 850, 994, 995, 996, 1033,	2682	HP	Compliance with 40 CFR 60 Subpart IIII; operating the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures (consistent with safe operation) designed to maximize combustion efficiency and minimize fuel usage.	0.03	LB/HR	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	EMERGENCY GENERATORS	1500	KW	GOOD O	20	%	BACT-PSD
LA-0288	LAKE CHARLES CHEMICAL COMPLEX	05/23/2014	9/14/2016	Emergency Diesel Generators (EQT 629, 639, 838, 966, & 1264)	2682	HP	Comply with 40 CFR 60 Subpart IIII; operate the engine in accordance with the engine manufacturerâ€™s instructions and/or written procedures designed to maximize combustion efficiency and minimize fuel usage.	0.03	LB/HR	BACT-PSD
FL-0349	STATOIL GULF SERVICES, LLC	08/14/2014	7/7/2016	Source Wide Limits	0		Certification of sulfur content of fuel from fuel supplier	15	PPM	BACT-PSD
FL-0350	ANADARKO PETROLEUM, INC DIAMOND BLACKHAWK DRILLING	12/31/2014	7/7/2016	Sourcewide Limits	0		Obtain certification of sulfur content from the fuel supplier for all diesel fuel used on the BlackHawk and used in all equipment and vessels used during well completion	15	PPM	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Three 3300-kW ULSD emergency generators	0		Use of ULSD	0.0015	% S IN ULSD	BACT-PSD
FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	09/16/2014	7/6/2016	Source Wide Emissions	0		Use diesel fuel with a sulfur content no greater than 15 parts per million (ppm) by weight in any diesel fueled emission unit on the Discoverer Spirit or on any support vessel	15	PPM	BACT-PSD
IN-0185	MAG PELLET LLC	04/24/2014	5/13/2016	DIESEL FIRE PUMP	300	HP		0.29	LB/MMBTU	BACT-PSD
FL-0346	LAUDERDALE PLANT	04/22/2014	5/5/2016	Four 3100 kW black start emergency generators	2.32	MMBtu/hr (HHV) per e	ULSD required	15	PPM SULFUR IN FUEL	BACT-PSD
PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY	04/10/2014	5/5/2016	Emergency Diesel Generator	0			0.006	LB/H	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4	MMBTU/H		0.011	LB/H	OTHER CASE
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 1 for Aircraft Engines and Turbines	0			0.11	LB/MMBTU	N/A
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	Test Cell 2 for Aircraft Engines and Turbines	0			0.11	LB/MMBTU	N/A
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Emergency generator	2250	KW		0.03	LB/H	N/A
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	EMERGENCY GENERATOR	7.8	MMBTU/H		0.01	LB/H	OTHER CASE
*AL-0318	TALLADEGA SAWMILL	12/18/2017	10/11/2019	250 Hp Emergency CI, Diesel-fired RICE	0			0		N/A

Table C-20. RBLC H_2SO_4 Summary for Emergency Generator, Diesel-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	EMISSION_LIMIT_1_A\	BASIS
KS-0036	WESTAR ENERGY - EMPORIA ENERGY CENTER	03/18/2013	3/1/2023	Caterpillar C18DITA Diesel Engine Generator	900 BHP	use low sulfur fuel oil	0.05	% S	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Emergency Engines	1250 kW	Use of ultra-low sulfur diesel, with a sulfur content < 15 ppm sulfur.	0		BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Emergency Diesel Generator (P07)	1490 HP	Operation limited to 500 hours/year, sulfur content of the diesel fuel oil fired may not exceed 15 ppm, and permittee shall operate and maintain generator according to the manufacturerâ€™s recommendations.	0		BACT-PSD
MA-0043	MIT CENTRAL UTILITY PLANT	06/21/2017	8/9/2021	Cold Start Engine	19.04 MMBTU/HR		0.022	LB/HR	OTHER CASE
VA-0332	CHICKAHOMINY POWER LLC	06/24/2019	5/19/2021	Emergency Diesel Generator - 300 kW	500 H/YR	good combustion practices, high efficiency design, and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0.0001	LB/MMBTU	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	EMERGENCY GENERATOR 1	2250 KW	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET SUBPART IIII LIMITS	0.006	G/HP-H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Emergency Diesel Generator (P003)	1860 HP	ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)	7.3	X10-4 LB/MMBTU	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Generator Engine (P001)	2206 HP	Low sulfur fuel	0.0016	LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Emergency Diesel Fire Pump Engine (P002)	700 HP	Low sulfur fuel	5.4	X10-4 LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Emergency Generators (2 identical, P004 and P005)	2206 HP	ultra-low sulfur diesel (ULSD) fuel with a sulfur content of less than 15 ppm (0.0015 percent by weight)	3.4	X10-3 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	3.3	X10-4 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Emergency generator (P003)	1529 HP	Ultra low sulfur diesel fuel	3.3	X10-4 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Emergency generator (P003)	2947 HP	Ultra low sulfur diesel fuel	6.4	X10-4 LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Emergency generator (P003)	2346 HP	Low sulfur fuel	5.1	X10-4 LB/H	BACT-PSD
VA-0328	C4GT, LLC	04/26/2018	6/19/2019	Emergency Diesel GEN	500 H/YR	good combustion practices and the use of ultra low sulfur diesel (S15 ULSD) fuel oil with a maximum sulfur content of 15 ppmw.	0		BACT-PSD
VA-0325	GREENSVILLE POWER STATION	06/17/2016	6/19/2019	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	0	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0001	LB/MMBTU	N/A
OH-0363	NTE OHIO, LLC	11/05/2014	4/1/2019	Emergency generator (P002)	1100 KW	Emergency operation only, < 500 hours/year each for maintenance checks and readiness testing designed to meet NSPS Subpart IIII	2.19	X10-3 LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Emergency generator (P003)	1112 KW	Ultra low sulfur diesel fuel with 15 ppm maximum sulfur content	3.23	X10-4 LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUEMENGINE: Emergency engine	2 MW	Good combustion practices, low sulfur fuel.	15	PPM	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Emergency Generator	0		0.0006	G/HP-HR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	2000 kW Emergency Generator	0		0.0007	GM/HP-HR	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Emergency generator	0	Ultra low sulfur diesel with maximum sulfur content 0.0015 percent.	3	E-5 LB/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Emergency Engine/Generator	7.4 MMBTU/H		0.0009	LB/H	BACT-PSD

Table C-21. RBLC NO_X Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	low NOx burners	0.035 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	low NOx burners, good combustion practices, use of pipe	50 LB/MMSCF	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	low NOx burners, good combustion practices and only pi	50 LB/MMSCF	BACT-PSD
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	HOT OIL HEATER	0	Burner design for good combustion efficiency and to min	0.014 LB/MMBTU	LAER
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	HEATER NO 2	0	Burner design for good combustion efficiency and to min	0.01 LB/MMBTU	LAER
LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	5/23/2023	Auxiliary Boiler	80 mm BTU/h	Ultra-low NOx burners and good combustion practices.	0.01 LB/MM BTU	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 037 - Sow Dryer	20 MMBtu/hr	Good Combustion & Operation Practices (GCOP) Plan, Lo	1.08 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041a - Direct-Fired Building Heating Systems	53 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	5.3 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041b - Indirect-Fired Building Heating Systems â‰¤ 1 MMB	3 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.3 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041c - Indirect-Fired Building Heating Systems > 1 MMBt	19.2 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	1.92 LB/HR	BACT-PSD
MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/23/2023	EUAUXBOILER--natural-gas fired auxiliary boiler, rated at less th	50 MMBTU/H	Low NOx Burners (LNB) or Flue Gas Recirculation (FGR) a	30 PPM	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	45.6 MMBtu/hr Natural Gas-Fired Nitrogen Vaporizers: B029 th	45.6 MMBTU/H	Ultra-low NOX burners, good combustion practices, and	2.59 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	29.4 MMBtu/hr Natural Gas-Fired Boilers: B001 through B028	29.4 MMBTU/H	Ultra-low NOX burners, good combustion practices, and	9.74 T/YR	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Low NOx Burners/Flue Gas Recirculation and Good Comb	0.04 LB/MMBTU	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Low NOx burners/Flue gas recirculation and good combu	0.04 LB/MMBTU	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Ultra low-NOx burners and flue gas recirculation, air preh	0.01 POUNDS/MMBTU	BACT-PSD
WI-0306	WPL- RIVERSIDE ENERGY CENTER	02/28/2020	9/16/2022	Temporary Boiler (B98A)	14.67 MMBTU/H	Low NOx burners, flue gas recirculation, shall be operate	0.04 LB/MMBTU	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Natural Gas-Fired Auxiliary Boiler (B02)	100 MMBTU/H	Ultra-low NOx burners, flue gas recirculation, and operat	0.011 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Low NOx burnersCombustion of clean fuelGood Combust	0.1 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Low NOx burnersCombustion of clean fuelGood Combust	0.035 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Low NOx burnersCombustion of clean fuelGood Combust	0.035 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Low NOx burnersCombustion of clean fuelGood Combust	0.035 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil heater (EUTOH in FGTOH)	38 MMBTU/H	Good design and combustion practices, low NOx burners	0.05 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil system for thermally fused lamination lines (EUFLT(	10.2 MMBTU/H	Good design and combustion practices, low NOx burners	0.05 LB/MMBTU	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Low-NOx burners	0.05 LB/MMBTU	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.011 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three Gas Heaters	10 MMBtu/hr		0.011 LB/MMBTU	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Low NOx burners	0.035 LB/MMBTU	BACT-PSD
LA-0377	TOKAI ADDIS FACILITY	05/27/2020	9/10/2021	1-19 Burner 1	12 MW	Low NOx Burners and good combustion practices.	0.08 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Low Nox Burners	0.035 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Low Nox Burners	0.1 LB/MMBTU	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUAUXBOILER--nat gas fired auxiliary boiler	50 MMBTU/H	Low NOx burners (LNB) or flue gas recirculation (FGR) alc	30 PPM	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Galvanizing Line #2 Furnace	150.5 MMBtu/hr	SCR, Low NOx burnersCombustion of clean fuelGood Cor	0.035 LB/MMBTU	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Decarburizing Line Furnace Section	58 MMBtu/hr	Low NOx burnersSCRCombustion of clean fuelGood Com	0.1 LB/MMBTU	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	startup heater EU-002	33.34 MMBtu/hr	shall combust natural gas, shall be controlled by good co	200 HR/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	100 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	35 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€" Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	50 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	50 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	7.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	50 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	7.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	70 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	70 LB/MMSCF	BACT-PSD
AR-0167	LION OIL COMPANY	12/01/2020	5/26/2021	SN-803 - #4 Pre-Flash Column Reboiler	40 MMBtu/hr	Ultra-low NOx burners and good combustion practice	1.9 LB/HR	BACT-PSD
AR-0167	LION OIL COMPANY	12/01/2020	5/26/2021	SN-805 - #4 Pre-Flash Reboiler	75 MMBtu/hr	Ultra-low NOx burners and good combustion practice	3.5 LB/HR	BACT-PSD
AR-0167	LION OIL COMPANY	12/01/2020	5/26/2021	SN-808 - #7 FCCU Furnace	56 MMBtu/hr	Good combustion practice	2.8 LB/HR	BACT-PSD
AR-0167	LION OIL COMPANY	12/01/2020	5/26/2021	SN-810 - #9 Hydrotreater Furnace/Reboiler	70 MMBtu/hr		12.7 LB/HR	BACT-PSD
AR-0167	LION OIL COMPANY	12/01/2020	5/26/2021	SN-842 - #12 Unit Distillate Hydrotreater	50 MMBtu/hr	Good combustion practice	5.3 LB/HR	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Good combustion practices	1.32 LB/H	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Two (2) Buyback Gas Bath Heaters and Three (3) Operations Ca	32 MMBtu/hr	Low NOx Burners, Good Combustion Practices, Limited O	0.036 LB/MMBTU	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	Low-Nox Burner (Designed to maintain 0.07 lb/MMBtu);	70 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	Low-Nox Burner (Designed to maintain 0.08 lb/MMBtu);	81.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	Low-Nox Burner (Designed to maintain 0.15 lb/MMBtu ir	158 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	Low-Nox Burner (Designed to maintain 0.08 lb/MMBtu);	81.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	Low-Nox Burner (Designed to maintain 0.18 lb/MMBtu);	181.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	Low-Nox Burner (Designed to maintain 0.08 lb/MMBtu);	81.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	Low-Nox Burner (Designed to maintain 0.07 lb/MMBtu);	70 LB/MMSCF	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Hot Oil Heaters 1 and 2	0	LNB	0.06 LB/MMBTU	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	PR Waste Heat Boiler	94 mm btu/h	SCR and LNB	14.41 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Hot Oil Heaters (5)	16.13 mm btu/hr	ULNB and Good Combustion Practices	0	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Low NOx burners and good combustion practice.	0.04 LB/MMBTU	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Tunnel Furnace #2 (P018)	88 MMBTU/H	Use of natural gas, use of low NOx burners, good combu:	6.16 LB/H	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGAUXBOILER	80 MMBTU/H	Good combustion practices and low NOx burners.	0.036 LB/MMBTU	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGPREHEAT	7 MMBTU/H	Good combustion practices and low NOx burners	0.036 LB/MMBTU	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUAUXBOILER--natural gas fired auxiliary boiler rated at <= 9	99 MMBTU/H	Low NOx burners (LNB) or flue gas recirculation along wi	30 PPM	BACT-PSD
MI-0440	MICHIGAN STATE UNIVERSITY	05/22/2019	8/9/2021	FGFUELHEATERS	25 MMBTU/H	Low NOx burners and good combustion practices.	0.05 LB/MMBTU	BACT-PSD
WI-0291	GRAYMONT WESTERN LIME-EDEN	01/28/2019	3/8/2022	P05 Natural Gas Fired Line Heater	1.5 mmBTU/hr	Good Combustion Practices	0.1 LB/MMBTU	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	B13-B24 & B25-B36 Natural Gas-Fired Boilers	28 mmBTU	Ultra-Low NOx Burners, Flue Gas Recirculation, and Gooc	0.0105 LB/MMBTU	BACT-PSD

Table C-21. RBLC NO_X Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
WI-0283	AFE, INC. â€"LCM PLANT	04/24/2018	3/8/2022	B01-B12, Boilers	28 mmBTU/hr	Ultra-low NOx Burners, Flue Gas Recirculation and Good	0.0105 LB/MMBTU	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Auxiliary Boiler	96 mmBtu/hr	Ultra low-NOx burners and flue gas recirculation air preh	0.01 LB/MMBTU	LAER
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, PICKLE LINE	0	LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD	0.035 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	PREHEATERS, GALVANIZING LINE SN-28 and SN-29	0	SCR, LOW NOX BURNERS, AND COMBUSTION OF CLEAN F	0.035 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, ANNEALING PICKLE LINE	0	Low NOx burners, Combustion of clean fuel, and Good C	0.035 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILERS SN-26 AND SN-27, GALVANIZING LINE	0	LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD	0.035 LB/MMBTU	BACT-PSD
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Startup boiler (B001)	15.17 MMBTU/H	Low-NOX burners, good combustion practices and the us	0.634 LB/H	BACT-PSD
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Ladle Preheaters (P002, P003 and P004)	15 MMBTU/H	Good combustion practices and the use of natural gas	2.12 LB/H	BACT-PSD
*PA-0319	RENAISSANCE ENERGY CENTER	08/27/2018	10/11/2019	NATURAL GAS FIRED AUXILIARY BOILER	88 MMBtu/hr	Lo-NOx burners, Flue Gas Recirculation, good combustio	0.02 LB/MMBTU	LAER
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Good combustion practices and low NOx burner	1.56 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Good combustion practices and low NOx burner	2.19 LB/H	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	low-NOx burners	0.05 LB/MMBTU	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Auxiliary Boiler (B001)	26.8 MMBTU/H	Flue gas recirculation and low NOX burner	0.29 LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Low-NOx gas burner	0.3 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	low NOX burners and flue gas recirculation	0.76 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Flue gas recirculation (FGR), low NOx burner	0.76 LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Startup Heater (B001)	100 MMBTU/H	Good combustion control (i.e., high temperatures, suffici	10 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	Flue gas recirculation (FGR), low NOx burner, and natura	9.9 LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Auxiliary Boiler (B001)	34 MMBTU/H	Flue gas recirculation (FGR) and low NOx burner	0.68 LB/H	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Thermal Oxidizer	71.3 MMBTU/HR	Low NOx burners and good combustion practices.	0.162 LB/MMBTU	BACT-PSD
TX-0845	ARKEMA BEAUMONT PLANT	08/24/2018	2/19/2019	HEATERS	31 BTU/HR	LOW NOX BURNERS, CLEAN FUEL	0.04 LB/MMBTU	BACT-PSD
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Auxiliary Boiler	118800 MMBtu/12 month peri	‘‘ultra-low NOx burners and flue gas re-cir	0.011 LB	LAER
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Auxiliary Boiler	96 mmBtu/hr	Ultra-low NOx burners and flue gas recirculation, air pre	0.011 LB/MMBTU	LAER
*WV-0032	BROOKE COUNTY POWER PLANT	09/18/2018	6/28/2022	Auxiliary Boiler	111.9 mmBtu/hr	LNB, Good Combustion Practices	1.23 LB/HR	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER, PICKLE LINE	53.7 MMBTU/HR	LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD	0.035 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER SN-26, GALVANIZING LINE	53.7 MMBTU/HR	LOW NOX BURNERS COMBUSTION OF CLEAN FUEL GOOD	0.035 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	PREHEATER, GALVANIZING LINE SN-28	78.2 MMBTU/HR	SCR, LOW NOX BURNERS, AND COMBUSTION OF CLEAN F	0.035 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Low NOx burners/Flue gas recirculation.	0.036 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Low NOx burner	0.75 LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Low NOx burner	0.14 LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boilder	61.5 MMBTU/H	Low NOx burners/flue gas recirculation and good combu	0.04 LB/MMBTU	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Low NOx burners/flue gas recirculation and good combu	0.04 LB/MMBTU	BACT-PSD
*WV-0029	HARRISON COUNTY POWER PLANT	03/27/2018	6/28/2022	Auxiliary Boiler	77.8 mmBtu/hr	LNB, FGR, Good Combustion Practices	0.86 LB/HR	BACT-PSD
IN-0285	WHITING CLEAN ENERGY, INC.	08/02/2017	6/15/2018	Space Heaters	0		0.05 LB/MMBTU	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	Two natural gas heaters	9.9 MMBtu/hr	Manufacturer certification	0.1 LB/MMBTU	BACT-PSD
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	03/24/2017	3/8/2018	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3	3 MMBTU/H	Ultra-low NOx burners and good combustion practices.	20 PPM AT 3% O2	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Flue gas recirculation with low NOx burners.	0.045 LB/MMBTU	LAER
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	flue gas recirculation with low NOx burners	0.0085 LB/MMBTU	LAER
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUTOH in FGTOH	38 MMBTU/H	Good design and combustion practices, Low NOx burner:	0.05 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good design and combustion practices, low NOx burners	0.05 LB/MMBTU	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Auxilary Boiler	55.4 MMBtu/hr		0.006 LB/MMBTU	LAER
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUFUELHTR (Fuel pre-heater)	3.7 MMBTU/H	Good combustion practices.	0.55 LB/H	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUAUXBOILER (Auxiliary boiler)	83.5 MMBTU/H	Low NOx burners/Internal flue gas recirculation and goo	0.05 LB/MMBTU	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxillary Boiler	13.31 MMBtu/hr	SCR and ultra low NOx burners, Fired only on natural gas	0.006 LB/MMBTU	LAER
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Auxilary boiler	92.4 MMBtu/hr	Ultra low NOx burners, FGR, good combustion practices	0.011 LB/MMBTU	LAER
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	STARTUP HEATER EU-002	70 MMBTU/HR	GOOD COMBUSTION PRACTICES	12.611 LB/H	BACT-PSD
PA-0307	YORK ENERGY CENTER BLOCK 2 ELECTRICITY GENERATION PRO.	06/15/2015	12/21/2018	Auxilary Boiler	62.04 MCF/hr	Good combustion practices, Ultra-Low NOx burners, FGR	0.0086 LB/MMBTU	LAER
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &	27 MMBTU/H	Good combustion practices.	2.65 LB/H	BACT-PSD
KS-0030	MID-KANSAS ELECTRIC COMPANY, LLC - RUBART STATION	03/31/2016	3/1/2023	Indirect fuel-gas heater	2 mmBTU/hr		0.2 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Reactor Charge Heater - 53B001	10.1 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	0.4 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Regeneraton Heater - 51B001	61 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	2.44 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002A	33 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	1.3 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002B	33 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	1.3 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002C	33 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	1.3 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002D	33 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	1.3 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002E	33 MMBTU/HR	Ultra-Low NOx Burners (ULNB)	1.3 LB/H	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Regenerative Heaters	7.37 mm btu/hr	good combustion practices	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Gasifier Start-up Preheat Burners	23 MM BTU/hr (each)	good engineering practices, good combustion technology	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	WSA Preheat Burners	0	good engineering design and practices and use of clean f	0	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused L	34 MMBTU/H	Low NOx burners and good design and combustion pract	0.05 LB/MMBTU	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUTOH (In FGTOH)--Thermal Oil Heater	34 MMBTU/H	Low NOx burners and good design and combustion pract	0.05 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILER, PICKLE LINE	67 MMBTU/H	LOW NOX BURNERSCOMBUSTION OF CLEAN FUELGOOD	0.035 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILERS SN-26 AND 27, GALVANIZING LINE	24.5 MMBTU/H	LOW NOX BURNERSCOMBUSTION OF CLEAN FUELGOOD	0.035 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	FURNACES SN-40 AND SN-42, DECARBURIZING LINE	22 MMBTU/H	LOW NOX BURNERSSCRCOMBUSTION OF CLEAN FUELGO	0.1 LB/MMBTU	BACT-PSD
MI-0420	DTE GAS COMPANY--MILFORD COMPRESSOR STATION	06/03/2016	4/28/2017	FGAUXBOILERS	6 MMBTU/H	Ultra low NOx burners and good combustion practices.	14 PPMVOL	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	Low NOx burners and Flue Gas Recirculation (FGR) and u	0.975 LB/H	LAER
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	low NOx burners and flue gas recirculation (FGR)	0.8 LB/H	LAER
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Auxiliary Boiler, 99.8 MMBtu/hr	99.8 MMBtu/hr	Low-NOx burners	0.05 LB/MMBTU	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Two natural gas heaters	10 MMBtu/hr	Must have NOx emission design value less than 0.1 lb/MI	0.1 LB/MMBTU	BACT-PSD

Table C-21. RBLC NO_X Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	PACKAGE BOILER	17.5 MMBTU/H	LOW NOX BURNERFLUE GAS RECIRCULATIONGCP	30 PPMVD	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	2 CALP LINE BOILERS	24.59 MMBTU/H	LOW NOX BURNERFLUE GAS RECIRCULATION (FGR)GOOD	30 PPMVD	BACT-PSD
OK-0173	CMC STEEL OKLAHOMA	01/19/2016	7/7/2016	Heaters (Gas-Fired)	0	Natural Gas Fuel	0.1 LB/MMBTU	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Auxiliary Boiler (B001)	99 MMBtu/H	low NOx burners and flue gas recirculation	1.98 LB/H	BACT-PSD
MD-0046	KEYS ENERGY CENTER	10/31/2014	5/13/2016	AUXILIARY BOILER	93 MMBTU/H	EFFICIENT BOILER DESIGN WITH ULTRA LOW NOX BURNE	0.01 LB/MMBTU	BACT-PSD
MD-0045	MATTAWOMAN ENERGY CENTER	11/13/2015	5/13/2016	AUXILIARY BOILER	42 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS, ULT	0.01 LB/MMBTU	BACT-PSD
CT-0159	CPV TOWANTIC, LLC	11/30/2015	2/19/2016	Aux Boiler	359.6 MMCF	Boiler permit does not specify any add-on control other t	7 PPMVD @3% O2	LAER
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	40 MMBTU/H	Low NOx burners	0.036 LB/MMBTU	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	95.7 MMBTU/H	Low NOx burners and flue gas recirculation	0.011 LB/MMBTU	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	13.2 MMBTU/H		0.1 LB/MMBTU	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND	0.01 LB/MMBTU	LAER
MD-0041	CPV ST. CHARLES	04/23/2014	4/26/2018	AUXILLARY BOILER	93 MMBTU/H	EXCLUSIVE USE OF NATURAL GAS, ULTRA LOW-NOX BURI	0.011 LB/MMBTU	LAER
TX-0713	TENASKA BROWNSVILLE GENERATING STATION	04/29/2014	5/9/2016	boiler	90 MMBTU/H	ultra low-NOx burners, limited use	9 PPMVD	BACT-PSD
TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	5/9/2016	boiler	80 MMBTU/H	low-NOx burners	0.036 LB/MMBTU	BACT-PSD
TX-0693	ANTELOPE ELK ENERGY CENTER	04/22/2014	7/29/2016	heater	5.5 MMBTU/H		0.036 LB/MMBTU	BACT-PSD
TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	05/20/2014	5/9/2016	fuel gas heater	18 MMBTU/H		0.1 LB/MMBTU	BACT-PSD
TX-0694	INDECK WHARTON ENERGY CENTER	02/02/2015	5/9/2016	heater	3 MMBTU/H		0.1 LB/MMBTU	BACT-PSD
TX-0680	SONORA GAS PLANT	06/14/2013	5/9/2016	Heater	10 MMBTU/H	low-NOx burners	0.01 LB/MMBTU	BACT-PSD
TX-0680	SONORA GAS PLANT	06/14/2013	5/9/2016	2 Heaters	5 MMBTU/H		0.1 LB/MMBTU	BACT-PSD
AK-0083	KENAI NITROGEN OPERATIONS	01/06/2015	2/19/2016	Five (5) Waste Heat Boilers	50 MMBTU/H	Selective Catalytic Reduction	7 PPMV	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Utilize Low-NOx burners and FGR.	0.035 LB/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H	ultra low NOx burners	0.011 LB/MMBTU	LAER
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Fuel pre-heater (EUFUELHTR)	3.7 MMBTU/H	Good combustion practices.	0.55 LB/H	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler B (EUAUXBOILERB)	95 MMBTU/H	Dry low NOx burners, flue gas recirculation and good cor	0.05 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler A (EUAUXBOILERA)	55 MMBTU/H	Low NOx burners and good combustion practices	0.05 LB/MMBTU	BACT-PSD
MI-0410	THETFORD GENERATING STATION	07/25/2013	5/4/2016	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat	100 MMBTU/H heat input (	Low NOx burners and flue gas recirculation.	0.05 LB/MMBTU	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Refinery Boiler	5 MMBTUH	Good Combustion	0.0075 LB/MMBTU	N/A
OK-0153	ROSE VALLEY PLANT	03/01/2013	7/29/2016	REGENERATION HEATERS	5.61 MMBTUH	LOW-NOx BURNERS	0.045 LB/MMBTU	BACT-PSD
OK-0153	ROSE VALLEY PLANT	03/01/2013	7/29/2016	HOT OIL HEATER	17.4 MMBTUH	LOW-NOx BURNERS.	0.045 LB/MMBTU	BACT-PSD
WY-0075	CHEYENNE PRAIRIE GENERATING STATION	07/16/2014	5/11/2018	Auxiliary Boiler	25.06 MMBtu/h	Ultra low NOx burners and flue gas recirculation	0.0175 LB/MMBTU	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	Heaters	45 MMBTU/H	ultra low NOx burners	0.036 LB/MMBTU	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	heaters (5)	24.3 MMBTU/H	ultra low NOx burners	0.036 LB/MMBTU	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		1.01 T/YR	OTHER CASI
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	dew point heater	13.32 mmBtu/hr		0.013 LB/MMBTU	BACT-PSD
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr		0.013 LB/MMBTU	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices.	0.035 LB/MMBTU	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	AMMONIA START-UP HEATER (102-B)	59.4 MM BTU/HR	GOOD COMBUSTION PRACTICES: PROPER DESIGN OF BUI	14.65 LB/H	BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	4 Indirect-Fired Air Preheaters	0		0.14 LB/MMBTU	LAER
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.036 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.036 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.036 LB/MMBTU	OTHER CASI
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	AUXILIARY BOILER	40 MMBTU/H		0.011 LB/MMBTU	OTHER CASI
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Auxillary Boiler	99 MMBtu/H	low NOx burners and flue gas recirculation	1.98 LB/H	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Dry Low NOx burner.	9 PPMVD	BACT-PSD

Table C-22. RBLC CO Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	good combustion practices	61 LB/MMSCF	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	good combustion practices	84 LB/MMSCF	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	good combustion practices	84 LB/MMSCF	BACT-PSD
LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	5/23/2023	Auxiliary Boiler	80 mm BTU/h	Good combustion practices; compliance with 40 CFR 63 S	0.05 LB/MM BTU	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 037 - Sow Dryer	20 MMBtu/hr	Good Combustion & Operation Practices (GCOP) Plan	1.46 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041a - Direct-Fired Building Heating Systems	53 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	4.45 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041b - Indirect-Fired Building Heating Systems â‰¤ 1 MMB	3 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.25 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041c - Indirect-Fired Building Heating Systems > 1 MMBt	19.2 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	1.61 LB/HR	BACT-PSD
MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/23/2023	EUAUXBOILER--natural-gas fired auxiliary boiler, rated at less th	50 MMBTU/H	Good combustion practices.	50 PPM	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	45.6 MMBtu/hr Natural Gas-Fired Nitrogen Vaporizers: B029 th	45.6 MMBTU/H	Good combustion practices and the use of natural gas	8.76 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	29.4 MMBtu/hr Natural Gas-Fired Boilers: B001 through B028	29.4 MMBTU/H	Good combustion practices and the use of natural gas	33 T/YR	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices.	0.08 LB/MMBTU	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices	0.08 LB/MMBTU	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Good burner design and good combustion practices.	0.037 POUNDS/MMBTU	BACT-PSD
WI-0306	WPL- RIVERSIDE ENERGY CENTER	02/28/2020	9/16/2022	Temporary Boiler (B98A)	14.67 MMBTU/H	Shall be operated for no more than 500 hours and comb	0.04 LB/MMBTU	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Natural Gas-Fired Auxiliary Boiler (B02)	100 MMBTU/H	Oxidation Catalyst and operate and maintain boiler acco	0.0037 LB/MMBTU	BACT-PSD
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	50 PPMVD	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil heater (EUTOH in FGTOH)	38 MMBTU/H	Good design and operation	0.082 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil system for thermally fused lamination lines (EUFLT(	10.2 MMBTU/H	Good design and operation	0.082 LB/MMBTU	BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Ladle Preheaters (P002, P003 and P004)	15 MMBTU/H	Good combustion practices and the use of natural gas	0.521 LB/H	BACT-PSD
OH-0383	PETMIN USA INCORPORATED	07/17/2020	3/4/2022	Startup boiler (B001)	15.17 MMBTU/H	good combustion practices and the use of natural gas	1.25 LB/H	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Good combustion practices and low-NOx burners	0.08 LB/MMBTU	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.037 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three Gas Heaters	10 MMBtu/hr		0.08 LB/MMBTU	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Good Combustion Practice	0.084 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Good combustion practices	0.075 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Good combustion practices	0.084 LB/MMBTU	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUAUXBOILER--nat gas fired auxiliary boiler	50 MMBTU/H	Good combustion practices.	50 PPM	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Galvanizing Line #2 Furnace	150.5 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Decarburizing Line Furnace Section	58 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	startup heater EU-002	33.34 MMBtu/hr	shall combust natural gas, shall be controlled by good co	200 HR/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	61 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€" Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	84 LB/MMSCF	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Good combustion practices	1.11 LB/H	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Two (2) Buyback Gas Bath Heaters and Three (3) Operations Ca	32 MMBtu/hr	Good Combustion Practices, Clean Fuels, and Limited Op	0.087 LB/MMBTU	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	This EP is required to have a Good Combustion and Oper	84 LB/MMSCF	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Hot Oil Heaters 1 and 2	0	Good combustion practices and compliance with the app	0.037 LB/MMBTU	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	PR Waste Heat Boiler	94 mm btu/h	Good combustion practices and oxidation catalyst.	26.21 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Hot Oil Heaters (5)	16.13 mm btu/hr	Good Combustion Practices	0	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice and proper design.	50 PPMVD	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Tunnel Furnace #2 (P018)	88 MMBTU/H	Use natural gas, use of baffle type burners, good combus	6.16 LB/H	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGAUXBOILER	80 MMBTU/H	Good combustion practices	0.037 LB/MMBTU	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGPREHEAT	7 MMBTU/H	Good combustion practices	0.037 LB/MMBTU	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUAUXBOILER--natural gas fired auxiliary boiler rated at <= 9	99 MMBTU/H	Good combustion practices	50 PPM	BACT-PSD
MI-0440	MICHIGAN STATE UNIVERSITY	05/22/2019	8/9/2021	FGFUELHEATERS	25 MMBTU/H	Good combustion practices.	0.08 LB/MMBTU	BACT-PSD
WI-0291	GRAYMONT WESTERN LIME-EDEN	01/28/2019	3/8/2022	P05 Natural Gas Fired Line Heater	1.5 mmBTU/hr	Good Combustion Practices	0.082 LB/MMBTU	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	B13-B24 & B25-B36 Natural Gas-Fired Boilers	28 mmBTU	Ultra-Low NOx Burners, Flue Gas Recirculation, and Gooc	25 PPMVD	BACT-PSD
WI-0283	AFE, INC. â€"LCM PLANT	04/24/2018	3/8/2022	B01-B12, Boilers	28 mmBTU/hr	Ultra-low NOx Burners, Flue Gas Recirculation and Good	25 PPMVD	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Auxiliary Boiler	96 mmBtu/hr	Good combustion practice	0.037 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, PICKLE LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	PREHEATERS, GALVANIZING LINE SN-28 and SN-29	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, ANNEALING PICKLE LINE	0	Combustion of Natural gas and Good Combustion Practic	0.0824 LB/MMBTU	BACT-PSD

Table C-22. RBLC CO Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILERS SN-26 AND SN-27, GALVANIZING LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
SC-0192	CANFOR SOUTHERN PINE - CONWAY MILL	05/21/2019	6/3/2019	Boiler No. 2	0	Work Practice Standards	0.0375 LB/MMBTU	BACT-PSD
*PA-0319	RENAISSANCE ENERGY CENTER	08/27/2018	10/11/2019	NATURAL GAS FIRED AUXILIARY BOILER	88 MMBtu/hr	Lo-NOx burners, Flue Gas Recirculation, good combustioi	0.055 LB/MMBTU	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Good combustion practices	1.67 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Good combustion practices	2.48 LB/H	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Good combustion practices and low-NOx burners	0.08 LB/MMBTU	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Auxiliary Boiler (B001)	26.8 MMBTU/H	Good combustion controls	0.99 LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Combustion control	0.83 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	good combustion controls	2.08 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Good combustion controls	2.08 LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Startup Heater (B001)	100 MMBTU/H	good combustion control (i.e., high temperatures, suffici	8.24 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	Good combustion controls and natural gas/ultra low sulf	7.92 LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Auxiliary Boiler (B001)	34 MMBTU/H	Good combustion controls	1.87 LB/H	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Thermal Oxidizer	71.3 MMBTU/HR	Natural Gas / Clean Fuel, good combustion practices.	0.082 LB/MMBTU	BACT-PSD
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Auxiliary Boiler	118800 MMBtu/12 month period		0.036 LB	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Auxiliary Boiler	96 mmBtu/hr	Good combustion practices	0.037 LB/MMBTU	BACT-PSD
*WV-0032	BROOKE COUNTY POWER PLANT	09/18/2018	6/28/2022	Auxiliary Boiler	111.9 mmBtu/hr	Good Combustion Practices	4.14 LB/HR	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER, PICKLE LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER SN-26, GALVANIZING LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	PREHEATER, GALVANIZING LINE SN-28	78.2 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Good combustion practices	0.075 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Good combustion controls.	0.77 LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Good combustion controls	0.14 LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boilder	61.5 MMBTU/H	Good combustion practices.	0.08 LB/MMBTU	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Good combustion practices.	0.08 LB/MMBTU	BACT-PSD
*WV-0029	HARRISON COUNTY POWER PLANT	03/27/2018	6/28/2022	Auxiliary Boiler	77.8 mmBtu/hr	Good Combustion Practices	2.88 LB/HR	BACT-PSD
IN-0285	WHITING CLEAN ENERGY, INC.	08/02/2017	6/15/2018	Space Heaters	0		0.038 LB/MMBTU	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	99.8 MMBtu/hr auxiliary boiler	99.8 MMBtu/hr	Clean fuel	0.08 LB/MMBTU	BACT-PSD
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	03/24/2017	3/8/2018	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3	3 MMBTU/H	Good combustion practices and clean burn fuel (pipeline	84 LB/MMSCF	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Good combustion practice.	0.0721 LB/MMBTU	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	good combustion practice	0.0375 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUTOH in FGTOH	38 MMBTU/H	Good design and operation.	0.082 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good design and operation.	0.082 LB/MMBTU	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Auxilary Boiler	55.4 MMBtu/hr		0.037 LB/MMBTU	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUFUELHTR (Fuel pre-heater)	3.7 MMBTU/H	Good combustion practices.	0.41 LB/H	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUAUXBOILER (Auxiliary boiler)	83.5 MMBTU/H	Good combustion practices.	0.077 LB/MMBTU	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxillary Boiler	13.31 MMBtu/hr		0.037 LB/MMBTU	BACT-PSD
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Auxilary boiler	92.4 MMBtu/hr	ULSD and good combustion practices	0.037 LB/MMBTU	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	STARTUP HEATER EU-002	70 MMBTU/HR	GOOD COMBUSTION PRACTICES	2.556 LB/H	BACT-PSD
PA-0307	YORK ENERGY CENTER BLOCK 2 ELECTRICITY GENERATION PRO.	06/15/2015	12/21/2018	Auxilary Boiler	62.04 MCF/hr	Good combustion practices	0.06 LB/MMBTU	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &a	27 MMBTU/H	Good combustion practices.	2.22 LB/H	BACT-PSD
KS-0030	MID-KANSAS ELECTRIC COMPANY, LLC - RUBART STATION	03/31/2016	3/1/2023	Indirect fuel-gas heater	2 mmBTU/hr		0.16 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Reactor Charge Heater - 53B001	10.1 MMBTU/HR	Combustion controls (proper burner design and operatio	0.83 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Regeneraton Heater - 51B001	61 MMBTU/HR	Combustion controls (proper burner design and operatio	5 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002A	33 MMBTU/HR	Combustion controls (proper burner design and operatio	2.67 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002B	33 MMBTU/HR	Combustion controls (proper burner design and operatio	2.67 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002C	33 MMBTU/HR	Combustion controls (proper burner design and operatio	2.67 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002D	33 MMBTU/HR	Combustion controls (proper burner design and operatio	2.67 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002E	33 MMBTU/HR	Combustion controls (proper burner design and operatio	2.67 LB/H	BACT-PSD
LA-0311	DONALDSONVILLE NITROGEN COMPLEX	07/15/2013	4/28/2017	No. 6 Ammonia Plant Start-up Heater (4-13, EQT 158)	94.5 MM Btu/hr	Good combustion practices; proper engineering design	7.78 LB/HR	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Regenerative Heaters	7.37 mm btu/hr	good combustion practices	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Gasifier Start-up Preheat Burners	23 MM BTU/hr (each)	good engineering practices, good combustion technology	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	WSA Preheat Burners	0	good engineering design and practices and use of clean f	0	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused La	34 MMBTU/H	Good design and operation	0.082 LB/MMBTU	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUTOH (In FGTOH)--Thermal Oil Heater	34 MMBTU/H	Good design and operation	0.082 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILER, PICKLE LINE	67 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILERS SN-26 AND 27, GALVANIZING LINE	24.5 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	FURNACES SN-40 AND SN-42, DECARBURIZING LINE	22 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0824 LB/MMBTU	BACT-PSD
MI-0420	DTE GAS COMPANY--MILFORD COMPRESSOR STATION	06/03/2016	4/28/2017	FGAUXBOILERS	6 MMBTU/H	Good combustion practices and clean burn fuel (pipeline	0.08 LB/MMBTU	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	USE OF NATURAL GAS A CLEAN BURNING FUEL AND GOC	3.61 LB/H	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	Use of good combustion practices and use of natural gas	2.88 LB/H	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Auxiliary Boiler, 99.8 MMBtu/hr	99.8 MMBtu/hr	Proper combustion prevents CO	0.08 LB/MMBTU	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	PACKAGE BOILER	17.5 MMBTU/H	GCP	0.08 LB/MMBTU	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	2 CALP LINE BOILERS	24.59 MMBTU/H	GCP	0.08 LB/MMBTU	BACT-PSD
OK-0173	CMC STEEL OKLAHOMA	01/19/2016	7/7/2016	Heaters (Gas-Fired)	0	Natural Gas Fuel.	0.084 LB/MMBTU	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Auxiliary Boiler (B001)	99 MMBtu/H	Good combustion practices and combustion optimizatior	5.45 LB/H	BACT-PSD
MD-0046	KEYS ENERGY CENTER	10/31/2014	5/13/2016	AUXILIARY BOILER	93 MMBTU/H	EFFICIENT BOILER DESIGN AND APPLICATION OF GOOD C	0.08 LB/MMBTU	BACT-PSD
MD-0045	MATTAWOMAN ENERGY CENTER	11/13/2015	5/13/2016	AUXILIARY BOILER	42 MMBTU/H	GOOD COMBUSTION PRACTICES	0.037 LB/MMBTU	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	40 MMBTU/H	Good combustion practice to ensure complete combusti	50 PPMVD @ 3% O2	BACT-PSD

Table C-22. RBLC CO Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	95.7 MMBTU/H	Good combustion practice to ensure complete combusti	50 PPMVD @ 3% O2	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	13.2 MMBTU/H	Good combustion practice to ensure complete combusti	50 PPMVD @ 3% O2	BACT-PSD
OK-0168	SEMINOLE GNRTNG STA	05/05/2015	7/6/2016	NATURAL GAS-FIRED BOILER (<100MMBTUH)	40.4 MMBTUH	NO CONTROLS FEASIBLE;GOOD COMBUSTION PRACTICES	0.0075 LB/MMBTU	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND	0.036 LB/MMBTU	BACT-PSD
MD-0041	CPV ST. CHARLES	04/23/2014	4/26/2018	AUXILLARY BOILER	93 MMBTU/H	GOOD COMBUSTION PRACTICES	0.02 LB/MMBTU	BACT-PSD
TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	06/18/2015	7/6/2016	Commercial/Institutional Size Boilers (<100 MMBtu) â€“ natu	73.3 MMBTU/H		50 PPM	BACT-PSD
TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	5/9/2016	boiler	80 MMBTU/H	low-NOx burners	0.037 LB/MMBTU	BACT-PSD
TX-0693	ANTELOPE ELK ENERGY CENTER	04/22/2014	7/29/2016	heater	5.5 MMBTU/H		0.08 LB/MMBTU	BACT-PSD
TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	05/20/2014	5/9/2016	fuel gas heater	18 MMBTU/H		0.054 LB/MMBTU	BACT-PSD
TX-0694	INDECK WHARTON ENERGY CENTER	02/02/2015	5/9/2016	heater	3 MMBTU/H		0.04 LB/MMBTU	BACT-PSD
TX-0680	SONORA GAS PLANT	06/14/2013	5/9/2016	Heater	10 MMBTU/H		100 PPMVD	BACT-PSD
TX-0680	SONORA GAS PLANT	06/14/2013	5/9/2016	2 Heaters	5 MMBTU/H		100 PPMVD	BACT-PSD
AK-0083	KENAI NITROGEN OPERATIONS	01/06/2015	2/19/2016	Five (5) Waste Heat Boilers	50 MMBTU/H		50 PPMV	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Regeneration Heater, methanol to gasoline	13 MMBTU/H		0.08 LB/MMBTU	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Reactor Heater, 5	12 MMBTU/H		0.08 LB/MMBTU	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Utilize Low-NOx burners and FGR.	0.04 LB/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H	Oxidation catalyst	4.7 PPMVD@3% O2	OTHER CASI
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Fuel pre-heater (EUFUELHTR)	3.7 MMBTU/H	Good combustion practices	0.41 LB/H	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler B (EUAUXBOILERB)	95 MMBTU/H	Good combustion practices.	0.077 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler A (EUAUXBOILERA)	55 MMBTU/H	Good combustion practices	0.077 LB/MMBTU	BACT-PSD
MI-0410	THETFORD GENERATING STATION	07/25/2013	5/4/2016	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat	100 MMBTU/H heat input (	Efficient combustion.	0.075 LB/MMBTU	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Gas-fired Boiler	95 MMBTUH	Economizer, Insulation, O2 train control, Energy recaptur	146 LB CO2/1000 LB STEAM	BACT-PSD
OK-0153	ROSE VALLEY PLANT	03/01/2013	7/29/2016	REGENERATION HEATERS	5.61 MMBTUH	GOOD COMBUSTION PRACTICES.	0.0824 LB/MMBTU	BACT-PSD
OK-0153	ROSE VALLEY PLANT	03/01/2013	7/29/2016	HOT OIL HEATER	17.4 MMBTUH	Efficient design and combustion.	0.0824 LB/MMBTU	BACT-PSD
WY-0075	CHEYENNE PRAIRIE GENERATING STATION	07/16/2014	5/11/2018	Auxiliary Boiler	25.06 MMBtu/h	good combustion	0.0375 LB/MMBTU	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	Heaters	45 MMBTU/H	clean fuel and good combustion practices	50 PPM	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	heaters (5)	24.3 MMBTU/H	clean fuel and good combustion practices	50 PPM	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		3.31 T/YR	OTHER CASI
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	dew point heater	13.32 mmBtu/hr		0.041 LB/MMBTU	BACT-PSD
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr	CO catalytic oxidizer	0.0164 LB/MMBTU	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices	0.036 LB/MMBTU	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	AMMONIA START-UP HEATER (102-B)	59.4 MM BTU/HR	GOOD COMBUSTION PRACTICES: PROPER DESIGN OF BUI	2.97 LB/H	BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	4 Indirect-Fired Air Preheaters	0		0.15 LB/MMBTU	N/A
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.039 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.039 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.039 LB/MMBTU	OTHER CASI
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	AUXILIARY BOILER	40 MMBTU/H		0.036 LB/MMBTU	OTHER CASI
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPL	07/12/2013	5/4/2016	Startup Heater	58.8 MMBTU/H	good operating practices & use of natural gas	0.0194 LB/MMBTU	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Auxiliary Boiler	99 MMBtu/H	Good combustion practices and using combustion optim	5.45 LB/H	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Clean fuel and good combustion practices	50 PPMVD	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	Auxiliary Boiler (30.6 mmBtu/hr)	263000000 standard cubic ft	clean fuel (natural gas) and good combustion practices	50 PPMVD	BACT-PSD

Table C-23. RBLC VOC Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
*IN-0361	C-PLANT (SPECIALTY SOYBEAN EXTRACTION)	05/12/2023	5/30/2023	SPC Boiler #1 PS37 & SPC Boiler #2 PS38	73.6 MMBtu/hr (each)	Good Combustion Practices	5.5 LB/MMCF (EACH)	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	good combustion practices and natural gas fuel (clean fu	0.0054 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	good combustion practices	5.5 LB/MMSCF	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	good combustion practices	5.5 LB/MMSCF	BACT-PSD
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	HOT OIL HEATER	0	Burner design for high efficiency combustion.	0	LAER
TX-0955	INEOS OLIGOMERS CHOCOLATE BAYOU	03/14/2023	4/12/2023	HEATER NO 2	0	Burner design for good combustion efficiency	0	LAER
LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	5/23/2023	Auxiliary Boiler	80 mm BTU/h	Good combustion practices; compliance with 40 CFR 63 S	0.0054 LB/MM BTU	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 037 - Sow Dryer	20 MMBtu/hr	Good Combustion & Operation Practices (GCOP) Plan	0.11 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041a - Direct-Fired Building Heating Systems	53 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.29 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041b - Indirect-Fired Building Heating Systems â‰¤ 1 MMB	3 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.02 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041c - Indirect-Fired Building Heating Systems > 1 MMBt	19.2 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.11 LB/HR	BACT-PSD
MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/23/2023	EUAUXBOILER--natural-gas fired auxiliary boiler, rated at less th	50 MMBTU/H	Good combustion practices.	0.3 LB/H	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	45.6 MMBtu/hr Natural Gas-Fired Nitrogen Vaporizers: B029 th	45.6 MMBTU/H	Good combustion practices and the use of natural gas	1.29 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	29.4 MMBtu/hr Natural Gas-Fired Boilers: B001 through B028	29.4 MMBTU/H	Good combustion practices and the use of natural gas	4.86 T/YR	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices	0.004 LB/MMBTU	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices	0.004 LB/MMBTU	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Good burner design and good combustion practices	0.0015 POUNDS/MMBTU	BACT-PSD
WI-0306	WPL- RIVERSIDE ENERGY CENTER	02/28/2020	9/16/2022	Temporary Boiler (B98A)	14.67 MMBTU/H	Shall be operated for no more than 500 hours and comb	0 SEE NOTES	BACT-PSD
*NE-0064	NORFOLK CRUSH, LLC	11/21/2022	6/9/2023	Boiler A	84 MMBtu/hr		0.52 LB/HR	BACT-PSD
*NE-0064	NORFOLK CRUSH, LLC	11/21/2022	6/9/2023	Boiler B	84 MMBtu/hr		0.52 LB/HR	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Natural Gas-Fired Auxiliary Boiler (B02)	100 MMBTU/H	Oxidation catalyst and operate and maintain boiler accor	0.0027 LB/MMBTU	BACT-PSD
WI-0297	GREEN BAY PACKAGING- MILL DIVISION	12/10/2019	9/16/2022	Natural Gas-Fired Space Heaters (P44)	8.5 MMBtu/H		0.0055 LB/MMBTU	BACT-PSD
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	0.005 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil heater (EUTOH in FGTOH)	38 MMBTU/H	Good design and operating/combustion practices	0.0054 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil system for thermally fused lamination lines (EUFLT(	10.2 MMBTU/H	Good Design and Operating/Combustion Practices	0.0054 LB/MMBTU	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.004 LB/MMBTU	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Good Combustion Practice	0.0055 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Good combustion practices	0.0026 LB/HR	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Good combustion practices	0.0055 LB/MMBTU	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUAUXBOILER--nat gas fired auxiliary boiler	50 MMBTU/H	Good combustion practices	0.3 LB/H	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Galvanizing Line #2 Furnace	150.5 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Decarburizing Line Furnace Section	58 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	startup heater EU-002	33.34 MMBtu/hr	shall combust natural gas, good combustion practices	200 HR/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€" Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	5.5 LB/MMSCF	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Good combustion practices	0.07 LB/H	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Two (2) Buyback Gas Bath Heaters and Three (3) Operations Ca	32 MMBtu/hr	Good Combustion Practices, Clean Fuels, and Limited Op	0.0057 LB/MMBTU	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	This EP is required to have a Good Combustion and Oper	5.5 LB/MMSCF	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Hot Oil Heaters 1 and 2	0	Good combustion practices and compliance with the app	4.02 LB/H	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	PR Waste Heat Boiler	94 mm btu/h	Good combustion practices and oxidation catalyst	13.37 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Hot Oil Heaters (5)	16.13 mm btu/hr	Good Combustion Practices and Use of low sulfur facility	0.0054 LB/MM BTU	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice and proper design.	0.0054 LB/MMBTU	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Tunnel Furnace #2 (P018)	88 MMBTU/H	Use of natural gas, good combustion practices and desig	0.48 LB/H	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGAUXBOILER	80 MMBTU/H	Good combustion practices.	0.0054 LB/MMBTU	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGPREHEAT	7 MMBTU/H	Good combustion practices	0.025 LB/MMBTU	BACT-PSD
TX-0877	SWEENY REFINERY	01/08/2020	11/12/2020	Isostripper Reboiler (heater)	0	Good combustion practices, use of natural gas fuel for th	0.0054 LB/MMBTU	LAER
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUAUXBOILER--natural gas fired auxiliary boiler rated at <= 9	99 MMBTU/H	Good combustion practices.	0.5 LB/H	BACT-PSD
MI-0440	MICHIGAN STATE UNIVERSITY	05/22/2019	8/9/2021	FGFUELHEATERS	25 MMBTU/H	Good combustion practices	0.005 LB/MMBTU	BACT-PSD
WI-0289	GEORGIA-PACIFIC CONSUMER PRODUCTS LLC	04/01/2019	3/8/2022	B98 & B99 Natural Gas Fired Temporary Boilers	95 mmBTU/hr	Good Combustion Practices	0.0055 LB/MMBTU	BACT-PSD
WI-0292	GREEN BAY PACKAGING INC. â€"MILL DIVISION	04/01/2019	2/11/2022	P44 Space Heaters	20 mmBTU/hr	Good Combustion Practices, the Use of Low-NOx Burners	0.0055 LB/MMBTU	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	B13-B24 & B25-B36 Natural Gas-Fired Boilers	28 mmBTU	Ultra-Low NOx Burners, Flue Gas Recirculation, and Good	0.0036 LB/MMBTU	BACT-PSD
WI-0283	AFE, INC. â€"LCM PLANT	04/24/2018	3/8/2022	B01-B12, Boilers	28 mmBTU/hr	Ultra-low NOx Burners, Flue Gas Recirculation and Good	0.0036 LB/MMBTU	BACT-PSD

Table C-23. RBLC VOC Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, PICKLE LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	PREHEATERS, GALVANIZING LINE SN-28 and SN-29	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, ANNEALING PICKLE LINE	0	Combustion of Natural gas and Good Combustion Practic	0.0054 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILERS SN-26 AND SN-27, GALVANIZING LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Energy Center Boilers	14.27 MMBTU/hr	Annual tune ups per 40 CFR 63.7540(a)(10) are required.	5.5 LB/MMSCF	BACT-PSD
SC-0192	CANFOR SOUTHERN PINE - CONWAY MILL	05/21/2019	6/3/2019	Boiler No. 2	0	Work Practice Standards	0.0054 LB/MMBTU	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Good combustion practices	0.16 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Good combustion practices	0.248 LB/H	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Auxiliary Boiler (B001)	26.8 MMBTU/H	Good combustion controls	0.13 LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Combustion control	0.075 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	good combustion controls	0.23 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Good combustion controls	0.23 LB/H	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Startup Heater (B001)	100 MMBTU/H	Good combustion control (i.e., high temperatures, suffici	0.54 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	Good combustion controls and natural gas/ultra low sulf	0.59 LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Auxiliary Boiler (B001)	34 MMBTU/H	Good combustion controls	0.2 LB/H	BACT-PSD
WI-0266	GREEN BAY PACKAGING, INC. - SHIPPING CONTAINER DIVISION	09/06/2018	2/19/2019	Natural gas-fied boiler (Boiler B01)	35 mmBtu/hr	Good combustion practices, use only natural gas, equip t	0.0055 LB/MMBTU	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Thermal Oxidizer	71.3 MMBTU/HR	Natural Gas / Clean Fuel, good combustion practices.	0.0054 LB/MMBTU	BACT-PSD
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Auxiliary Boiler	118800 MMBtu/12 month period		0.005 LB	N/A
*WV-0032	BROOKE COUNTY POWER PLANT	09/18/2018	6/28/2022	Auxiliary Boiler	111.9 mmBtu/hr	Use of Natural Gas, Good Combustion Practices	0.9 LB/HR	BACT-PSD
IL-0127	WINPAK HEAT SEAL CORPORATION	10/05/2018	2/19/2019	Heating Units	1 mmBtu/hr	Units shall be operated in accordance with good combus	0	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER, PICKLE LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER SN-26, GALVANIZING LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.054 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	PREHEATER, GALVANIZING LINE SN-28	78.2 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Good combustion practices	0.008 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Good combustion controls	0.17 LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Good combustion controls.	0.03 LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices.	0.004 LB/MMBTU	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Good combustion practices.	0.004 LB/MMBTU	BACT-PSD
*WV-0029	HARRISON COUNTY POWER PLANT	03/27/2018	6/28/2022	Auxiliary Boiler	77.8 mmBtu/hr	Use of Natural Gas, Good Combustion Practices	0.62 LB/HR	BACT-PSD
IN-0285	WHITING CLEAN ENERGY, INC.	08/02/2017	6/15/2018	Space Heaters	0		0.0053 LB/MMBTU	LAER
FL-0364	SEMINOLE GENERATING STATION	03/21/2018	5/11/2018	Two natural gas heaters (< 10 MMBtu/hr each)	9.9 MMBtu/hr		0.005 LB/MMBTU	BACT-PSD
AL-0312	BELK CHIP-N-SAW FACILITY	05/26/2016	11/30/2017	60 MMBTU/HR NATURAL GAS-FIRED BOILER (ES-008)	60 MMBTU/H	GOOD COMBUSTION PRACTICES	0.0054 LB/MMBTU INPUT	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Good combustion practice.	0.0038 LB/MMBTU	LAER
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	good combustion practice	0.0015 LB/MMBTU	LAER
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUTOH in FGTOH	38 MMBTU/H	Good design and operating/combustion practices.	0.0054 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good design and operating/combustion practices.	0.0054 LB/MMBTU	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Auxilary Boiler	55.4 MMBtu/hr		0.005 LB/MMBTU	LAER
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUFUELHTR (Fuel pre-heater)	3.7 MMBTU/H	Good combustion practices.	0.03 LB/H	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUAUXBOILER (Auxiliary boiler)	83.5 MMBTU/H	Good combustion practices.	0.008 LB/MMBTU	BACT-PSD
VA-0327	PERDUE GRAIN AND OILSEED, LLC	07/12/2017	11/2/2017	(4) 27 MMBtu/hr boilers, Natural gas and No. 2 fuel oi	0		0.1 LB/HR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxillary Boiler	13.31 MMBtu/hr		0.005 LB/MMBTU	LAER
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Auxilary boiler	92.4 MMBtu/hr	ULSD and good combustion practices	0.004 LB/MMBTU	LAER
SC-0179	CAROLINA PARTICLEBOARD	03/18/2015	8/23/2017	THERMAL OIL HEATER #2	1.83 MMBTU/H	NATURAL GAS USAGE AND GOOD COMBUSTION PRACTIC	0.01 LB/H	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	STARTUP HEATER EU-002	70 MMBTU/HR	GOOD COMBUSTION PRACTICES	0.378 LB/H	BACT-PSD
PA-0307	YORK ENERGY CENTER BLOCK 2 ELECTRICITY GENERATION PRO.	06/15/2015	12/21/2018	Auxilary Boiler	62.04 MCF/hr	Good combustion practices and FGR	0.004 LB/MMBTU	LAER
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &	27 MMBTU/H	Good combustion practices.	0.15 LB/H	BACT-PSD
KS-0030	MID-KANSAS ELECTRIC COMPANY, LLC - RUBART STATION	03/31/2016	3/1/2023	Indirect fuel-gas heater	2 mmBTU/hr		0.011 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Reactor Charge Heater - 53B001	10.1 MMBTU/HR	Combustion controls (proper burner design and operatio	0.05 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Regeneraton Heater - 51B001	61 MMBTU/HR	Combustion controls (proper burner design and operatio	0.33 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002A	33 MMBTU/HR	Combustion controls (proper burner design and operatio	0.18 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002B	33 MMBTU/HR	Combustion controls (proper burner design and operatio	0.18 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002C	33 MMBTU/HR	Combustion controls (proper burner design and operatio	0.18 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002D	33 MMBTU/HR	Combustion controls (proper burner design and operatio	0.18 LB/H	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002E	33 MMBTU/HR	Combustion controls (proper burner design and operatio	0.18 LB/H	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Regenerative Heaters	7.37 mm btu/hr	good combustion practices	0	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused L	34 MMBTU/H	Good design and operating/combustion practices.	0.0054 LB/MMBTU	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUTOH (In FGTOH)--Thermal Oil Heater	34 MMBTU/H	Good design and operating/combustion practices.	0.0054 LB/MMBTU	BACT-PSD
TX-0813	ODESSA PETROCHEMICAL PLANT	11/22/2016	11/16/2017	small Boiler	39.9 MMBtu/hr	best combustion practices	0.0005 MMBTU/HR	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILERS SN-26 AND 27, GALVANIZING LINE	24.5 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	FURNACES SN-40 AND SN-42, DECARBURIZING LINE	22 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0054 LB/MMBTU	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	USE OF NATURAL GAS A CLEAN BURNING FUEL AND GOC	0.488 LB/H	LAER
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	Use of good combustion practices and use of natural gas	0.32 LB/H	LAER
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	PACKAGE BOILER	17.5 MMBTU/H	GCP	0.006 LB/MMBTU	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	2 CALP LINE BOILERS	24.59 MMBTU/H	GCP	0.006 LB/MMBTU	BACT-PSD
OK-0173	CMC STEEL OKLAHOMA	01/19/2016	7/7/2016	Heaters (Gas-Fired)	0	Natural Gas Fuel.	0.0055 LB/MMBTU	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Auxiliary Boiler (B001)	99 MMBtu/H	Good combustion practices and using combustion optim	0.59 LB/H	BACT-PSD
MD-0046	KEYS ENERGY CENTER	10/31/2014	5/13/2016	AUXILIARY BOILER	93 MMBTU/H	EFFICIENT BOILER DESIGN, EXCLUSIVE USE OF PIPELINE C	0.002 LB/MMBTU	LAER
MD-0045	MATTAWOMAN ENERGY CENTER	11/13/2015	5/13/2016	AUXILIARY BOILER	42 MMBTU/H	EXCLUSIVE USE OF NATURAL GAS, AND GOOD COMBUST	0.003 LB/MMBTU	LAER
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	40 MMBTU/H	Good combustion practice to ensure complete combustic	0.94 T/YR	BACT-PSD

Table C-23. RBLC VOC Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	95.7 MMBTU/H	Good combustion practice to ensure complete combustio	5.42 T/YR	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	13.2 MMBTU/H	Good combustion practice to ensure complete combustio	0.3 T/YR	BACT-PSD
OK-0164	MIDWEST CITY AIR DEPOT	01/08/2015	7/6/2016	Heaters/Boilers	0 MMBTUH	1. Use pipeline-quality natural gas.2. Good Combustion P	7.1 TONS PER YEAR	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	THE EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS,	0.0033 LB/MMBTU	LAER
MD-0041	CPV ST. CHARLES	04/23/2014	4/26/2018	AUXILLARY BOILER	93 MMBTU/H	EXCLUSIVE USE OF NATURAL GAS, AND GOOD COMBUST	0.002 LB/MMBTU	LAER
TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	06/18/2015	7/6/2016	Commercial/Institutional Size Boilers (<100 MMBtu) â€" natu	73.3 MMBTU/H		4 PPM	LAER
AL-0282	LENZING FIBERS, INC.	01/22/2014	5/9/2016	Natural Gas Fired Boilers (3)	100 mm btu/hr	Good combustion Practices.	0.0054 LB/MMBTU	BACT-PSD
AK-0083	KENAI NITROGEN OPERATIONS	01/06/2015	2/19/2016	Five (5) Waste Heat Boilers	50 MMBTU/H		0.0054 LB/MMBTU	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Regeneration Heater, methanol to gasoline	13 MMBTU/H		0	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Reactor Heater, 5	12 MMBTU/H		0	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Utilize Low-NOx burners and FGR.	0.005 LB/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H	oxidation catalyst	11.8 PPMVD@3% O2	OTHER CASI
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Fuel pre-heater (EUFUELHTR)	3.7 MMBTU/H	Good combustion practices	0.03 LB/H	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler B (EUAUXBOILERB)	95 MMBTU/H	Good combustion practices	0.008 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler A (EUAUXBOILERA)	55 MMBTU/H	Good combustion control	0.008 LB/MMBTU	BACT-PSD
MI-0410	THETFORD GENERATING STATION	07/25/2013	5/4/2016	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat	100 MMBTU/H heat input (	Efficient combustion; natural gas fuel.	0.008 LB/MMBTU	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Gas-fired Boiler	95 MMBTUH	Good Combustion	0.006 LB/MMBTU	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Refinery Boiler	5 MMBTUH	Good Combustion	0.0054 LB/MMBTU	N/A
WY-0075	CHEYENNE PRAIRIE GENERATING STATION	07/16/2014	5/11/2018	Auxiliary Boiler	25.06 MMBtu/h	good combustion practices	0.0017 LB/MMBTU	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	Heaters	45 MMBTU/H	clean fuel and good combustion practices	0.59 T/YR	BACT-PSD
TX-0656	GAS TO GASOLINE PLANT	05/16/2014	5/12/2016	heaters (5)	24.3 MMBTU/H	clean fuel and good combustion practices	2.44 T/YR	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		0.14 T/YR	N/A
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr		0.005 LB/MMBTU	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	AMMONIA START-UP HEATER (102-B)	59.4 MM BTU/HR	GOOD COMBUSTION PRACTICES: PROPER DESIGN OF BUI	0.38 LB/H	BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	4 Indirect-Fired Air Preheaters	0		0.005 LB/MMBTU	N/A
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.003 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.003 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.003 LB/MMBTU	OTHER CASI
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	AUXILIARY BOILER	40 MMBTU/H		0.0015 LB/MMBTU	OTHER CASI
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPL	07/12/2013	5/4/2016	Startup Heater	58.8 MMBTU/H	good operating practices & use of natural gas	0.0014 LB/MMBTU	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Auxillary Boiler	99 MMBtu/H	Good combustion practices and using combustion optim	0.59 LB/H	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Clean fuel and good combustion practices	0.005 LB/MMBTU	BACT-PSD

Table C-24. RBLC GHG Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	energy efficiency measures and only pipeline quality natu	117.1 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	good combustion practices and only pipeline quality natu	117.1 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	good combustion practices and only pipeline quality natu	2625 TONS/YR	BACT-PSD
LA-0391	MAGNOLIA POWER GENERATING STATION UNIT 1	06/03/2022	5/23/2023	Auxiliary Boiler	80 mm BTU/h	Good combustion practices; compliance with 40 CFR 63 S	117 LB/MM BTU	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 037 - Sow Dryer	20 MMBtu/hr	Design Requirements, Good Combustion & Operation Pra	10258 TONS/YR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041a - Direct-Fired Building Heating Systems	53 MMBtu/hr (total)	Design Requirements, Good Combustion & Operation Pra	27890 TONS/YR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041b - Indirect-Fired Building Heating Systems â‰¤ 1 MMB	3 MMBtu/hr (total)	Design Requirements, Good Combustion & Operation Pra	1579 TONS/YR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041c - Indirect-Fired Building Heating Systems > 1 MMBt	19.2 MMBtu/hr (total)	Design Requirements, Good Combustion & Operation Pra	10104 TONS/YR	BACT-PSD
MI-0454	LBWL-ERICKSON STATION	12/20/2022	5/23/2023	EUAUXBOILER--natural-gas fired auxiliary boiler, rated at less th	50 MMBTU/H	Low carbon fuel (pipeline quality natural gas), good coml	25644 T/YR	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Energy Efficiency Measures and the use of a low carbon f	31540 T/YR	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Energy efficiency measures and the use of a low carbon f	31540 T/YR	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Good combustion practices.	5059 TONS/YEAR	BACT-PSD
WI-0306	WPL- RIVERSIDE ENERGY CENTER	02/28/2020	9/16/2022	Temporary Boiler (B98A)	14.67 MMBTU/H	Combust only pipeline quality natural gas.	118 LB CO2/MMBTU	BACT-PSD
WI-0305	WPL- RIVERSIDE ENERGY CENTER	01/22/2021	9/16/2022	Natural Gas Auxiliary Boiler (B22)	83.5 MMBTU/H	Combust only pipeline quality natural gas.	157 LB CO2/MMBTU	BACT-PSD
WI-0303	GREEN BAY PACKAGING INC.- GB MILL DIV.	07/14/2020	9/16/2022	Natural Gas-Fired Boiler (B01)	32.7 MMBTU/H	Only burn natural gas, good combustion practices, low N	16771 T/Y	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Natural Gas-Fired Auxiliary Boiler (B02)	100 MMBTU/H	Ultra-low NOx burners and flue gas recirculation. Operat	160 LB/MMBTU	BACT-PSD
WI-0297	GREEN BAY PACKAGING- MILL DIVISION	12/10/2019	9/16/2022	Natural Gas-Fired Space Heaters (P44)	8.5 MMBtu/H	Use only natural gas.	90 % AVG THERM EFF	BACT-PSD
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	0	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Good Operating Practices	117 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Good operating practicesMinimum Boiler Efficiency	117 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Good operating practicesMinimum Boiler Efficiency	117 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Good operating practices	117 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil heater (EUTOH in FGTOH)	38 MMBTU/H	Good combustion and maintenance practices, natural ga	19490 T/YR	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil system for thermally fused lamination lines (EUFLT(	10.2 MMBTU/H	Good Combustion and Maintenance Practices, Natural G	5254 T/YR	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		46416 TPY	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three Gas Heaters	10 MMBtu/hr		117.1 LB/MMBTU	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Good Combustion Practice	121 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Good combustion practices	121 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Good combustion practices	121 LB/MMBTU	BACT-PSD
MI-0447	LBWL--ERICKSON STATION	01/07/2021	9/10/2021	EUAUXBOILER--nat gas fired auxiliary boiler	50 MMBTU/H	Low carbon fuel (pipeline quality natural gas), good coml	25644 T/YR	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	startup heater EU-002	33.34 MMBtu/hr	shall combust natural gas, shall be controlled by good co	200 HR/YR	BACT-PSD
VA-0333	NORFOLK NAVAL SHIPYARD	12/09/2020	3/8/2022	Three (3) boilers	76.6 MMBtu/hr		117.1 LB	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	20734 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	26125 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€" Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	12675 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	11922 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	18660 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	37581 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	48725 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	30 TONS/YR	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	33952 TONS/YR	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Energy Efficiency Measures and the use of a low carbon f	13848 T/YR	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Two (2) Buyback Gas Bath Heaters and Three (3) Operations Ca	32 MMBtu/hr	Good Combustion Practices, Clean Fuels, and Limited Op	117.1 LB/MMBTU	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	20734 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	43542 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	This EP is required to have a Good Combustion and Oper	27991 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	31101 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	76717 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	18142 TON/YR	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	This EP is required to have a Good Combustion and Oper	24881 TON/YR	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	Hot Oil Heaters 1 and 2	0	Use of fuel gas as fuel, energy-efficient design options, ar	5858 TONS/YR	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	PR Waste Heat Boiler	94 mm btu/h	Use of natural gas or fuel gas as fuel, energy-efficient des	455475 T/YR	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Hot Oil Heaters (5)	16.13 mm btu/hr	Use Low Carbon Fuel, Energy Efficiency Measures, and G	0	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice, clean fuel, and proper design	0	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Tunnel Furnace #2 (P018)	88 MMBTU/H	Use of natural gas and energy efficient design	10283.06 LB/H	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGAUXBOILER	80 MMBTU/H	Energy efficiency	41031 T/YR	BACT-PSD
MI-0442	THOMAS TOWNSHIP ENERGY, LLC	08/21/2019	8/9/2021	FGPREHEAT	7 MMBTU/H	Energy efficiency	3590 T/YR	BACT-PSD
MI-0441	LBWL--ERICKSON STATION	12/21/2018	8/9/2021	EUAUXBOILER--natural gas fired auxiliary boiler rated at <= 9	99 MMBTU/H	Low carbon fuel (pipeline quality natural gas), good coml	50776 T/YR	BACT-PSD
MI-0440	MICHIGAN STATE UNIVERSITY	05/22/2019	8/9/2021	FGFUELHEATERS	25 MMBTU/H	Utilize low-carbon fuels and implement energy efficiency	12822 T/YR	BACT-PSD
WI-0292	GREEN BAY PACKAGING INC. â€"MILL DIVISION	04/01/2019	2/11/2022	P44 Space Heaters	20 mmBTU/hr	Good Combustion Practices, the Use of Low-NOx Burners	0	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	B13-B24 & B25-B36 Natural Gas-Fired Boilers	28 mmBTU	Ultra-Low NOx Burners, Flue Gas Recirculation, and Gooc	160 LB CO2E/1000LB STEAI	BACT-PSD
WI-0283	AFE, INC. â€"LCM PLANT	04/24/2018	3/8/2022	B01-B12, Boilers	28 mmBTU/hr	Ultra-low NOx Burners, Flue Gas Recirculation, Good Con	160 LB/1000 LB CO2E	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Auxiliary Boiler	96 mmBtu/hr	Good combustion practice	11250 TONS/YEAR	BACT-PSD
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Startup boiler (B001)	15.17 MMBTU/H	Good combustion practices and the use of natural gas	1784 LB/H	BACT-PSD
OH-0379	PETMIN USA INCORPORATED	02/06/2019	6/19/2019	Ladle Preheaters (P002, P003 and P004)	15 MMBTU/H	Good combustion practices and the use of natural gas	1764 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Good combustion practices and pipeline quality natural g	2817.6 T/YR	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Good combustion practices and pipeline quality natural g	5009.1 T/YR	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Auxiliary Boiler (B001)	26.8 MMBTU/H	Natural gas as the sole fuel	7845 T/YR	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Natural gas, low-emitting fuel	7695 T/YR	BACT-PSD

Table C-24. RBLC GHG Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	use of natural gas, good combustion controls	4502 T/YR	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Good combustion controls/natural gas combustion	4456 T/YR	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Startup Heater (B001)	100 MMBTU/H	Good combustion control (i.e., high temperatures, suffici	2840 T/YR	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	Good combustion controls, natural gas combustion, and	32171 T/YR	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Auxiliary Boiler (B001)	34 MMBTU/H	Good combustion controls/natural gas combustion	4008 T/YR	BACT-PSD
WI-0266	GREEN BAY PACKAGING, INC. - SHIPPING CONTAINER DIVISION	09/06/2018	2/19/2019	Natural gas-fied boiler (Boiler B01)	35 mmBtu/hr	Good combustion practices, use only natural gas, equip v	160 LBCO2E/1000 LB STEAI	BACT-PSD
TX-0851	RIO BRAVO PIPELINE FACILITY	12/17/2018	2/19/2019	Thermal Oxidizer	71.3 MMBTU/HR	Natural Gas / Clean Fuel, good combustion practices.	0	BACT-PSD
TX-0845	ARKEMA BEAUMONT PLANT	08/24/2018	2/19/2019	HEATERS	31 BTU/HR	low carbon fuel selection, and good combustion practice	0	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Auxiliary Boiler	96 mmBtu/hr	Good combustion practice	22500 TON/YR	BACT-PSD
*WV-0032	BROOKE COUNTY POWER PLANT	09/18/2018	6/28/2022	Auxiliary Boiler	111.9 mmBtu/hr	Use of Natural Gas	14768 LB/HR	BACT-PSD
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	06/14/2018	6/28/2022	CT-1 & CT-2 - Solar Titan 130 Combustion Turbine/compre	20500 hp	Limited to natural gas.	1.01 LB CO2E/HP	BACT-PSD
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	06/14/2018	6/28/2022	WH-1 - Boiler	8.72 mmBtu/hr	Limited to natural gas; and tune-up the boiler once every	0	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Energy efficiency measures, use of natural gas.	25623 T/YR	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Natural gas fuel	6310 T/YR	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Natural gas fuel	6310 T/YR	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boilder	61.5 MMBTU/H	Energy efficiency measures and the use of a low carbon f	31540 T/YR	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Energy efficiency measures and the use of a low carbon f	31540 T/YR	BACT-PSD
*WV-0029	HARRISON COUNTY POWER PLANT	03/27/2018	6/28/2022	Auxiliary Boiler	77.8 mmBtu/hr	Use of Natural Gas	9107 LB/HR	BACT-PSD
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	03/24/2017	3/8/2018	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3	3 MMBTU/H	Use of pipeline quality natural gas and energy efficiency	7324 T/YR	BACT-PSD
NY-0114	SABIC INNOVATIVE PLASTICS US LLC	09/11/2014	9/28/2017	Package boilers	0	BACT Requirements:1) Firing natural gas only.2) Refractor	0	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	good combustion practiced and pipeline quality natural g	119 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUTOH in FGTOH	38 MMBTU/H	Good combustion and maintenance practices, natural ga	19490 T/YR	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good combustion and maintenance practices, natural ga	5254 T/YR	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Auxilary Boiler	55.4 MMBtu/hr		13561 TPY	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUFUELHTR (Fuel pre-heater)	3.7 MMBTU/H	Good combustion practices.	1934 T/YR	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUAUXBOILER (Auxiliary boiler)	83.5 MMBTU/H	Good combustion practices.	43283 T/YR	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxiliary Boiler	13.31 MMBtu/hr		44107 TON	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &a	27 MMBTU/H	Energy efficiency measures and the use of a low carbon f	13848 T/YR	BACT-PSD
KS-0029	THE EMPIRE DISTRICT ELECTRIC COMPANY	07/14/2015	6/21/2018	Auxiliary boiler	18.6 MMBTU/HR		9521.5 TONS PER YEAR	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Reactor Charge Heater - 53B001	10.1 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Regeneraton Heater - 51B001	61 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002A	33 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002B	33 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002C	33 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002D	33 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
*LA-0315	G2G PLANT	05/23/2014	4/5/2021	Recycle Gas Heater - 51B002E	33 MMBTU/HR	Energy Efficiency Measures	0	BACT-PSD
LA-0311	DONALDSONVILLE NITROGEN COMPLEX	07/15/2013	4/28/2017	No. 6 Ammonia Plant Start-up Heater (4-13, EQT 158)	94.5 MM Btu/hr	Use of natural gas as fuel, good combustion practices, an	117 LB/MM BTU	BACT-PSD
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016	4/28/2017	Regenerative Heaters	7.37 mm btu/hr	good combustion/operating/maintenance practices and	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Gasifier Start-up Preheat Burners	23 MM BTU/hr (each)	good equipment design and good combustion practices	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	WSA Preheat Burners	0	good equipment design and good combustion practices	0	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused L	34 MMBTU/H	Good combustion and maintenance practices. Natural ga	5254 T/YR	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUTOH (In FGTOH)--Thermal Oil Heater	34 MMBTU/H	Good combustion and maintenance practices, natural ga	17438 T/YR	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILER, PICKLE LINE	67 MMBTU/H	GOOD OPERATING PRACTICESMINIMUM BOILER EFFICIEN	117 LB/MMBTU	BACT-PSD
MI-0420	DTE GAS COMPANY--MILFORD COMPRESSOR STATION	06/03/2016	4/28/2017	FGAUXBOILERS	6 MMBTU/H	Use of pipeline quality natural gas and energy efficiency	6155 T/YR	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Auxiliary Boiler, 99.8 MMBtu/hr	99.8 MMBtu/hr	Use of natural gas only	0	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	PACKAGE BOILER	17.5 MMBTU/H		34189 T/YR	BACT-PSD
AL-0307	ALLOYS PLANT	10/09/2015	11/30/2017	2 CALP LINE BOILERS	24.59 MMBTU/H		34189 T/YR	BACT-PSD
OK-0173	CMC STEEL OKLAHOMA	01/19/2016	7/7/2016	Heaters (Gas-Fired)	0	Natural Gas Fuel	120 LB/MMBTU	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Auxiliary Boiler (B001)	99 MMBtu/H		26259.76 T/YR	BACT-PSD
OH-0359	DTE MARIETTA	03/31/2014	2/19/2019	Backup Boilers (B001, B002)	96.5 MMBTU/H	Efficient burner design (natural gas, economizer)	49494 T/YR	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	40 MMBTU/H	Good combustion practice to ensure complete combusti	20758 T/YR	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	95.7 MMBTU/H	Good combustion practices and use of low carbon fuel	119195 T/YR	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBF	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	13.2 MMBTU/H	Good combustion practice to ensure complete combusti	6850 T/YR	BACT-PSD
OK-0164	MIDWEST CITY AIR DEPOT	01/08/2015	7/6/2016	Heaters/Boilers	0 MMBTUH	1. Use pipeline-quality natural gas.2. Good Combustion P	153716 TONS PER YEAR	BACT-PSD
TX-0757	INDECK WHARTON ENERGY CENTER	05/12/2014	7/6/2016	Pipeline Heater	3 MMBtu/hr (HHV)		624.78 TPY CO2E	BACT-PSD
TX-0758	ECTOR COUNTY ENERGY CENTER	08/01/2014	7/6/2016	Dew-Point Heater	9 MMBTU/H		2631 TPY CO2E	BACT-PSD
TX-0746	NUEVO MIDSTREAM, RAMSEY GAS PLANT	11/18/2014	7/6/2016	Regeneration Heater	36 MMBTU/H		168.3 LB CO2/MMSCF	BACT-PSD
TX-0746	NUEVO MIDSTREAM, RAMSEY GAS PLANT	11/18/2014	7/6/2016	Hot Oil Heater	60 MMBTU/H		280.5 LB CO2/MMSCFD PROC	BACT-PSD
AL-0282	LENZING FIBERS, INC.	01/22/2014	5/9/2016	Natural Gas Fired Boilers (3)	100 mm btu/hr	Good combustion practices	112508 TPY	BACT-PSD
AK-0083	KENAI NITROGEN OPERATIONS	01/06/2015	2/19/2016	Five (5) Waste Heat Boilers	50 MMBTU/H		59.61 TONS/MMCF	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Regeneration Heater, methanol to gasoline	13 MMBTU/H		0	BACT-PSD
MS-0092	EMBERCLEAR GTL MS	05/08/2014	11/7/2016	Reactor Heater, 5	12 MMBTU/H		0	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Clean fuels	117 LB CO2/MMBTU	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Clean fuels	117 LB CO2/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H		119 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Fuel pre-heater (EUFUELHTR)	3.7 MMBTU/H	Good combustion practices	1934 T/YR	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler B (EUAUXBOILERB)	95 MMBTU/H	Good combustion practices	49251 T/YR	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler A (EUAUXBOILERA)	55 MMBTU/H	Good combustion practices	28514 T/YR	BACT-PSD
MI-0410	THETFORD GENERATING STATION	07/25/2013	5/4/2016	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat	100 MMBTU/H heat input	Efficient combustion; energy efficiency.	24304 T/YR	BACT-PSD

Table C-24. RBLC GHG Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
WY-0076	ROCK SPRINGS FERTILIZER COMPLEX	07/01/2014	1/8/2016	Startup Heater	16 MMBTU/H	limited to 200 hours of operation per year	187 T/YR	BACT-PSD
WY-0075	CHEYENNE PRAIRIE GENERATING STATION	07/16/2014	5/11/2018	Auxiliary Boiler	25.06 MMBtu/h	good combustion practices and energy efficiency	12855 TONS	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		12346 T/YR	OTHER CASI
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	dew point heater	13.32 mmBtu/hr		6860 TONS	BACT-PSD
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	dew point heater	13.32 mmBtu/hr		6860 TONS	BACT-PSD
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr		17313 TON/YR	BACT-PSD
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr		17313 TON/YR	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices.	11503.7 T/YR	BACT-PSD
LA-0272	AMMONIA PRODUCTION FACILITY	03/27/2013	5/4/2016	AMMONIA START-UP HEATER (102-B)	59.4 MM BTU/HR	Energy efficiency measures: use of economizers and boil	1738 TPY	BACT-PSD
LA-0271	PLAQUEMINE NGL FRACTIONATION PLANT	05/24/2013	5/4/2016	Mol Sieve Dehy Regen Heater (H-01)	30 MMBTU/H	Improved combustion measures: heater tuning, optimiza	0	BACT-PSD
LA-0268	PLAQUEMINE PVC PLANT (SPP-2)	09/25/2013	5/4/2016	Cracking Furnace E (2M-17) (EQT 0233)	90 MMBTU/H	Improved combustion measures (i.e., combustion tuning	46123 TPY	BACT-PSD
LA-0269	PLAQUEMINE PVC PLANT (SPP-1)	09/25/2013	5/4/2016	Cracking Furnace E (M-17) (EQT 0242)	90 MMBTU/H	Improved combustion measures (i.e., combustion tuning	46123 TPY	BACT-PSD
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	4 Indirect-Fired Air Preheaters	0		74000 T/YR	N/A
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	AUXILIARY BOILER	40 MMBTU/H		13696 TPY	OTHER CASI
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPL	07/12/2013	5/4/2016	Startup Heater	58.8 MMBTU/H	good operating practices & use of natural gas	345 TONS/YR	BACT-PSD
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Auxillary Boiler	99 MMBtu/H		11671 T/YR	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Pipeline quality natural gas and fuel-efficient design and	117 LB/MMBTU	BACT-PSD

Table C-25. RBLC PM/PM$_{10}$/PM$_{2.5}$ Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
PM - Filterable								
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	good combustion practices and only pipeline quality natu	0.0007 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	good combustion practices and only pipeline quality natu	1.9 LB/MMSCF	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	good combustion practices and only pipeline quality natu	1.9 LB/MMSCF	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 037 - Sow Dryer	20 MMBtu/hr	Good Combustion & Operation Practices (GCOP) Plan	0.04 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041a - Direct-Fired Building Heating Systems	53 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.1 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041b - Indirect-Fired Building Heating Systems â‰¤ 1 MMB	3 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.006 LB/HR	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 041c - Indirect-Fired Building Heating Systems > 1 MMBt	19.2 MMBtu/hr (total)	Good Combustion & Operation Practices (GCOP) Plan	0.04 LB/HR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	45.6 MMBtu/hr Natural Gas-Fired Nitrogen Vaporizers: B029 th	45.6 MMBTU/H	Good combustion practices and the use of natural gas	0.45 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	29.4 MMBtu/hr Natural Gas-Fired Boilers: B001 through B028	29.4 MMBTU/H	Good combustion practices and the use of natural gas	1.68 T/YR	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices	0.005 LB/MMBTU	BACT-PSD
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	0.007 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0075 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0019 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0007 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0012 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil heater (EUTOH in FGTOH)	38 MMBTU/H	Good combustion practices	0.0075 LB/MMBTU	BACT-PSD
MI-0448	GRAYLING PARTICLEBOARD	12/18/2020	8/16/2022	Thermal oil system for thermally fused lamination lines (EUFLT(	10.2 MMBTU/H	Good combustion practices	0.0075 LB/MMBTU	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour		1.4 GR. S/100 SCF NG	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Good Combustion Practice	0.0019 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Good combustion practices	0.0019 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Good combustion practices	0.0019 LB/MMBTU	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€“ Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	1.9 LB/MMSCF	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Good combustion practices	0.002 LB/MMBTU	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	This EP is required to have a Good Combustion and Oper	1.9 LB/MMSCF	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice, clean fuel, and proper design	0.0075 LB/MMBTU	BACT-PSD
MI-0440	MICHIGAN STATE UNIVERSITY	05/22/2019	8/9/2021	FGFUELHEATERS	25 MMBTU/H	Good combustion practices	0.002 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, PICKLE LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0019 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	PREHEATERS, GALVANIZING LINE SN-28 and SN-29	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0012 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, ANNEALING PICKLE LINE	0	Combustion of Natural gas and Good Combustion Practic	0.0019 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILERS SN-26 AND SN-27, GALVANIZING LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0007 LB/MMBTU	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Clean fuels	0	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER, PICKLE LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0019 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	BOILER SN-26, GALVANIZING LINE	53.7 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	6.8 X10^-4 LB/MMBTU	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	PREHEATER, GALVANIZING LINE SN-28	78.2 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0012 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Good combustion practices, low sulfur fuel	0.007 LB/MMBTU	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Low sulfur fuel	0.15 LB/H	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Low sulfur fuel	0.03 LB/H	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boilder	61.5 MMBTU/H	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	99.8 MMBtu/hr auxiliary boiler	99.8 MMBtu/hr	Clean fuels	0	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Natural gas.	0.0063 LB/MMBTU	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	good combustion practiced and pipeline quality natural g	0.005 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUTOH in FGTOH	38 MMBTU/H	Good combustion practices	0.0075 LB/MMBTU	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good combustion practices	0.0075 LB/MMBTU	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUFUELHTR (Fuel pre-heater)	3.7 MMBTU/H	Good combustion practices.	0.007 LB/MMBTU	BACT-PSD
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/05/2016	3/8/2018	EUAUXBOILER (Auxiliary boiler)	83.5 MMBTU/H	Good combustion practices.	0.0018 LB/MMBTU	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxillary Boiler	13.31 MMBtu/hr	Natural gas fired exclusively	0.002 LB/MMBTU	BACT-PSD
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017	8/22/2017	STARTUP HEATER EU-002	70 MMBTU/HR	GOOD COMBUSTION PRACTICE	0.13 LB/H	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &a	27 MMBTU/H	Good combustion practices.	0.002 LB/MMBTU	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused L	34 MMBTU/H	Good combustion practices.	0.0075 LB/MMBTU	BACT-PSD
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016	7/20/2017	EUTOH (In FGTOH)--Thermal Oil Heater	34 MMBTU/H	Good combustion practices	0.0075 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILER, PICKLE LINE	67 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.2 X10^-4 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILERS SN-26 AND 27, GALVANIZING LINE	24.5 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.2 X10^-4 GR/DSCF	BACT-PSD

Table C-25. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	FURNACES SN-40 AND SN-42, DECARBURIZING LINE	22 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.2 X10^-4 LB/MMBTU	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	USE OF NATURAL GAS A CLEAN BURNING FUEL	0.181 LB/H	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	Use of natural gas a clean burning	0.26 LB/H	BACT-PSD
MD-0046	KEYS ENERGY CENTER	10/31/2014	5/13/2016	AUXILIARY BOILER	93 MMBTU/H	EFFICIENT BOILER DESIGN, EXCLUSIVE USE OF PIPELINE C	0.0075 LB/MMBTU	BACT-PSD
MD-0045	MATTAWOMAN ENERGY CENTER	11/13/2015	5/13/2016	AUXILIARY BOILER	42 MMBTU/H	USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COI	0.0019 LB/MMBTU	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND	0.0075 LB/MMBTU	BACT-PSD
MD-0041	CPV ST. CHARLES	04/23/2014	4/26/2018	AUXILIARY BOILER	93 MMBTU/H	USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COI	0.005 LB/MMBTU	BACT-PSD
AL-0282	LENZING FIBERS, INC.	01/22/2014	5/9/2016	Natural Gas Fired Boilers (3)	100 mm btu/hr	Good combustion Practices.	0.0075	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Fuel pre-heater (EUFUELHTR)	3.7 MMBTU/H	Good combustion practices.	0.007 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler B (EUAUXBOILERB)	95 MMBTU/H	Good combustion practices	0.0018 LB/MMBTU	BACT-PSD
MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/04/2013	5/5/2016	Auxiliary Boiler A (EUAUXBOILERA)	55 MMBTU/H	Good combustion practices	0.0018 LB/MMBTU	BACT-PSD
MI-0410	THETFORD GENERATING STATION	07/25/2013	5/4/2016	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat	100 MMBTU/H heat input (	Efficient combustion; natural gas fuel.	0.0018 LB/MMBTU	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.002 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.002 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.002 LB/MMBTU	OTHER CASI

PM_{10} - Filterable

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	0.007 LB/MMBTU	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Clean Fuels	1.4 GR. S/100 SCF NG	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.0075 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three Gas Heaters	10 MMBtu/hr		0.008 LB/MMBTU	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice, clean fuel, and proper design	0.0075 LB/MMBTU	BACT-PSD
*PA-0316	RENOVO ENERGY CENTER, LLC	01/26/2018	3/26/2019	Auxiliary Boiler	118800 MMBtu/12 month period		0.0019 LB	BACT-PSD
AR-0155	BIG RIVER STEEL LLC	11/07/2018	6/19/2019	PREHEATER, GALVANIZING LINE SN-28	78.2 MMBTU/HR	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0012 LB/MMBTU	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		0.46 T/YR	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Low sulfur/carbon fuel and good combustion practices	0.007 LB/MMBTU	BACT-PSD

$PM_{2.5}$ - Filterable

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0939	ORANGE COUNTY ADVANCED POWER STATION	03/13/2023	5/23/2023	Water Bath Heater	16.8 MMBTU/HR	Good combustion practices	0.007 LB/MMBTU	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour		1.4 GR. S/100 SCF NG	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.0075 LB/MMBTU	BACT-PSD
AL-0329	COLBERT COMBUSTION TURBINE PLANT	09/21/2021	3/4/2022	Three Gas Heaters	10 MMBtu/hr		0.008 LB/MMBTU	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice, clean fuel, and proper design	0.0075 LB/MMBTU	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Clean fuels	0	BACT-PSD
MI-0425	GRAYLING PARTICLEBOARD	05/09/2017	11/15/2017	EUFLTOS1 in FGTOH	10.2 MMBTU/H	Good combustion practices	0.0004 LB/MMBTU	BACT-PSD
MI-0406	RENAISSANCE POWER LLC	11/01/2013	7/7/2016	FG-AUXBOILER1-2; Two (2) natural gas-fired auxiliary boilers.	40 MMBTU/H	Good combustion practices.	0.005 LB/MMBTU	BACT-PSD
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU004	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU005	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
SC-0149	KLAUSNER HOLDING USA, INC	01/03/2013	8/27/2014	NATURAL GAS BOILER EU006	46 MMBTU/H		0.005 LB/MMBTU	OTHER CASI
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Low sulfur/carbon fuel and good combustion practices	0.007 LB/MMBTU	BACT-PSD

Table C-26. RBLC SO_2 Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Boiler (CC-BOIL)	50 MMBtu/hr	good combustion practices and only pipeline quality natu	0.0006 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Galvanizing Line	9 MMBtu/hr	Only pipeline quality natural gas shall be combusted	0.0006 LB/MMBTU	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Hot Water Circuit Burner for Sheet Metal Coating Line	5.12 MMBtu/hr	Only pipeline quality natural gas fuel shall be combusted	0.0006 LB/MMBTU	BACT-PSD
MI-0452	MEC SOUTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices, and the use of pipeline qual	1.8 LB/MMSCF	BACT-PSD
MI-0451	MEC NORTH, LLC	06/23/2022	4/25/2023	EUAUXBOILER (North Plant): Auxiliary Boiler	61.5 MMBTU/H	Good combustion practices and the use of pipeline quali	1.8 LB/MMSCF	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Use of only natural gas with a sulfur content of no greate	0.0014 POUNDS/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Hydrogen Plant #2 Reformer Furnace	75 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Galvanizing Line Boilers #1 and #2	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Pickle Galvanizing Line Boiler	53.7 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Limited sulfur content in fuel	1.4 GR. S/100 SCF NG	BACT-PSD
AL-0328	PLANT BARRY	11/09/2020	3/4/2022	90.5 MMBtu/hr Aux Boiler	90.5 MMBtu/hr		0.002 LB/MMBTU	BACT-PSD
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-202, 203, 204 Pickle Line Boilers	0	Low Sulfur fuels	0.0006 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-142 Vacuum Degasser Boiler	50.4 MMBTU/hr	Good combustion practices	0.0006 LB/MMBTU	BACT-PSD
AR-0171	NUCOR STEEL ARKANSAS	02/14/2019	9/10/2021	SN-233 Galvanizing Line Boilers	15 MMBTU/hr each	Good combustion practices	0.0006 LB/MMBTU	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Galvanizing Line #2 Furnace	150.5 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
AR-0168	BIG RIVER STEEL LLC	03/17/2021	5/26/2021	Decarburizing Line Furnace Section	58 MMBtu/hr	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Cold Mill Complex Makeup Air Units (EP 21-19)	40 MMBtu/hr, total	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Vacuum Degasser Boiler (EP 20-13)	50.4 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Pickle Line #2 â€" Boiler #1 & #2 (EP 21-04 & EP 21-0	18 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Alkali Cleaning Section Heater (EP 21-07B)	23 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Radiant Tube Furnace (EP 21-08B)	36 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Annealing Furnaces (15) (EP 21-15)	4.8 MMBtu/hr, each	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Preheat Furnace (EP 21-08A)	94 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Galvanizing Line #2 Zinc Pot Preheater (EP 21-09)	3 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Heated Transfer Table Furnace (EP 02-03)	65.5 MMBtu/hr	The permittee must develop a Good Combustion and Op	0.6 LB/MMSCF	BACT-PSD
*MI-0445	INDECK NILES, LLC	11/26/2019	12/23/2020	FGFUELHTR (2 fuel pre-heaters)	27 MMBTU/H	Good combustion practices and the use of pipeline quali	2000 GR/MMSCF	BACT-PSD
AK-0085	GAS TREATMENT PLANT	08/13/2020	8/16/2022	Two (2) Buyback Gas Bath Heaters and Three (3) Operations Ca	32 MMBtu/hr	Good Combustion Practices, Clean Fuels (NG), and Limite	96 PPMV SULFUR IN FUEL	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 15-01 - Natural Gas Direct-Fired Space Heaters, Process Wat	40 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-01 - Group 1 Car Bottom Furnaces #1 - #3	28 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-02 - Austenitizing Furnace	54 MMBtu/hr	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 05-02 - Group 2 Car Bottom Furnaces A & B	60 MMBtu/hr, combined	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-02 - Ingot Car Bottom Furnaces #1-#4	37 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 03-05 - Steckel Mill Coiling Furnaces #1 & #2	17.5 MMBtu/hr, each	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 04-03 - Tempering Furnace	48 MMBtu/hr	This EP is required to have a Good Combustion and Oper	0.6 LB/MMSCF	BACT-PSD
LA-0364	FG LA COMPLEX	01/06/2020	8/9/2021	PR Waste Heat Boiler	94 mm btu/h	Use of pipeline quality natural gas or fuel gas.	8.03 LB/H	BACT-PSD
LA-0349	DRIFTWOOD LNG FACILITY	07/10/2018	8/6/2021	Hot Oil Heaters (5)	16.13 mm btu/hr	Good Combustion Practices and Use of low sulfur facility	0	BACT-PSD
TX-0888	ORANGE POLYETHYLENE PLANT	04/23/2020	11/12/2020	Heaters	100 MMBtu	Good combustion practice, clean fuel, and proper design	2 GR/100 SCF	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Tunnel Furnace #2 (P018)	88 MMBTU/H	Use of natural gas, good combustion practices and desig	0.05 LB/H	BACT-PSD
WI-0284	SIO INTERNATIONAL WISCONSIN, INC. -ENERGY PLANT	04/24/2018	3/8/2022	B13-B24 & B25-B36 Natural Gas-Fired Boilers	28 mmBTU	Good Combustion Practices and The Use of Pipeline Qual	0.0006 LB/MMBTU	BACT-PSD
WI-0283	AFE, INC. â€"LCM PLANT	04/24/2018	3/8/2022	B01-B12, Boilers	28 mmBTU/hr	Good Combustion Practices and the Use of Pipeline Qual	0.0006 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, PICKLE LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0006 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	PREHEATERS, GALVANIZING LINE SN-28 and SN-29	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0006 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILER, ANNEALING PICKLE LINE	0	Combustion of Natural gas and Good Combustion Practic	0.0006 LB/MMBTU	BACT-PSD
AR-0159	BIG RIVER STEEL LLC	04/05/2019	11/10/2020	BOILERS SN-26 AND SN-27, GALVANIZING LINE	0	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	0.0006 LB/MMBTU	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Pipeline quality natural gas	0.022 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Pipeline quality natural gas	0.12 LB/H	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Limited sulfur content in natural gas	0	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Pipeline natural gas fuel	0.023 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	low sulfur fuel	0.06 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Low sulfur fuel	0.06 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	natural gas/ultra low sulfur diesel	0.15 LB/H	BACT-PSD
TX-0845	ARKEMA BEAUMONT PLANT	08/24/2018	2/19/2019	HEATERS	31 BTU/HR	low sulfur fuel and minimization of sulfur in waste throu	5 GR/100 DSCF	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (North Plant): Auxiliary Boilder	61.5 MMBTU/H	Good combustion practices and the use of pipeline quali	1.8 LB/MMSCF	BACT-PSD
MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018	2/19/2019	EUAUXBOILER (South Plant): Auxiliary Boiler	61.5 MMBTU/h	Good combustion practices and the use of pipeline quali	1.8 LB/MMSCF	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	Two natural gas heaters	9.9 MMBtu/hr	Clean fuel	2 GRAINS S / 100 SCF	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	99.8 MMBtu/hr auxiliary boiler	99.8 MMBtu/hr	Clean fuels	0	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Natural gas.	0.0022 LB/MMBTU	BACT-PSD
MI-0423	INDECK NILES, LLC	01/04/2017	3/8/2018	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 &a	27 MMBTU/H	Good combustion practices and the use of pipeline quali	2000 GR/MMSCF	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	Gasifier Start-up Preheat Burners	23 MM BTU/hr (each)	good engineering practices, good combustion technology	0	BACT-PSD
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016	4/28/2017	WSA Preheat Burners	0	good engineering design and practices and use of clean f	0	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILER, PICKLE LINE	67 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.88 X10^-4 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	BOILERS SN-26 AND 27, GALVANIZING LINE	24.5 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.88 X10^-4 LB/MMBTU	BACT-PSD
AR-0140	BIG RIVER STEEL LLC	09/18/2013	12/13/2016	FURNACES SN-40 AND SN-42, DECARBURIZING LINE	22 MMBTU/H	COMBUSTION OF NATURAL GAS AND GOOD COMBUSTIC	5.88 X10^-4 LB/MMBTU	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	USE OF NATURAL GAS A CLEAN BURNING LOW SULFUR F	0.128 LB/H	OTHER CASI
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	Use of natural gas a low sulfur fuel	0.12 LB/H	OTHER CASI
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Auxiliary Boiler, 99.8 MMBtu/hr	99.8 MMBtu/hr	Use of low-sulfur gas	2 GR. S/100 SCF GAS	BACT-PSD
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016	7/6/2016	Two natural gas heaters	10 MMBtu/hr	Use of low-sulfur fuel	2 GR. S/100 SCF GAS	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBP	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	40 MMBTU/H	Good combustion practice to ensure complete combustic	5 GR/100 SCF	BACT-PSD

Table C-26. RBLC SO_2 Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBP	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	95.7 MMBTU/H	Fuel total sulfur content will be less than or equal to 5 gr	5 GR/100 SCF	BACT-PSD
TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBP	11/06/2015	7/6/2016	Commercial/Institutional-Size Boilers/Furnaces	13.2 MMBTU/H	Good combustion practice to ensure complete combustio	5 GR/100 SCF	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	0.0006 LB/MMBTU	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H		0.9 PPMVD@3% O2	OTHER CASI
OH-0355	GENERAL ELECTRIC AVIATION, EVENDALE PLANT	05/07/2013	5/4/2016	4 Indirect-Fired Air Preheaters	0		0.001 LB/MMBTU	N/A
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Low sulfur fuel.	0.0011 LB/MMBTU	BACT-PSD

Table C-27. RBLC H_2SO_4 Summary for External Combustion Devices <100 MMBtu/hr, Natural Gas-Fired

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Throughput	Control Method Description	Emission Limit	BASIS
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Auxiliary Boiler	80 mmBtu/hour	Use of only natural gas with a sulfur content of no greate	0.02 POUNDS/MMBTU	BACT-PSD
WI-0306	WPL- RIVERSIDE ENERGY CENTER	02/28/2020	9/16/2022	Temporary Boiler (B98A)	14.67 MMBTU/H	Combust only pipeline quality natural gas.	0	BACT-PSD
WI-0300	NEMADJI TRAIL ENERGY CENTER	09/01/2020	9/16/2022	Natural Gas-Fired Auxiliary Boiler (B02)	100 MMBTU/H	Only combust pipeline quality natural gas and operate ar	0.01 LB/H	BACT-PSD
FL-0371	SHADY HILLS COMBINED CYCLE FACILITY	06/07/2021	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Limited sulfur content in fuel	1.4 GR. S/100 SCF NG	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Auxiliary Boiler	96 mmBtu/hr	Good combustion practice	0.1 POUNDS/HOUR	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B001)	44.55 MMBTU/H	Pipeline quality natural gas	0.004 LB/H	BACT-PSD
OH-0377	HARRISON POWER	04/19/2018	6/19/2019	Auxiliary Boiler (B002)	80 MMBTU/H	Pipeline quality natural gas	0.018 LB/H	BACT-PSD
FL-0367	SHADY HILLS COMBINED CYCLE FACILITY	07/27/2018	3/4/2022	60 MMBtu/hour Auxiliary Boiler	60 MMBtu/hour	Clean fuels	0	BACT-PSD
OH-0375	LONG RIDGE ENERGY GENERATION LLC - HANNIBAL POWER	11/07/2017	6/19/2019	Auxiliary Boiler (B001)	26.8 MMBTU/H	Low sulfur fuel	0.003 LB/H	BACT-PSD
OH-0374	GUERNSEY POWER STATION LLC	10/23/2017	6/19/2019	Fuel Gas Heaters (2 identical, P007 and P008)	15 MMBTU/H	Pipeline natural gas fuel	0.0035 LB/H	BACT-PSD
OH-0372	OREGON ENERGY CENTER	09/27/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	low sulfur fuel	0.004 LB/H	BACT-PSD
OH-0370	TRUMBULL ENERGY CENTER	09/07/2017	6/19/2019	Auxiliary Boiler (B001)	37.8 MMBTU/H	Low sulfur fuel	0.0087 LB/H	BACT-PSD
OH-0367	SOUTH FIELD ENERGY LLC	09/23/2016	6/19/2019	Auxiliary Boiler (B001)	99 MMBTU/H	natural gas/ultra low sulfur diesel	0.011 LB/H	BACT-PSD
OH-0366	CLEAN ENERGY FUTURE - LORDSTOWN, LLC	08/25/2015	6/19/2019	Auxiliary Boiler (B001)	34 MMBTU/H	Low sulfur fuel	0.004 LB/H	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Auxiliary Boiler	96 mmBtu/hr	Good combustion practice	0.1 LB/HR	BACT-PSD
*WV-0032	BROOKE COUNTY POWER PLANT	09/18/2018	6/28/2022	Auxiliary Boiler	111.9 mmBtu/hr	Use of Natural Gas	0.02 LB/HR	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUAUXBOILER: Auxiliary Boiler	99.9 MMBTU/H	Good combustion practices, low sulfur fuel	0.34 GR S/100 SCF	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR1: Natural gas fired fuel heater	20.8 MMBTU/H	Low sulfur fuel	0.34 GR S/100 SCF	BACT-PSD
MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018	2/19/2019	EUFUELHTR2: Natural gas fired fuel heater	3.8 MMBTU/H	Low sulfur fuel	0.34 GR S/100 SCF	BACT-PSD
*WV-0029	HARRISON COUNTY POWER PLANT	03/27/2018	6/28/2022	Auxiliary Boiler	77.8 mmBtu/hr	Use of Natural Gas	0.0132 LB/HR	BACT-PSD
FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017	3/4/2022	99.8 MMBtu/hr auxiliary boiler	99.8 MMBtu/hr	Clean fuels	0	BACT-PSD
NY-0104	CPV VALLEY ENERGY CENTER	08/01/2013	9/28/2017	Auxiliary boiler	0	Natural gas.	0.0002 LB/MMBTU	BACT-PSD
NY-0103	CRICKET VALLEY ENERGY CENTER	02/03/2016	9/28/2017	Auxiliary boiler	60 MMBTU/H	natural gas with maximum sulfur content 0.4 grains/100	1.1 10-4 LB/MMBTU	BACT-PSD
PA-0311	MOXIE FREEDOM GENERATION PLANT	09/01/2015	12/21/2018	Auxilary Boiler	55.4 MMBtu/hr		0.0001 LB/MMBTU	BACT-PSD
PA-0309	LACKAWANNA ENERGY CTR/JESSUP	12/23/2015	12/21/2018	Auxillary Boiler	13.31 MMBtu/hr		0.0001 LB/MMBTU	BACT-PSD
PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016	12/21/2018	Auxilary boiler	92.4 MMBtu/hr	ULSD and good combustion practices	0.0011 LB/MMBTU	BACT-PSD
PA-0307	YORK ENERGY CENTER BLOCK 2 ELECTRICITY GENERATION PROJ	06/15/2015	12/21/2018	Auxilary Boiler	62.04 MCF/hr	Good combustion practices and low sulfur fuels	0 LB/MMBTU	BACT-PSD
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016	11/3/2016	AUXILIARY BOILER	4000 H/YR	USE OF NATURAL GAS A CLEAN BURNING AND LOW SULF	0.01 LB/H	BACT-PSD
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	03/10/2016	4/17/2018	Auxiliary Boiler firing natural gas	687 MMCFT/YR	Use of natural gas a low sulfur fuel	0.02 LB/H	BACT-PSD
OH-0360	CARROLL COUNTY ENERGY	11/05/2013	4/1/2019	Auxiliary Boiler (B001)	99 MMBtu/H	only burning natural gas	0.02 LB/H	BACT-PSD
MD-0045	MATTAWOMAN ENERGY CENTER	11/13/2015	5/13/2016	AUXILIARY BOILER	42 MMBTU/H	EXCLUSIVE USE OF NATURAL GAS, AND GOOD COMBUST	0.004 LB/MMBTU	BACT-PSD
MD-0042	WILDCAT POINT GENERATION FACILITY	04/08/2014	8/12/2020	AUXILLARY BOILER	45 MMBTU/H	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	0.004 LB/MMBTU	BACT-PSD
OR-0050	TROUTDALE ENERGY CENTER, LLC	03/05/2014	5/5/2016	Auxiliary boiler	39.8 MMBTU/H	Good combustion practices;Utilize only natural gas.	0	BACT-PSD
MA-0039	SALEM HARBOR STATION REDEVELOPMENT	01/30/2014	5/5/2016	Auxiliary Boiler	80 MMBTU/H		0.0009 LB/MMBTU	BACT-PSD
PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	3/2/2020	Auxiliary Boiler	40 MMBTU/H		0.04 T/YR	N/A
IA-0107	MARSHALLTOWN GENERATING STATION	04/14/2014	5/4/2016	auxiliary boiler	60.1 mmBtu/hr		0.0055 LB/H	BACT-PSD
PA-0291	HICKORY RUN ENERGY STATION	04/23/2013	3/2/2020	AUXILIARY BOILER	40 MMBTU/H		0.0005 LB/MMBTU	OTHER CASI
OH-0352	OREGON CLEAN ENERGY CENTER	06/18/2013	5/4/2016	Auxillary Boiler	99 MMBtu/H	only burning natural gas 0.5 GR/100 SCF	0.011 LB/H	BACT-PSD
VA-0321	BRUNSWICK COUNTY POWER STATION	03/12/2013	6/19/2019	AUXILIARY BOILER	66.7 MMBTU/H	Pipeline quality natural gas and 5% oxidation of S toH2SC	0.0086 LB/MMBTU	BACT-PSD

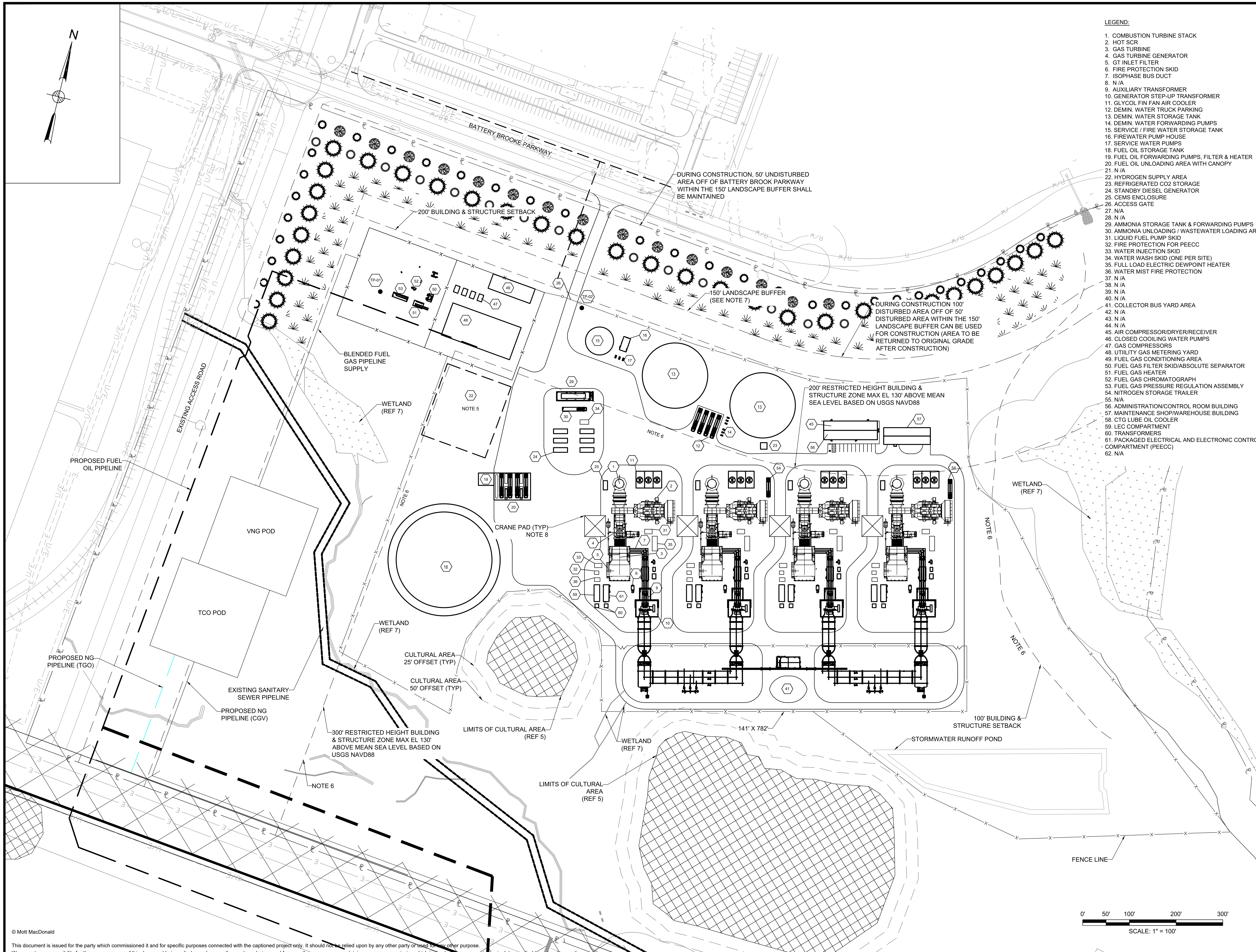
Table C-28. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Paved Roads

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Control Method Description	Emission Limit	BASIS
PM - Filterable							
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-122 SN-210 Paved Roads	Water Sprays, sweeping,	15.2 LB/HR	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Paved Roadways	Development and Implementation of Fugitive Dust Control Plan	2.8 TPY	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90 % CONTROL	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	PAVED ROADWAYS AND PARKING LOTS WITH PUBLIC ACCESS	PAVE ALL PLANT HAUL ROADS, DAILY SWEEPING AND WET SUPPRESSION, PR	90 % CONTROL	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90 % CONTROL	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Paved Roadways (EU76)	The permittee shall vacuum sweep the pavement at least weekly, except dur	0	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Paved Roads & Satellite Coil Yard (EPs 04-01 & 04-0	Sweeping & Watering	0	BACT-PSD
MO-0089	OWENS CORNING INSULATION SYSTEMS, LLC	05/12/2016	5/11/2018	haul roads	vacuum sweep, wash, etc	0	BACT-PSD
SC-0181	RESOLUTE FP US INC. - CATAWBA LUMBER MILL	11/03/2017	10/4/2018	Roads	Good housekeeping practices.	0.13 LB/VMT	BACT-PSD
IN-0359	NUCOR STEEL	03/30/2023	5/23/2023	Paved Roads	comply with fugitive dust control plan	0	BACT-PSD
KY-0110	NUCOR STEEL BRANDENBURG	07/23/2020	1/25/2021	EP 14-01 - Paved Roadways	surface improvements (pavement), sweeping (good work practice) and wate	0	BACT-PSD
KY-0116	NOVELIS CORPORATION - GUTHRIE	07/25/2022	4/25/2023	EU 020 - Paved Roads	Sweeping (minimum of monthly), speed limit, paving, and reasonable precau	0	BACT-PSD
MD-0041	CPV ST. CHARLES	04/23/2014	4/26/2018	ROADWAYS		0	N/A
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Paved Roadways (F001)	i.Paving of all plant roads that will be used for raw material and product trans	13.2 T/YR	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Facility Roadways (F001)	i.Pave all in-plant haul roads and parking areas;ii.Implement best manageme	1.88 T/YR	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Plant Roadways & Parking Areas (F005)	Paved: sweeping, vacuuming, washing with water, and posted speed limits to	16.74 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	Facility paved roadways and parking areas	Pave all roadways and parking areas and implement best management pract	0.8 T/YR	BACT-PSD
OK-0156	NORTHSTAR AGRI IND ENID	07/31/2013	5/11/2018	Haul Roads	Paved Haul Roads	0	BACT-PSD
SC-0193	MERCEDES BENZ VANS, LLC	04/15/2016	9/10/2021	Paved Roads	Proper Maintenance of all roads. Fugitive dust minimization.	0	BACT-PSD
WI-0310	NEMADJI TRAIL ENERGY CENTER	07/08/2021	9/16/2022	Haul Roads (F01)	All roads and parking lots within the property boundary must be paved, 5 mp	520 TRUCK TRIPS/YR	BACT-PSD
PM - Total							
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMP	07/12/2013	5/4/2016	New Plant Haul Road	paved road, water flushing, and sweeping	0	BACT-PSD
*IA-0117	SHELL ROCK SOY PROCESSING	03/17/2021	4/20/2021	Paved Road Fugitives	sweeping	2.97 TONS PER YEAR	BACT-PSD
IL-0129	CPV THREE RIVERS ENERGY CENTER	07/30/2018	2/19/2019	Roadways	Paving is required for roads used by trucks transporting bulk materials.	10 % OPACITY	BACT-PSD
IL-0130	JACKSON ENERGY CENTER	12/31/2018	4/16/2020	Roadways		10 PERCENT OPACITY	BACT-PSD
IL-0132	NUCOR STEEL KANKAKEE, INC.	01/25/2021	8/16/2022	New and Modified Roadways	Roadways shall be paved; speed limit posting of 15 miles/hour; best manage	0	BACT-PSD
IL-0133	LINCOLN LAND ENERGY CENTER	07/29/2022	12/6/2022	Roadways		10 PERCENT OPACITY	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Paved roads	Fugitive dust control plan	1 MIN	BACT-PSD
KS-0034	ABENGOA BIOENERGY BIOMASS OF KANSAS (ABBK)	05/27/2014	3/1/2023	Paved Haul Roads	Truck traffic fugitive control strategy and monitoring plan, including sweepin	148 TRUCKS/DAY	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	Fugitive Dust (Paved Roads)	Paving plant road as much as practicable.	0.08 LB/HR	BACT-PSD
WI-0310	NEMADJI TRAIL ENERGY CENTER	07/08/2021	9/16/2022	Haul Roads (F01)	All roads and parking lots within the property boundary must be paved, 5 mp	520 TRUCK TRIPS/YR	BACT-PSD
OH-0380	AMG VANADIUM LLC	08/07/2019	8/9/2021	Paved Roadways (F001)	Pave all in-plant haul roads and parking areas.Implement best management p	0.28 T/YR	BACT-PSD
PM_{10} - Filterable							
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Paved roads (F001)	water flushing and sweeping	0.63 T/YR	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Plant Roadways & Parking Areas (F005)	Paved: sweeping, vacuuming, washing with water, and posted speed limits to	3.55 T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	Facility paved roadways and parking areas	Pave all roadways and parking areas and implement best management pract	0.16 T/YR	BACT-PSD
SC-0181	RESOLUTE FP US INC. - CATAWBA LUMBER MILL	11/03/2017	10/4/2018	Roads	Good housekeeping practices.	0.03 LB/VMT	BACT-PSD
PM_{10} - Total							
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-122 SN-210 Paved Roads	Water Sprays, sweeping,	3.9 LB/HR	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Paved Roadways	Development and Implementation of Fugitive Dust Control Plan	0.6 TPY	BACT-PSD
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMP	07/12/2013	5/4/2016	New Plant Haul Road	paved road, water flushing, and sweeping	0	BACT-PSD
IL-0132	NUCOR STEEL KANKAKEE, INC.	01/25/2021	8/16/2022	New and Modified Roadways	Roadways shall be paved; speed limit posting of 15 miles/hour; best manage	0	BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90 % CONTROL	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	PAVED ROADWAYS AND PARKING LOTS WITH PUBLIC ACCESS	PAVE ALL PLANT HAUL ROADS, DAILY SWEEPING AND WET SUPPRESSION, PR	90 % CONTROL	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90 % CONTROL	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Paved roads	Fugitive dust control plan	1 MIN	BACT-PSD
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	Fugitive dust from paved roads and parking lots		0	BACT-PSD
KS-0034	ABENGOA BIOENERGY BIOMASS OF KANSAS (ABBK)	05/27/2014	3/1/2023	Paved Haul Roads	Truck traffic fugitive control strategy and monitoring plan, including sweepin	148 TRUCKS/DAY	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Paved Roadways (EU76)	The permittee shall vacuum sweep the pavement at least weekly, except dur	0	BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Paved Roads & Satellite Coil Yard (EPs 04-01 & 04-0	Sweeping & Watering	0	BACT-PSD
LA-0379	SHINTECH PLAQUEMINES PLANT 1	05/04/2021	3/4/2022	Fugitive Dust (Paved Roads)	Paving plant road as much as practicable.	0.08 LB/HR	BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Paved Roads (FUG0004)	Proper maintenance	0	BACT-PSD
OH-0368	PALLAS NITROGEN LLC	04/19/2017	6/19/2019	Paved Roadways (F001)	i.Paving of all plant roads that will be used for raw material and product trans	2.6 T/YR	BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Facility Roadways (F001)	i.Pave all in-plant haul roads and parking areas;ii.Implement best manageme	0.38 T/YR	BACT-PSD
OH-0380	AMG VANADIUM LLC	08/07/2019	8/9/2021	Paved Roadways (F001)	Pave all in-plant haul roads and parking areas.Implement best management p	0.06 T/YR	BACT-PSD
WI-0310	NEMADJI TRAIL ENERGY CENTER	#REF!	9/16/2022	Haul Roads (F01)	All roads and parking lots within the property boundary must be paved, 5 mp	520 TRUCK TRIPS/YR	BACT-PSD

Table C-28. RBLC PM/PM_{10}/$PM_{2.5}$ Summary for Paved Roads

RBLCID	Facility Name	Permit Issuance Date	Date Last Updated	Process Name	Control Method Description	Emission Limit		BASIS
$PM_{2.5}$ - Filterable								
IN-0324	MIDWEST FERTILIZER COMPANY LLC	05/06/2022	8/16/2022	Fugitive dust from paved roads and parking lots		0		BACT-PSD
KS-0034	ABENGOA BIOENERGY BIOMASS OF KANSAS (ABBK)	05/27/2014	3/1/2023	Paved Haul Roads	Truck traffic fugitive control strategy and monitoring plan, including sweepin	148	TRUCKS/ DAY	BACT-PSD
OH-0376	IRONUNITS LLC - TOLEDO HBI	02/09/2018	6/19/2019	Paved roads (F001)	water flushing and sweeping	0.15	T/YR	BACT-PSD
OH-0381	NORTHSTAR BLUESCOPE STEEL, LLC	09/27/2019	8/9/2021	Plant Roadways & Parking Areas (F005)	Paved: sweeping, vacuuming, washing with water, and posted speed limits to	0.75	T/YR	BACT-PSD
OH-0387	INTEL OHIO SITE	09/20/2022	4/25/2023	Facility paved roadways and parking areas	Pave all roadways and parking areas and implement best management pract	0.04	T/YR	BACT-PSD
SC-0181	RESOLUTE FP US INC. - CATAWBA LUMBER MILL	11/03/2017	10/4/2018	Roads	Good housekeeping practices.	0.01	LB/VMT	BACT-PSD
$PM_{2.5}$ - Total								
AR-0172	NUCOR STEEL ARKANSAS	09/01/2021	3/4/2022	SN-122 SN-210 Paved Roads	Water Sprays, sweeping,	0.5	LB/HR	BACT-PSD
AR-0173	BIG RIVER STEEL LLC	01/31/2022	3/4/2022	Paved Roadways	Development and Implementation of Fugitive Dust Control Plan	0.2	TPY	BACT-PSD
IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMP	07/12/2013	5/4/2016	New Plant Haul Road	paved road, water flushing, and sweeping	0		BACT-PSD
IL-0132	NUCOR STEEL KANKAKEE, INC.	01/25/2021	8/16/2022	New and Modified Roadways	Roadways shall be paved; speed limit posting of 15 miles/hour; best manage	0		BACT-PSD
IN-0173	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/4/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90	% CONTROL	BACT-PSD
IN-0179	OHIO VALLEY RESOURCES, LLC	09/25/2013	5/4/2016	PAVED ROADWAYS AND PARKING LOTS WITH PUBLIC ACCESS	PAVE ALL PLANT HAUL ROADS, DAILY SWEEPING AND WET SUPPRESSION, PR	90	% CONTROL	BACT-PSD
IN-0180	MIDWEST FERTILIZER CORPORATION	06/04/2014	5/5/2016	FUGITIVE DUST FROM PAVED ROADS AND PARKING LOTS	PAVE ALL HAUL ROADS, DAILY SWEEPING WITH WET SUPPRESSION, PROMPT	90	% CONTROL	BACT-PSD
IN-0317	RIVERVIEW ENERGY CORPORATION	06/11/2019	5/26/2021	Paved roads	Fugitive dust control plan	1	MIN	BACT-PSD
KY-0109	FRITZ WINTER NORTH AMERICA, LP	10/24/2016	1/25/2021	Paved Roadways (EU76)	The permittee shall vacuum sweep the pavement at least weekly, except dur	0		BACT-PSD
KY-0115	NUCOR STEEL GALLATIN, LLC	04/19/2021	5/26/2021	Paved Roads & Satellite Coil Yard (EPs 04-01 & 04-0	Sweeping & Watering	0		BACT-PSD
LA-0382	BIG LAKE FUELS METHANOL PLANT	04/25/2019	3/4/2022	Paved Roads (FUG0004)	Proper maintenance	0		BACT-PSD
OH-0378	PTTGCA PETROCHEMICAL COMPLEX	12/21/2018	6/19/2019	Facility Roadways (F001)	i.Pave all in-plant haul roads and parking areas;ii.Implement best manageme	0.09	T/YR	BACT-PSD
OH-0380	AMG VANADIUM LLC	08/07/2019	8/9/2021	Paved Roadways (F001)	Pave all in-plant haul roads and parking areas.Implement best management p	0.01	T/YR	BACT-PSD

Appendix D Plot Plan



LEGEND:

1. COMBUSTION TURBINE STACK
2. HOT SCR
3. GAS TURBINE
4. GAS TURBINE GENERATOR
5. GT INLET FILTER
6. FIRE PROTECTION SKID
7. ISOPHASE BUS DUCT
8. N /A
9. AUXILIARY TRANSFORMER
10. GENERATOR STEP-UP TRANSFORMER
11. GLYCOL FIN FAN AIR COOLER
12. DEMIN. WATER TRUCK PARKING
13. DEMIN. WATER STORAGE TANK
14. DEMIN. WATER FORWARDING PUMPS
15. SERVICE / FIRE WATER STORAGE TANK
16. FIREWATER PUMP HOUSE
17. SERVICE WATER PUMPS
18. FUEL OIL STORAGE TANK
19. FUEL OIL FORWARDING PUMPS, FILTER & HEATER
20. FUEL OIL UNLOADING AREA WITH CANOPY
21. N /A
22. HYDROGEN SUPPLY AREA
23. REFRIGERATED CO2 STORAGE
24. STANDBY DIESEL GENERATOR
25. CEMS ENCLOSURE
26. ACCESS GATE
27. N /A
28. N /A
29. AMMONIA STORAGE TANK & FORWARDING PUMPS
30. AMMONIA UNLOADING / WASTEWATER LOADING AREA
31. LIQUID FUEL PUMP SKID
32. FIRE PROTECTION FOR PEECC
33. WATER INJECTION SKID
34. WATER WASH SKID (ONE PER SITE)
35. FULL LOAD ELECTRIC DEWPOINT HEATER
36. WATER MIST FIRE PROTECTION
37. N /A
38. N /A
39. N /A
40. N /A
41. COLLECTOR BUS YARD AREA
42. N /A
43. N /A
44. N /A
45. AIR COMPRESSOR/DRYER/RECEIVER
46. CLOSED COOLING WATER PUMPS
47. GAS COMPRESSORS
48. UTIILITY GAS METERING YARD
49. FUEL GAS CONDITIONING AREA
50. FUEL GAS FILTER SKID/ABSOLUTE SEPARATOR
51. FUEL GAS HEATER
52. FUEL GAS CHROMATOGRAPH
53. FUEL GAS PRESSURE REGULATION ASSEMBLY
54. NITROGEN STORAGE TRAILER
55. N /A
56. ADMINISTRATION/CONTROL ROOM BUILDING
57. MAINTENANCE SHOP/WAREHOUSE BUILDING
58. CTG LUBE OIL COOLER
59. LEC COMPARTMENT
60. TRANSFORMERS
61. PACKAGED ELECTRICAL AND ELECTRONIC CONTROL COMPARTMENT (PEECC)
62. N /A

Notes

1. ORIGINAL EQUIPMENT MANUFACTURE (OEM) EQUIPMENT PRESENTED IS BASED ON GE 7FA.05 HOT SCR/CO COMBUSTION GAS TURBINE
2. BALANCE OF PLANT (BOP) EQUIPMENT SHOWN IS BASED ON PRELIMINARY SIZING AND IS SUBJECT TO CHANGE
3. DIESEL GENERATORS ARE BASED ON A 3000-KW CAT MODEL C175
4. SITE TIE-IN POINTS:
   TP-01 - NATURAL GAS
   TP-02 - CITY WATER
   TP-03 - WASTE WATER / SEWER (TBD)
   TP-04 - STORM WATER DISCHARGE (TBD)
   TP-05 - CONSTRUCTION POWER (TBD)
   TP-06 - TELEPHONE (TBD)
5. FUTURE HYDROGEN SUPPLY AREA
6. BUILDING OR STRUCTURE MAXIMUM EL 220' ABOVE MEAN SEA LEVEL BASED ON USGS NADV88.
7. DURING CONSTRUCTION 100' DISTURBED AREA OFF OF 50' DISTURBED AREA WITHIN THE 150' LANDSCAPE BUFFER CAN BE USED FOR CONSTRUCTION (AREA TO BE RETURNED TO ORIGINAL GRADE AFTER CONSTRUCTION)
8. CONCRETE CRANE PAD AREA RESERVED FOR CTG ROTOR REMOVAL AND SCR MODULE INSTALLATION/REPLACEMENT. CONTRACTOR SHALL CONFIRM CRANE SIZE, REACH, LOAD DESIGN FOR CRANE PAD DURING DETAIL DESIGN.

Legend

—₽—₽—₽—	PROPERTY LINE
—x—x—	FENCE
(crosshatch)	CULTURAL AREA
(stipple)	WETLAND

Reference Drawings

1. 507104964-C-100.dwg - MM - OVERALL SITE PLAN
2. 118001-CF-CG100 Site Plan - B&M - 4X - SIMPLE CYCLE SITE PLAN
3. JAMES RIVER INDUSTRIAL CENTER - LOT 5 - LAND USE CONSTRAINTS PLAN - EXHIBIT (9/25/2020)
4. 507104964-M-100 THRU 507201964-M-110
5. Chesterfield Cultural Areas.kmz
6. GE File: ISP1432871-7F05-A63.dwg (REV B)
7. Timmons Group wetland files - Revised _WTDM_Shapefiles_Export

Rev	Date	Drawn	Description	Ch'k'd	App'd
A	07/20/23	RCH	ISSED FOR REVIEW	AC	

MOTT MACDONALD
101 Station Drive
Suite 130
Westwood, MA 02090
United States
T +1 (781) 915-0015
F +1 (781) 915-0001
W www.mottmac.com

Client

Dominion Energy

Title

CHESTERFIELD PEAKING POWER STATION

GENERAL ARRANGEMENT 1000 MW SIMPLE CYCLE PLANT

PRELIMINARY NOT FOR CONSTRUCTION
REPLACE WITH ENGINEERS STAMP AT CONSTRUCTION AND/OR FABRICATION

Designed	-	Eng check	-
Drawn	RCH	Approved	-
Dwg check	-	Project Mngr	AC
Scale at ANSI D 1"=100'		Date 07/20/23	Rev A

Drawing Number
507104964-SK-GA-100

C:\Users\hes95282\Mott MacDonald\Dominion_Chesterfield Simple Cycle OE Services - Do\09. Engineering & Design\01. General Arrangement\01. Site General Arrangement - 1000-MW\507104964-SK-GA-100_REV A.dwg Jul 20, 2023 - 3:34PM HES95282

Appendix E Air Dispersion Modeling Files

Appendix F Background Emissions Inventory

Appendix G Air Quality Impacts, Contour Map

Appendix H Site Suitability and Environmental Justice Evaluation

AECOM

Dominion Energy
Chesterfield Energy Reliability Center

Environmental Justice Screening
Phase 1 Report

July 28, 2023

Delivering a better world

Prepared for:

Dominion Energy

Prepared by:

AECOM
4840 Cox Road
Glen Allen, VA 23060
aecom.com

Table of Contents

Figures

Tables

1. Executive Summary

On behalf of the Virginia Electric & Power Company, d/b/a Dominion Energy Virginia ("Dominion Energy" or "Company"), AECOM Technical Services, Inc. ("AECOM") has conducted this analysis of the Chesterfield Energy Reliability Center ("CERC" or "Project"). If approved, the Project would consist of four natural gas turbines with a total generation capacity of approximately 1,000 megawatts—enough to power up to 250,000 homes. The station would serve as an "always ready" resource that could provide power when customer demand for electricity is particularly high and/or other energy resources are constrained.

To perform this Environmental Justice Screening Phase 1 Report, the following topics were evaluated: a description of the Project and study area; identification of geographic areas that meet the Commonwealth of Virginia's definition for an environmental justice community, and a summary of outreach and community engagement performed related to the Project at the time of the analysis. A "Phase 2" report will be prepared and subsequently submitted, which will include an impact analysis informed by the air modeling process and updates on outreach and community engagement activities, which are planned to continue through development and construction of the Project.

Geographic and Demographic Analysis

The CERC is proposed to be sited on Battery Brooke Parkway, adjacent to Dominion Energy's existing Chesterfield Power Station complex. Chesterfield Power Station is situated alongside the James River within Chesterfield County. AECOM assessed a study area that encompasses a one-mile radius around the proposed project footprint.

Based on desktop screening and visual inspection of aerial imagery, the extent of the 1-mile radius study area within Chesterfield County consists of primarily industrial areas. The western edge of the study area contains residential areas, a mile from the proposed facility. The study area also includes municipal facilities (e.g., the Proctor's Creek Wastewater Treatment Plant), recreation facilities such as a public boating access point, Henricus Historical Park, the Dutch Gap Conservation Area, Richmond National Battlefield Park, and the James River.

Dominion Energy recognizes that environmental justice communities must be identified so they can contribute and have meaningful involvement in the project development process. Thus, AECOM undertook a Phase 1 screening process to identify environmental justice communities in a one-mile radius surrounding the proposed CERC to inform the Company's initial public engagement efforts.

The demographic analysis investigates the proportion of low-income residents and residents of color within each Census Block Group ("CBG") relative to benchmarks prescribed by statute. Relevant federal guidance is used to identify meaningfully higher greater concentrations of vulnerable age groups and linguistically isolated households. This report uses the smallest unit of analysis for which US Census Bureau data are consistently available—the CBG.

- Low Income Populations: Two of four CBGs within the study area meet the VEJA definition for a low-income community.
- Populations of Color: Three of four CBGs within the study area meet the VEJA definition for a community of color. The CBG which contains the proposed facility appears to be a primarily Hispanic community of color (21%). Two additional CBGs intersecting with the study area were also identified as African American and Hispanic communities of color.
- Linguistically Isolated Populations: One of four CBGs within the study area has a proportion of limited English-speaking residents exceeding that of the Commonwealth.
- Populations Under Age 5: In two of four CBGs within the study area, the proportion of under-5 residents exceeds that of the Commonwealth.
- Populations Over Age 64: In one of four CBGs within the study area, the percentage of the population over age 64 exceeds that of the Commonwealth.

Public Outreach and Participation

Leading up to and continuing through regulatory processes (i.e., permitting) Dominion has and will continue to engage with a broad range of stakeholders who have a variety of interests related to the project and its potential effects. A project website, newspaper advertisement, project fact-sheet, mailed communications, and materials translated into Spanish and Korean have been deployed to share project information with the local community. An initial open house was help on June 27 at Bellwood Elementary School; 85 people were in attendance. Additionally, project information has been sent to potentially interested Native American Tribes and will continue as Dominion has dedicated team members facilitating tribal engagement.

It is recognized that EJ populations must have the opportunity to contribute and have meaningful involvement in the project development process. For this reason, recommended next steps for Dominion Energy include:00203:54 PMCOPY

- Develop and implement a Public Outreach Plan, in coordination with the Virginia Department of Environmental Quality air permitting process and air modeling analysis, with specific focus on EJ considerations and efforts to ensure opportunities for meaningful involvement by local EJ communities. This includes making communications inclusive by considering language barriers, literacy, and computer/internet access; and
- Establish ongoing and effective public engagement, with a focus on continued neighborhood meetings around the Chesterfield Energy Reliability Center project site. This engagement should: (1) encourage public input, (2) discuss any community concerns, (3) proactively engage diverse audiences and members of local EJ communities, Native American tribes, and organizations that represent underserved populations to solicit stakeholder feedback, and (4) identify potential solutions and/or mitigation options as necessary.

2. Introduction

Dominion Energy is proposing to construct the CERC consisting of four new natural gas simple cycle combustion turbines ("SCCT") peaking units ("the Project") to be located on an approximate 94-acre parcel within the James River Industrial Center in Chesterfield County, which is approximately 4 miles northeast of Chester, Virginia. The Project would be located adjacent to, and considered a single stationary source with, Dominion Energy's existing Chesterfield Power Station. Based on the emission estimates, the Project would be a "major modification" at an existing major source under Title I of the Clean Air Act (CAA). Dominion is applying to the Virginia Department of Environmental Quality (VADEQ) for a prevention of significant deterioration (PSD) and stationary source air construction permit as required by VADEQ.

The Commonwealth of Virginia's General Assembly adopted the Virginia Environmental Justice Act ("VEJA") in July 2020 and amended Va. Code § 10.1-1182 to redefine environmental justice ("EJ") consistent with the VEJA. The General Assembly also expanded VADEQ's purposes as listed in §10.1-1183, adding "to further environmental justice and enhance public participation in the regulatory and permitting processes" and "to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, faith, disability, or income with respect to the administration of environmental laws, regulations, and policies."[1] All three statutory updates became effective on July 1, 2020.

The VEJA defines "Environmental Justice" and "Environmental Justice Community" as follows:

- "Environmental Justice" means the fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy. Va. Code § 2.2-234.
  - "Fair treatment" means the equitable consideration of all people whereby no group of people bears a disproportionate share of any negative environmental consequence resulting from an industrial, governmental, or commercial operation, program, or policy. *Id.*

[1] Va Code, 2022; Va. Code, 2020

- “Meaningful involvement” means the requirements that (i) affected and vulnerable community residents have access and opportunities to participate in the full cycle of the decision-making process about a proposed activity that will affect their environment or health and (ii) decision makers will seek out and consider such participation, allowing the views and perspectives of community residents to shape and influence the decision. *Id.*

- “Environmental Justice Community” means any low-income community or community of color. *Id.*

  - "Low-income community" means any census block group in which 30 percent or more of the population is composed of people with low income. *Id.*

  - "Community of color" means any geographically distinct area where the population of color, expressed as a percentage of the total population of such area, is higher than the population of color in the Commonwealth expressed as a percentage of the total population of the Commonwealth. However, if a community of color is composed primarily of one of the groups listed in the definition of "population of color," the percentage population of such group in the Commonwealth shall be used instead of the percentage population of color in the Commonwealth. *Id.*

The Company is addressing EJ in accordance with federal guidelines, the VEJA, and related statutes, as well as site suitability under Va. Code §10.1-1307.E. Additionally, the VADEQ has proposed, but not yet finalized, guidance for implementing the new statutes.[2] The Company will take this draft guidance into consideration as it proceeds through the permitting process.

According to U.S. Environmental Protection Agency (“EPA”) guidance, EJ analyses must address disproportionately high and adverse impacts on minority populations (i.e., who are non-white, or who are white but have Hispanic ethnicity) when minority populations represent over 50 percent of the population of an affected area or when the percentage of minority or low-income populations in the affected area is “meaningfully greater” than the minority percentage in the “reference population”—defined as the population of a larger area in which the affected population resides (i.e., a county, state, or region depending on the geographic extent of the analysis area). Low-income populations are those that fall within the annual statistical poverty thresholds from the U.S. Department of Commerce, Bureau of the Census, Population Reports, Series P-60 on Income and Poverty (EPA 2016a).

On behalf of Dominion Energy AECOM has conducted this EJ analysis of the Project. This “Phase 1” report focuses on screening the study area to identify communities with potential EJ concerns within and proximate to the initial study area. The following topics are examined in this report: the description of the study area; identification of geographic areas that meet the definition for an EJ Community pursuant to the VEJA, and a summary of relevant outreach and community engagement performed to date. A “Phase 2” report will be prepared and subsequently submitted, which will include an impact analysis informed by the air modeling process and updates on outreach and community engagement activities, which are planned to continue through development and construction of the Project.

3. Methodology

This analysis uses definitions provided in the VEJA for different categories of EJ populations (Va. Code §§ 2.2-234, 2.2-235). Where the VEJA is silent, this analysis follows federal guidance and recommended methodologies outlined by the Council on Environmental Quality (“CEQ”) and the Federal Interagency Working Group on Environmental Justice and National Environmental Policy Act Committee (USEPA 2016b). The geographic study area for this EJ analysis is a one-mile buffer of the Project (Figure 1, Attachment A).

The CBG is used as the primary unit of analysis because it is the smallest geographic unit for which U.S. Census Bureau demographic and economic data is consistently available, providing information at a sub-county level. The U.S. Census Bureau American Community Survey 5-year Estimates (U.S. Census Bureau 2021a, b) was used to collect demographic data for the state, counties, and CBGs.

[2] Guidance Memo No. 23-XXXX – Environmental Justice in the Permitting Process (Draft) (https://www.deq.virginia.gov/get-involved/environmental-justice).

Virginia defines “population of color” as a group of individuals belonging to one or more of the following racial and ethnic categories: “Black, African American, Asian, Pacific Islander, Native American, other, nonwhite race, mixed race, Hispanic, Latino or linguistically isolated” (Va. Code §§ 2.2-234).

Virginia identifies a minority population, or what it terms a “community of color,” if an analysis area has a greater “population of color” percentage than that of the state as a whole. If a “community of color” is composed primarily of a specific “population of color,” then the statewide population percentage of that single group is used instead of the percentage for the total “population of color” (Va. Code § 2.2-234). Virginia’s criteria for an identified “community of color” or “population of color” and what constitutes an EJ population have a lower threshold and are therefore more inclusive than the federal guidance suggests. The same approach is used to identify linguistically isolated groups (i.e., the percent of people or households in an area in which all members over age 14 speak a language other than English and also speak English less than very well), although linguistic isolation is considered separately in federal guidance.[3]

Virginia statute defines a “low-income community” as any CBG in which 30 percent or more of the population is composed of low-income residents. It defines low income as “having an annual household income equal to or less than the greater of (i) an amount equal to 80 percent of the median income of the area in which the household is located, as reported by the Department of Housing and Urban Development, and (ii) 200 percent of the Federal Poverty Level” (Va. Code § 2.2-234).

This EJ analysis also assesses the potential for other socioeconomic indicators that could potentially lead to disproportionate environmental impacts, including age-based vulnerabilities (i.e., the percent of the people in a CBG “under age 5” or “over age 64”). There is no equivalent VEJA definition for these groups, so age-based communities are identified using the federal guidance of a meaningfully greater threshold. A CBG is considered to contain an elevated age-based population when the percentage of the population either below age 5 or above age 64 exceeds 10 percent greater than the corresponding state averages.

This EJ analysis also considers potential effects on Native American Tribes (“Tribes”). Tribes with established government-to-government relationship with the United States (“federally-recognized”), or with the Commonwealth of Virginia (“state-recognized”), and with potential interest in the study area, are identified using the U.S. Department of Housing and Urban Development (USHUD) Tribal Directory Assessment Tool (TDAT), state government websites, as well as historic research.

As per VEJA, "meaningful involvement" entails that (i) affected and vulnerable community residents have access and opportunities to participate in the full cycle of the decision-making process about a proposed activity that will affect their environment or health and (ii) decision makers will seek out and consider such participation, allowing the views and perspectives of community residents to shape and influence the decision. Community engagement to representatives of local tribal leadership and impacted EJ communities began in May 2023 and will continue throughout the duration of this project. Details of community engagement efforts are described in Section 4 of the report.

3.1 Project Description

The Project would consist of constructing four dual fuel simple-cycle combustion turbines (SCCT) firing primarily on pipeline quality natural gas, with No. 2 fuel oil with a maximum sulfur content of 15 parts per million (ppm) (fuel oil) as an alternative fuel source. Additionally, the SCCTs will be capable of operating on an advanced gaseous fuel blend consisting of natural gas with up to 10% hydrogen (H2 fuel blend).

3.2 Study Area

The Chesterfield Power Station is alongside the James River in Chesterfield, Virginia. The CERC project is proposed to be sited on Battery Brooke Parkway, on Dominion owned property adjacent to the existing power station. The

[3] The USEPA’s definition of a population of color is analogous to Virginia’s definition of population of color but does not include linguistically isolated individuals; however, EPA EJScreen includes a separate demographic indicator for linguistic isolation, which it terms “limited English speaking”.

proposed CERC location is currently undeveloped, consisting of open pasture, mixed forest, and planted pine. The site is within Chesterfield County's U.S. Route One Corridor Technology Zone, a 3,800-acre zone designed to encourage investment, job growth, rehabilitation of the area's existing older commercial and industrial structures, and revitalization through increased economic activity.[4]

The study area (Figure 1) is represented by a one-mile radius around the Project's proposed fence line as a preliminary radius. The radius will be revisited as needed by the Project team as site-specific air modeling progresses.

Figure 1: Study Area Map with One-Mile Radius Around Project Site
Source: USEPA, 2023a

Based on desktop screening and visual inspection of aerial imagery, the extent of the 1-mile radius study area within Chesterfield County consists of primarily industrial areas. The western side of the study area contains some small residential areas; these neighborhoods are almost a mile from the proposed facility. The study area also includes municipal facilities (e.g., the Proctor's Creek Wastewater Treatment Plant), recreation facilities such as a public boating access point, Henricus Historical Park, the Dutch Gap Conservation Area, Richmond National Battlefield Park, and the James River.

As seen in **Error! Reference source not found.**, Zoning Districts Map, land use within the study area is primarily z oned for industrial use with small pockets of residential and public use zoning. Areas labelled as "vacant" on the map are nonresidential development.

[4] https://chesterfieldbusiness.com/business-assistance/incentive-programs/technology-zone-program/

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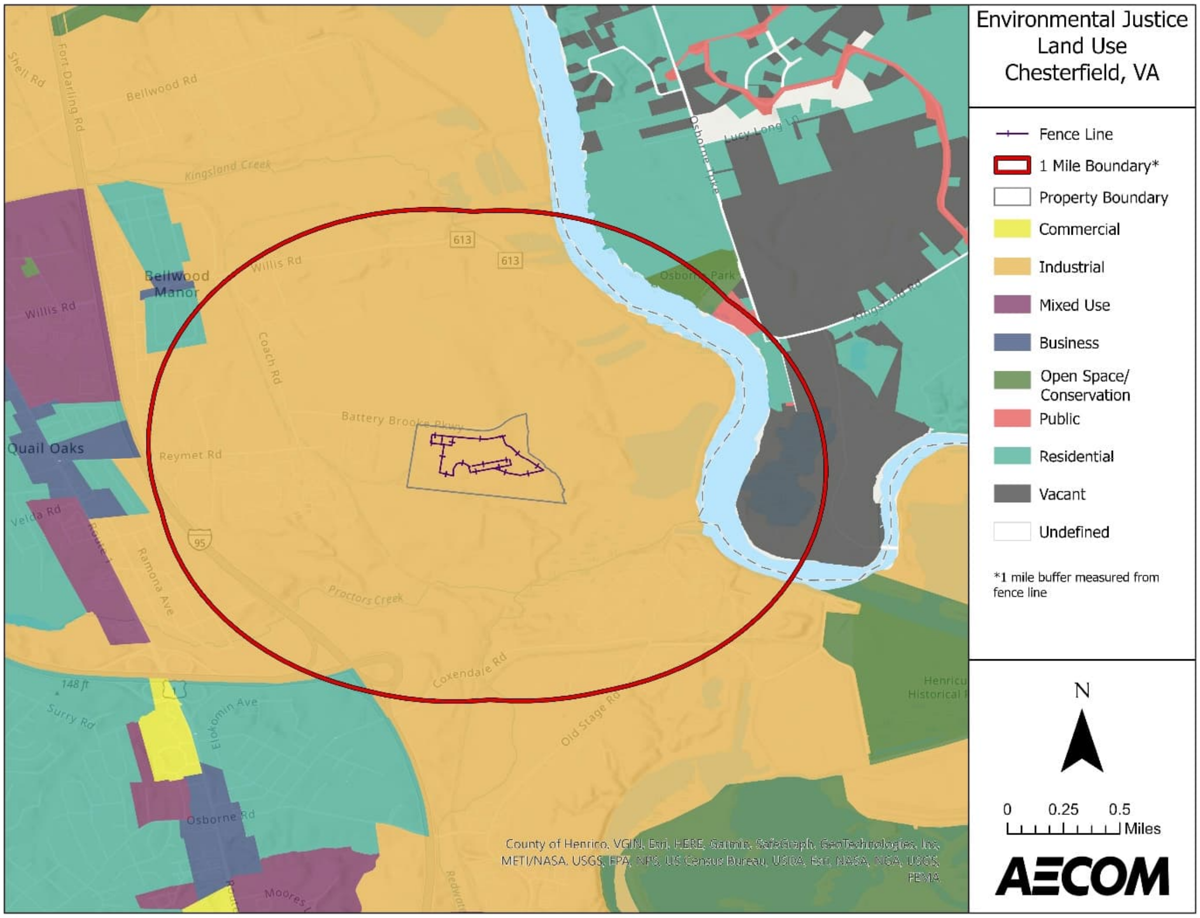

Figure 2: Zoning Districts Map

Source: AECOM with data from Chesterfield County, 2023 and Henrico County, 2023

Sensitive receptors are places frequented by those who are at a heightened risk of negative health outcomes due to exposure to air emissions.[5] While there appear to be no sensitive receptors within the study area, several sensitive receptor locations are present beyond the study area boundary, primarily to the west and the south, in the form of a school and several daycare facilities serving the under 5 population (Figure 3, Sensitive Receptor Map) approximately over 2 miles from the site.

[5] "Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors." (USEPA, 2023)

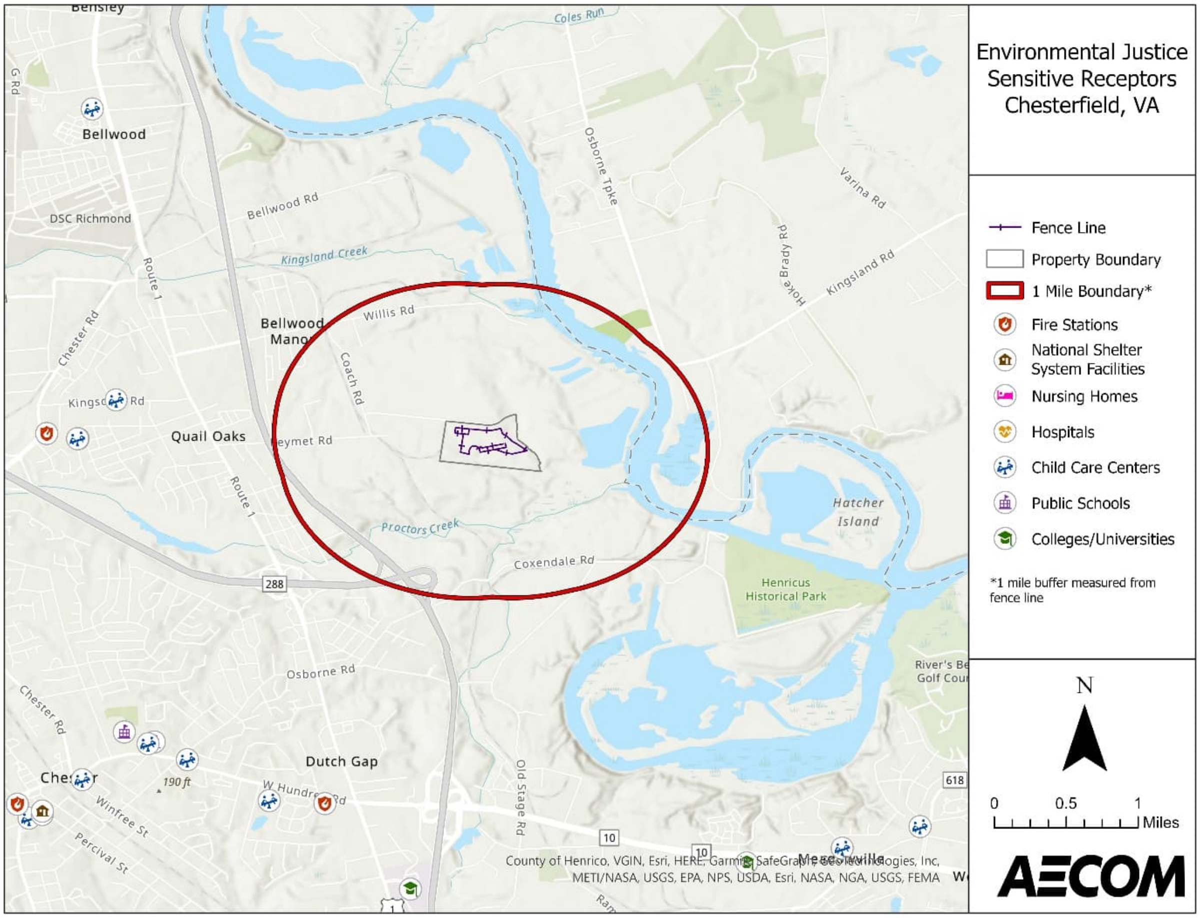

Figure 3: Sensitive Receptor Map

Source: AECOM

3.3 Geographic Unit of Analysis

This analysis uses the CBG as the primary unit of analysis because it is the smallest unit for which US Census Bureau data are consistently available. The analysis references USEPA's EJScreen and the US Census Bureau's 2021 American Community Survey (ACS) data, each of which reports EJ and social vulnerability data on the CBG level.[6]

Although CBGs are the smallest geographic areas where consistent demographic data is available, it should be noted that certain CBGs are relatively large and have boundaries extending well beyond the current study area. Additionally, data aggregated to the CBG-level does not account for where, within each CBG boundary, the segments of the population that meet EJ Community definitions are located. Inclusion in this screening-level report does not imply all individuals within each CBG are all EJ Community members, nor does it imply all residents will necessarily be affected by the Project.

[6] USEPA, 2023a; US Census Bureau, 2023a

4. Identification of Environmental Justice Communities

Six (6) 2020 US Census CBG boundaries intersect with the study area: four in Chesterfield County and two in Henrico County. Two of the six intersecting CBGs only do so by a small margin and based on visual inspection of aerial imagery these small margins have no residential populations. Therefore, this analysis will move forward discussing only the four CBGs that have significant areas of overlap within the 1-mile buffer. For completeness, the table in Appendix A displays demographic data for all six CBGs and Appendix B and C provides an approximate aerial view of the intersecting areas.

The results of the screening indicate three of the four primary CBGs within the study area meet the definition for an EJ Community according to the VEJA. The communities include: one community of color, one low-income community, and one area that is a community of color, low-income, and limited English speaking.

Figure 2 depicts CBG areas intersecting with the study area and identifies those that meet the definition for EJ communities. It should be noted that the designation for an EJ community in this report refers to the entire CBG area, however, human populations are not evenly distributed across the areas shown. As noted in the study area description in Section 2.2, there are few residential areas within the 1-mile buffer area shown.

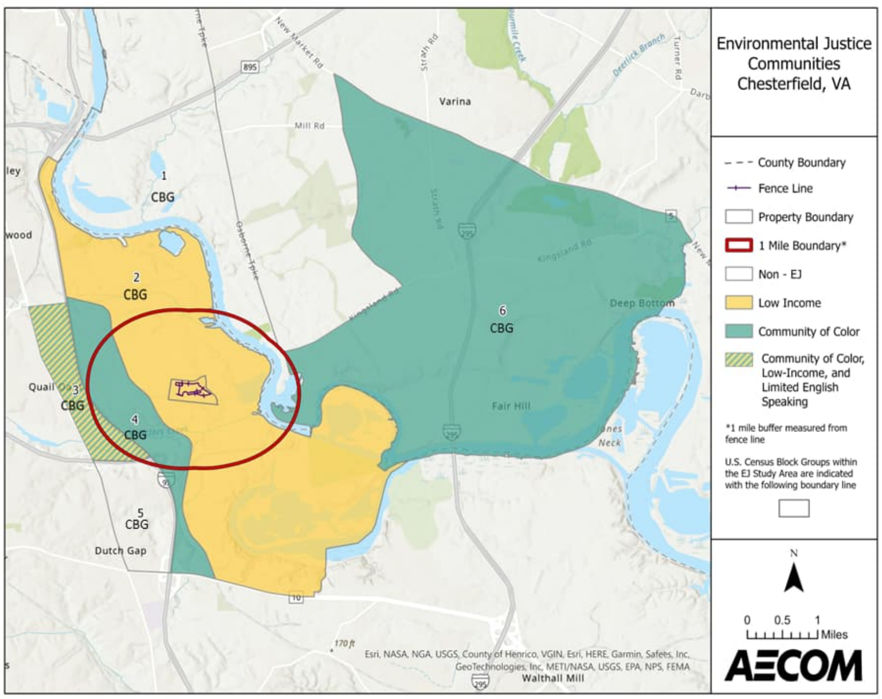

Figure 2: Environmental Justice Communities Map[7]

Source: AECOM

Table 1 summarizes, in more detail, the total populations of color and low-income populations and other demographic data for CBGs in the study area. These are summarized alongside the reference population data for the Commonwealth and the respective counties.

[7] Figure Note: The VEJA definition of populations of color is represented by the combined “community of color” and “limited English speaking” block groups on the map.

Table 1: Environmental Justice Community Demographic Summary Table

		Total People of Color		Low-Income Population		Limited English Speaking		Less than High School Education		Under 5 Years		Over 64 Years	
		%	#	%	#	%	#	%	#	%	#	%	#
Virginia		**39.4%**	3,381,720	23.6%	1,966,819	**2.7%**	213,924	10.7%	612,820	5.8%	501,494	15.5%	1,328,600
Chesterfield County		**40.0%**	143,842	18.1%	64,341	2.3%	7,417	7.9%	18,045	**6.0%**	21,413	15.0%	53,961
Henrico County		**48.5%**	161,097	21.9%	72,036	**2.9%**	9,396	8.5%	19,203	**6.0%**	19,872	15.5%	51,523
Map ID	**Census Block Group (CBG)**												
CBG1	CT 2016.02 / BG 4	18.8%	202	6.8%	73	0.0%	0	0.0%	0	2.0%	21	**24.6%**	264
CB22	CT 1004.03/ BG 3	38.6%	338	**73.5%**	643	0.0%	0	**20.7%**	277	**11.0%**	96	5.6%	49
CBG3	CT 1004.07/ BG 1	**79.5%**	549	**70.2%**	485	**26.0%**	113	**20.5%**	67	**21.9%**	151	5.9%	41
CBG4	CT 1004.03/ BG 4	**49.5%**	405	15.2%	124	0.0%	0	5.2%	34	0.0%	0	6.7%	55

Table Note: Yellow highlighted CBGs are those that are considered EJ communities as per VEJA due to higher population of people of color, low-income individuals, or those with linguistic isolation.
CT=Census Tract; BG=Block Group
Source: US Census American Community Survey 2021 5-year Estimates; Tables B02001, B03002 C17002, C16002, B15002, and B01001 (US Census Bureau, 2023)

4.1 Low Income Populations

Virginia has an average low-income population of 23.6%. Chesterfield and Henrico Counties have a low-income population of 18.1% and 21.9%, respectively. Within the study area, CBG2 and CBG3 have low-income populations exceeding the 30% threshold for a low-income community set by the VEJA. Two of four CBGs analyzed appear to meet the VEJA definition for a low-income community.

No USHUD low-income housing units or mobile home parks were identified in the study area.

4.2 Populations of Color

Virginia has an average total population of color of 39.4%. Predominate populations of color include Black/African American (19%), Hispanic (10%), and Asian (7%). People identifying as "two or more races" make up 4% of the total population. Native Americans, Native Hawaiian and Pacific Islanders, and those who identify as "some other race" make up less than 1% each of the state's population.

Within the study area, three of four CBGs appear to meet the definition for a community of color according to the VEJA (CBG2, CBG3, and CBG4). The CBG which contains the proposed CERC facility (CBG2) exceeds the state average Hispanic population. African American and Hispanic populations were also identified in two additional CBGs (CBG3 and CBG4). Appendix A provides the total people of color percentages and individual racial minority group percentages for each CBG within the study area.

This analysis indicates the presence of limited English-speaking populations as a measure of linguistic isolation.[8] Within the study area, one of four CBGs (CBG3) has a limited English-speaking population exceeding that of the Commonwealth (Figure 2).

4.3 Populations Under Age 5 and Over Age 64

Virginia's average population under 5 is 6%, the same as both Chesterfield and Henrico County averages. Two of the four CBGs within the study area have under 5 populations exceeding that of the Commonwealth; CBG2 is at 11.0% and CBG3 is at 21.9%.

Virginia's average population over 64 is 15.5%, consistent with Chesterfield (15%) and Henrico County (15.5%). One of four CBGs within the study area exceeds the Commonwealth average population over 64; CBG1 is at 24.6%.

4.4 Educational Attainment

Populations within the study area with less than a high school education is 11% as compared to the Virginia and Chesterfield and Henrico County populations at 10.7% ,7.9% and 8.5% respectively. Two of the four CBGs within the study area have populations with less than a high school education that exceed that of the Commonwealth (CBG 2 and CBG 3).

4.5 Native American Tribes

There are no designated tribal lands within the study area, however, this analysis also seeks to identify federally recognized tribes with ancestral connection to the land and water within the study area. The USHUD Tribal Directory Assessment Tool (TDAT) identifies the following tribes as having self-identified an interest in one or more of the counties that intersect the study area: Chesterfield and Henrico.

Virginia recognizes 11 tribes, seven of which are also federally recognized. Of those, Catawba Indian Nation, Delaware Nation of Oklahoma, Pamunkey Indian Tribe, and Chickahominy Indian Tribe have interest in Chesterfield and Henrico Counties. The Chickahominy Indian Tribe, with a modern location in Providence Forge, is the closest tribe to the study area.

[8] Note that US Census data on limited English-speaking populations is presented as household-level data. To convert these data to individuals, a standard average household size for Virginia was used. The average persons per household in Virginia between 2017 and 2021 was 2.57 (US Census, 2023).

5. Public Participation and Outreach

Dominion Energy is committed to providing reliable, affordable, clean energy in accordance with their values of safety, ethics, excellence, embrace change and teamwork. This includes listening to and learning from the communities they serve and ensuring communities have a meaningful voice in the planning and development process.

Dominion Energy has a long history of investment in Chesterfield County and support for the local community is woven into our everyday business operations. Employees at the existing Chesterfield Power Station play an active role in the community by dedicating time and resources to local schools and community organizations. Since 2022, station employees have donated over 100 hours of their time to mentoring local students and supporting local food banks and school supply drives. Station management and other staff regularly engage with local organizations, like Henricus Historical Park, to maintain good relationships and inform them of station activities. Beyond the scope of public outreach for any one project, like CERC, the Company is committed to being a positive catalyst in the communities where we live and work.

Leading up to and continuing through regulatory processes (i.e., permitting) Dominion has and will continue to engage with a broad range of stakeholders who have a variety of interests related to the project and its potential effects. As the project continues to advance, the Company is committed to engagement through permitting activities and construction-related communications to ensure community expectations are understood, and that potential impacts are limited to the greatest extent practicable. Furthermore, proactive efforts to ensure historically disadvantaged groups like Native American Tribes and environmental justice communities have access to information and opportunity to provide feedback have begun and will continue.

To introduce the CERC project, outreach to local and state elected officials, community leaders, civic associations, local churches, chambers of commerce, local recreational facilities, and Native American Tribes began in June 2023 and will be ongoing throughout the different phases of the Project.

On June 6, 2023, the Company mailed a community letter introducing the project to all addresses within a one-mile radius of the project site plus residents living in the two closest neighborhoods, which are primarily outside of the 1-mile radius with small areas of overlap. The initial letter was followed by a postcard invitation to the open house.[9] The Company also published advertisements about the Project in the Richmond Times-Dispatch. The Company held an initial open house hosted at Bellwood Elementary School on June 27, 2023, from 4:30 to 7:00 pm to provide community members an opportunity to learn more about the project and ask questions of expert staff also in attendance. Approximately 85 people, including members of the media, attended the June 27 open house.

[10]To promote an inclusive public participation process, Project materials have been translated into the Spanish language and posted on Dominion's webpage or included in Company announcements and neighborhood notifications. The Korean American Association, based in Chesterfield, was also provided with copies of the project fact sheet translated into the Korean language.

Dominion is planning additional community roundtable discussions and distribution of project information by hand in certain neighborhoods, including those which may be EJ Communities, near the facility or otherwise identified in the future by the air permitting process as being potentially affected by the Project.

Dedicated Tribal Relations staff at Dominion are conducting tribal outreach as well. Dominion has provided project information to representatives from the Catawba Indian Nation, Delaware Nation of Oklahoma, Chickahominy Indian Tribe, and Pamunkey Indian Tribe. Tribal engagement will continue as additional project details become available.

More information on Dominion's public participation and outreach activities for the Project will be provided as it occurs in the coming months.

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[9] Dominion, 2023b
[11] Note this is represented by a crosshatch in the EJ Map.

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7. Acronyms

µg	Microgram
ACS	American Community Survey
BG	Block group
CAA	Clean Air Act
CBG	US Census Block Group
CERC	Chesterfield Energy Reliability Center
CT	Combustion turbines
CUP	Conditional Use Permit
ECHO	Enforcement and Compliance History Online
EJ	Environmental Justice
EO	Executive Order
EPA	US Environmental Protection Agency
IRP	Integrated Resource Plan
km	Kilometer
NAAQS	National Ambient Air Quality Standards
NSR	New Source Review
ppb	Parts per billion
ppm	Parts per million
PSD	Prevention of significant deterioration
SCC	State Corporation Commission
SCCT	Simple-cycle combustion turbines
TBD	To Be Determined
TDAT	Tribal Directory Assessment Tool
TRI	Toxic Release inventory
USHUD	US Department of Housing and Urban Development
VDEQ	Virginia Department of Environmental Quality
VEJA	Virginia Environmental Justice Act

Appendix A Expanded EJ Data Table

Map ID	Location	Total Population	White %	White #	Total People of Color %	Total People of Color #	Black or African American %	Black or African American #	American Indian Alaskan Native %	American Indian Alaskan Native #	Asian Alone %	Asian Alone #	Native Hawaiian and Other Pacific Islander %	Native Hawaiian and Other Pacific Islander #	Some Other Race Alone %	Some Other Race Alone #
	Virginia	*8,582,479*	*64.9%*	*5,574,307*	***39.4%***	*3,381,720*	*19.0%*	*1,631,941*	*0.3%*	*24,007*	*6.7%*	*578,210*	*0.1%*	*5,313*	*3.1%*	*265,361*
	Chesterfield County	*359,798*	*63.7%*	*229,291*	*40.0%*	*143,842*	*23.4%*	*84,080*	*0.3%*	*1,008*	*3.4%*	*12,117*	*0.1%*	*298*	*4.4%*	*16,010*
CBG2	CT 1004.03/ BG 3	875	68.3%	598	38.6%	338	0.0%	0	0.0%	0	0.0%	0	0.0%	0	14.6%	128
CBG3	CT 1004.07/ BG 1	691	69.9%	483	**79.5%**	549	21.7%	150	0.0%	0	0.0%	0	1.0%	7	2.3%	16
CBG4	CT 1004.03/ BG 4	818	50.5%	413	**49.5%**	405	45.0%	368	1.8%	15	0.0%	0	0.0%	0	0.0%	0
CBG5	CT 1004.09/ BG3	226	100%	226	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
	Henrico County	*331,924*	*53.6%*	*178,020*	*48.5%*	*161,097*	*29.6%*	*98,228*	*0.2%*	*579*	*9.2%*	*30,654*	*0.0%*	*104*	*2.8%*	*9,136*
CBG1	CT 2016.02 / BG 4	1,075	85.4%	918	18.8%	202	4.3%	46	0.0%	0	1.1%	12	0.0%	0	0.0%	0
CBG6	CT 2016.02/ BG 2	1,571	66.3%	1,041	**37.4%**	588	31.3%	492	0.0%	0	0.0%	0	0.0%	0	0.0%	0

Map ID	Location	Two or More Races %	Two or More Races #	Hispanic or Latino %	Hispanic or Latino #	Non-Hispanic White Alone %	Non-Hispanic White Alone #	Low-Income Population %	Low-Income Population #	Limited English Speaking %	Limited English Speaking #	Less than High School Education %	Less than High School Education #	Under 5 Years %	Under 5 Years #	Over 64 Years %	Over 64 Years #
	Virginia	*5.9%*	*503,340*	*9.8%*	*840,248*	*60.6%*	*5,200,759*	*23.6%*	*1,966,819*	***2.7%***	*213,924*	*10.7%*	*612,820*	*5.8%*	*501,494*	*15.5%*	*1,328,600*
	Chesterfield County	*4.7%*	*16,994*	*9.5%*	*34,175*	*60.0%*	*215,956*	*18.1%*	*64,341*	*2.3%*	*7,417*	*7.9%*	*18,045*	*6.0%*	*21,413*	*15.0%*	*53,961*
CBG2	CT 1004.03/ BG 3	17.0%	149	21.6%	189	61.4%	537	**73.5%**	643	0.0%	0	20.7%	277	11.0%	96	5.6%	49
CBG3	CT 1004.07/ BG 1	5.1%	35	51.7%	357	20.5%	142	**70.2%**	485	**26.0%**	113	20.5%	67	21.9%	151	5.9%	41
CBG4	CT 1004.03/ BG 4	2.7%	22	1.8%	15	50.5%	413	15.2%	124	0.0%	0	5.2%	34	0.0%	0	6.7%	55
CBG5	CT 1004.09/ BG3	0.0%	0	0.0%	0	100%	226	33.2%	75	0.0%	0	2.8%	33	0.0%	0	22.1%	50
	Henrico County	*4.6%*	*15,203*	*6.0%*	*19,839*	*51.5%*	*170,827*	*21.9%*	*72,036*	*2.9%*	*9,396*	*8.5%*	*19,203*	*6.0%*	*19,872*	*15.5%*	*51,523*
CBG1	CT 2016.02 / BG 4	9.2%	99	6.0%	64	81.2%	873	6.8%	73	0.0%	0	0.0%	0	2.0%	21	24.6%	264
CBG6	CT 2016.02/ BG 2	2.4%	38	3.7%	58	62.6%	983	20.1%	314	0.0%	0	8.0%	90	10.8%	170	28.1 %	442

Table Note: CT=Census Tract; BG=Block Group; Table includes all six CBGs that touch the one-mile buffer, however only 1-4 are featured in the main report.

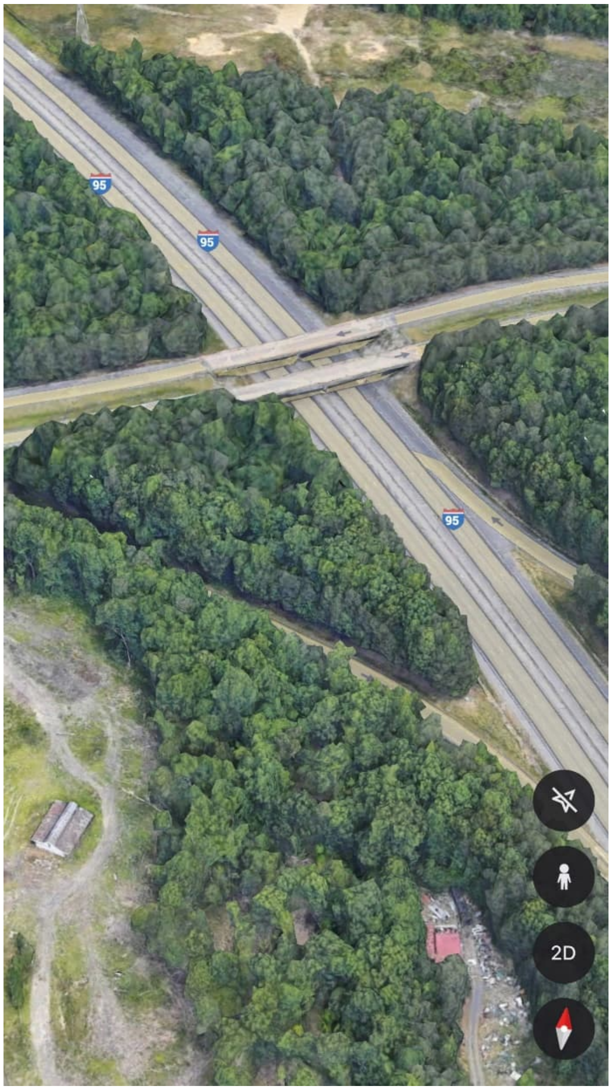
Source: US Census American Community Survey 2021 5-year Estimates; Tables B02001, B03002 C17002, C16002, B15002, and B01001 (US Census Bureau, 2023)

Legend

Color	EJ Characteristic (VEJA)	Number of CBGs
	Community of Color	2
	Low-Income	1
	Community of Color, Low-Income, and Limited English Speaking[11]	1
	None	2

[11] Note this is represented by a crosshatch in the EJ Map.

Appendix B: Aerial View of CBG 5 within the 1-mile radius



Appendix C: Aerial View of CBG 6 within the 1-mile radius

Appendix D: Community Open House Postcards (English and Spanish)

Appendix E: Community Letter

Dear____________________:

Dominion Energy is assessing the development of a natural gas electric generation project at the James River Industrial Park, northwest of the company's Chesterfield Power Station. The industrial park location was selected because it is designated as a site for economic development and for its close proximity to needed electric transmission lines and county water and sewer utilities.

Dominion Energy is committed to a clean energy future that includes the use of renewable energy resources and fulfilling our obligation to reliably serve our customers. The proposed generation project supports this commitment by enabling the development of more renewable energy resources, while providing the vital energy our customers need during periods of high energy demand.

According to a study by Chmura Economics & Analytics, the two-year development and construction window for the project could create an annual average of $5.4 million in total direct, indirect and induced economic impact for Chesterfield County, supporting an average of 25 jobs. During peak construction, approximately 275 workers would be onsite. In 2024, the first year of operation, the facility could contribute an estimated $2.1 million in annual local tax revenue.

The Dominion Energy project team is committed to keeping neighbors of the James River Industrial Park and the community informed as we complete the evaluation of the proposed site. In the coming weeks, we will host a community meeting to share more information about the project and answer your questions.

We strive to be a good neighbor and a positive contributor to the economic, cultural and civic life of Chesterfield County. Additional information about these activities is enclosed.

If you have any questions, please contact us by calling 1-833-704-0041 or sending an email to NaturalGasPeaking@DominionEnergy.com. Information regarding this project also may be found on our website at www.DominionEnergy.com/PeakingStation.

Sincerely,

Mark D. Mitchell
Vice President – Generation Construction

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