08/27/2026

Sarah Andersson
Southerly Wastewater Treatment Center
3900 Euclid Ave
Cleveland, OH 44115

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
Yes	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 1318172479
Permit Number: P0140932
Permit Type: Administrative Modification
County: Cuyahoga

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (Ohio EPA) ***Weekly Review and Public Notices*** website. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Ohio EPA document search webpage: ***eDocument Search***. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

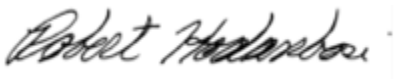
Andrea Moore
Permitting Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published on the Ohio EPA ***Weekly Review and Public Notices*** website. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,



Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA Region 5 - *Via E-Mail Notification*
CDAQ; Pennsylvania; Canada

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: ***Weekly Review and Public Notices | Ohio Environmental Protection Agency*** or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-3037 email: ***HClerk@epa.ohio.gov***

Draft Air Pollution Permit-to-Install Administrative Modification

Southerly Wastewater Treatment Center
6000 Canal Road

Cuyahoga Heights, OH 44125

ID#: P0140932
Date of Action: 08/27/2026
Permit Desc: Agency-initiated administrative modification to incorporate RACT standards. Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. The above-mentioned permit is a part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

PTI administrative modification to incorporate a NOx emission limit of 123 ppmv for the fluidized bed sewage sludge incinerators (N009 - N011) for NOx RACT compliance.

The permit and complete instructions for requesting information or submitting comments may be obtained at: https://ohioepa.commentinput.com - Search by entering the permit # P0140932 in the "Search Projects" search box.

The public comment period will run until 09/28/2026 at 11:59 PM.

Permit Strategy Write-Up

1. Check all that apply:

   ☐ Synthetic Minor Determination **N/A**

   ☐ Netting Determination **N/A**

2. Source Description:

   Southerly Wastewater Treatment Center is a sewage treatment facility. Emissions units N009 – N011 are fluidized bed sewage sludge incinerators with a capacity of 100 dry tons per day and equipped with Venturi and Impingment scrubbers for the control of particulate emissions.

   As required by the reclassification to serious nonattainment for ozone under the 2015 ozone National Ambient Air Quality Standards (NAAQS) promulgated by U.S. EPA, this facility has submitted a NO_x Reasonably Available Control Technology (RACT) study on April 1, 2026 (subsequently revised on May 29, 2026 and June 11, 2026) to address the feasibility of controlling NO_x emissions from the fluidized bed incinerator operations. This facility has no prior existing source-specific NO_x RACT requirements under OAC rule 3745-110-03.

   This PTI administrative modification includes the implementation of the proposed NOx RACT requirements for emissions units N009 – N011 identified in the June 2026 revision of the RACT study. The facility-wide Section B. of this permit identifies the NOx RACT limit for N009 – N011 established under OAC rule 3745- 110-03(J), and the applicable rules table in Section C.1. implements these under an OAC rule 3745-31-05(D) federally enforceable restriction.

   Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. This permit is part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

3. Facility Emissions and Attainment Status:

   Southerly Wastewater Treatment Center is a Title V facility located in Cuyahoga County.

   Cuyahoga County was designated as "serious" nonattainment for the 2015 ozone NAAQS but is now a maintenance county. The county is currently designated attainment for all NAAQS (criteria) pollutants which include ozone, $PM_{2.5}$, PM_{10}, CO, NO_2, lead and SO_2.

4. Source Emissions:

   The affected sources that will be implementing the NOx RACT requirements are the fluidized bed incinerators (N009 – N011). The NO_x RACT determination for each of these emissions unit is: operation using good combustion practices to minimize NO_x emissions and compliance with the NO_x RACT emission limit of 123 ppmv (dry basis at 7% O_2) established under OAC rule 3745-110-03(J).

5. Conclusion:

   This permit modification establishes the NOx RACT emission limit as proposed by the Southerly Wastewater Treatment Center in their NO_x RACT study as part of the requirements for the 2015 ozone NAAQs nonattainment and maintenance areas under the reclassification to serious nonattainment for the Cleveland area. The NO_x

RACT emission limit established in this permit shall apply immediately upon final issuance of this permit (P0140932).

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Pollutant	Tons Per Year
NOx	159.69
CO	74.33
SO_2	70.16
VOC	29.16
PE/PM_{10}	16.88
$PM_{2.5}$	13.37
lead	0.41
mercury	1.29

Ohio Environmental Protection Agency

DRAFT

Division of Air Pollution Control

Permit-to-Install

for

Southerly Wastewater Treatment Center

Facility ID:	1318172479
Permit Number:	P0140932
Permit Type:	Administrative Modification
Issued:	08/27/2026
Effective:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control

Permit-to-Install

for

Southerly Wastewater Treatment Center

Table of Contents

Authorization

Facility ID:	1318172479
Facility Description:	Northeast Ohio Regional Sewer District POTW.
Application Number(s):	M0008835
Permit Number:	P0140932
Permit Type:	Permit-To-Install
Permit Fee:	$0.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	08/27/2026
Effective Date:	To be entered upon final issuance

This document constitutes issuance of a Permit-to-Install for the emissions unit(s) identified on the following page to:

Southerly Wastewater Treatment Center
6000 Canal Road
Cuyahoga Heights, OH 44125

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above-named entity is hereby granted this Permit-to-Install for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and Federal laws and regulations and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

John Logue

Director

Authorization (continued)

Permit Number: P0140932

Permit Description: Agency-initiated administrative modification to incorporate RACT standards. Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. The above-mentioned permit is a part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

PTI administrative modification to incorporate a NOx emission limit of 123 ppmv for the fluidized bed sewage sludge incinerators (N009 - N011) for NOx RACT compliance.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name:Fluidized bed incinerators

Emissions Unit ID:	**N009**
Company Equipment ID:	FBI #1
Superseded Permit Number:	P0126752
General Permit Category and Type:	Not Applicable P0126752
Emissions Unit ID:	**N010**
Company Equipment ID:	FBI #2
Superseded Permit Number:	P0126752
General Permit Category and Type:	Not Applicable P0126752
Emissions Unit ID:	**N011**
Company Equipment ID:	FBI #3
Superseded Permit Number:	P0126752
General Permit Category and Type:	Not Applicable P0126752

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	HVLP = high volume, low pressure	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	LAER = lowest achievable emission rate	PM = particulate matter
BACT = Best Available Control Technology	lb(s)/hr = pound(s) per hour	PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	LDAR = leak detection and repair	$PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act	LPG = liquefied petroleum gas/propane	ppb = parts per billion
CAM = compliance assurance monitoring	MACT = maximum achievable control technology	ppm = parts per million
CEMS = continuous emissions monitoring system	MAGLC = maximum acceptable ground level concentration	PSD = Prevention of Significant Deterioration
CFC = chlorofluorocarbon	mg/m3 = milligrams per cubic meter	psi = pounds per square inch
CFR = Code of Federal Regulations	MM = million	psia = pounds per square inch absolute
CH_4 = methane	MMBtu = million British Thermal Units	PTE = potential-to-emit
CI = compression ignition	MSDS = material safety data sheet	PTI = Permit-to-Install
CO = carbon monoxide	MSW = municipal solid waste	PTIO = Permit-to-Install and Operate
CO_2 = carbon dioxide	NAAQS = National Ambient Air Quality Standard	PTO = Permit-to-Operate
COM = continuous opacity monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	PWR = process weight rate
DAPC = Division of Air Pollution Control	NG = natural gas	RACM = reasonably available control measures
DO/LAA = District Office/Local Air Agency	ng/m3 = nanograms per cubic meter	RACT = reasonably available control technology
dscf = dry standard cubic foot	NH_3 = ammonia	RATA = relative accuracy test audit
EAC = emissions activity category	NMHC = non-methane hydrocarbons	RTO = regenerative thermal oxidizer
eDocs = electronic documents database	NMOC = non-methane organic compound	SB265 = Senate Bill 265
ERAC = Environmental Review Appeals Commission	NO = nitrogen oxide	scfm = standard cubic feet per minute
ESP = electrostatic precipitator	NO_2 = nitrogen dioxide	SI = spark ignition
EU = emissions unit	NO_x = nitrogen oxides	SIP = State Implementation Plan
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NSPS = New Source Performance Standard	SO_2 = sulfur dioxide
FER = Fee Emissions Report	NSR = New Source Review	SSMP = startup, shutdown, and malfunction plan
FR = Federal Register	NTV = Non-Title V	TDS = total dissolved solids
GACT = generally achievable control technology	O&M = operation and maintenance	TLV = threshold limit value
GHG = greenhouse gases	OAC = Ohio Administrative Code	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OC = organic compound	TPH = ton(s) per hour
H_2S = hydrogen sulfide	Ohio EPA = Ohio Environmental Protection Agency	TPY = ton(s) per year
H_2SO_4 = sulfuric acid	ORC = Ohio Revised Code	TSP = total suspended particulates
HAP = hazardous air pollutant	Pb = lead	VE = visible particulate emissions
HCl = hydrogen chloride	PBR = Permit-By-Rule	VMT = vehicle miles traveled
HF = hydrogen fluoride	PCB = polychlorinated biphenyl	VOC = volatile organic compound
Hg = mercury	PE = particulate emissions	WPP = work practice plan
hp = horsepower	PEMS = predictive emissions monitoring system	µg/m3 = micrograms per cubic meter

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under state law only:

(1) Standard Term and Condition A.2.a), Severability Clause

(2) Standard Term and Condition A.3.c) through A. 3.e), General Requirements

(3) Standard Term and Condition A.6.c), Compliance Requirements

(4) Standard Term and Condition A.9., Reporting Requirements

(5) Standard Term and Condition A.10., Applicability

(6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install

(7) Standard Term and Condition A.14., Public Disclosure

(8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(9) Standard Term and Condition A.16., Fees

(10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

b) All terms and conditions designated in parts B. and C. of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the state and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under state law only, only if specifically identified in this permit as such.

3. General Requirements

a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d) This permit does not convey any property rights of any sort, or any exclusive privilege.

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) The operating conditions existing at the time of sampling or measurement.

b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

(1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Cleveland Division of Air Quality.

(2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Cleveland Division of Air Quality. The written reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Cleveland Division of Air Quality every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semiannual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Cleveland Division of Air Quality in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on

information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete

b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

(1) At reasonable times, enter upon the permittee's premises where a source is located, or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c) The permittee shall submit progress reports to the Cleveland Division of Air Quality concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Cleveland Division of Air Quality.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will

be taken, shall be submitted to the Cleveland Division of Air Quality. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This permit-to-install is applicable only to the emissions unit(s) identified in the permit-to-install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a permit-to-install.

11. Construction of New Sources(s) and Authorization to Install

a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended once by twelve months if application is made to the Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).

d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a

subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shut down emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or any other reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.

b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

   a) None.

2. OAC rule 3745-110-03(J) NOx RACT for Sources in Ozone Nonattainment and Maintenance Areas

   As required by the reclassification to serious nonattainment for ozone under the 2015 ozone National Ambient Air Quality Standards promulgated by U.S. EPA, and pursuant to OAC rule 3745-110-03(J) and the NO_x Reasonable Available Control Technology (RACT) Study submitted by the Southerly Wastewater Treatment Center on April 1, 2026 (subsequently revised on May 29, 2026 and June 11, 2026):

   "Southerly Wastewater Treatment Center" (facility ID 1318172479), or any subsequent owner or operator of the "Southerly Wastewater Treatment Center" facility located at 6000 Canal Road, Cuyahoga Heights, Ohio, shall comply with the following requirements for emissions units N009, N010, and N011:

   a) Compliance with the NOx RACT emission limit of 123 ppmv (dry basis at 7% O_2) for each emissions unit established under OAC rule 3745-110-03(J). This emission limit applies immediately upon final issuance of this permit (P0140932).

   b) Maintain and operate these sources in accordance with the manufacturer's recommendations, instructions, and operating manual(s) with any modifications deemed necessary by the permittee with good combustion practices and proper incinerator operation for the control of NO_x emissions from these EUs.

3. Monitoring and/or Recordkeeping Requirements

   a) In order to ensure emissions units N009, N010, and N011 continue to operate as designed, the permittee shall operate these emissions units in accordance with the manufacturer's recommendations, instructions, and operating manual(s) with any modifications deemed necessary by the permittee. These manufacturer's recommendations, instructions, and operating manual(s), with any modifications documents, shall be maintained for the life of these emissions units.

   The permittee shall perform the recommended maintenance at the recommended intervals. The permittee shall keep records of the maintenance performed on these EUs and shall retain them for a period of five years from the date the record was created.

4. Testing Requirements

   a) <u>Emission Limitation</u>:

   NO_x emissions shall not exceed 123 ppmv (dry basis at 7% O_2) for each emissions unit (N009, N010, and N011).

   <u>Applicable Compliance Method:</u>

   Compliance with this emission limit shall be demonstrated in accordance with the methods and procedures specified in C.1.f)(6).

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Fluidized bed incinerators: N009, N010, N011

EU ID	Operations, Property and/or Equipment Description
N009	100 dry tons per day fluidized bed incinerator No. 1 equipped with Venturi and Impingement scrubbers
N010	100 dry tons per day fluidized bed incinerator No. 2 equipped with Venturi and Impingement scrubbers
N011	100 dry tons per day fluidized bed incinerator No. 3 equipped with Venturi and Impingement scrubbers

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) g)(1)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) See g)(2) below.	Particulate/PM_{10} emissions shall not exceed 1.67 lbs/hour. Sulfur Dioxide (SO_2) emissions shall not exceed 7.08 lbs/hour. Volatile Organic Compound (VOC) emissions shall not exceed 2.92 lbs/hour. Nitrogen Oxides (NO_x) emissions shall not exceed 15.63 lbs/hour. Carbon Monoxide (CO) emissions shall not exceed 7.08 lbs/hour. See b)(2)a., b)(2)d., b)(2)f., and c)(4). The requirements of this rule also include compliance with the requirements of 40 CFR Part 60 Subpart O, 40 CFR Part 61 Subpart E,

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		and OAC rule 3745-31-05(D), except for lead emissions.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitations established pursuant to 40 CFR Part 60 Subpart O.
c.	OAC rule 3745-17-09	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See c)(1).
d.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)e.
e.	OAC rule 3745-31-05(D)	See b)(2)a., c)(2), and c)(4).
f.	OAC rule 3745-31-05(D) [Federally Enforceable Requirements to comply with OAC rule 3745-110-03(J)]	See Facility-Wide Section B.2 – B.4 above.
g.	OAC rule 3745-110-03(J)	The NOx RACT determination in accordance with this rule is equivalent to the NOx RACT emission limit established pursuant to OAC rule 3745-31-05(D).
h.	40 Code of Federal Regulations (CFR) Part 60, Subpart O, New Source Performance Standards (NSPS)	Visible particulate emissions shall not exceed 20 percent opacity, as a six-minute average. The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
i.	40 CFR Part 62, Subpart LLL, Table 2 [In accordance with 40 CFR these emissions units are existing sewage sludge incineration units and are subject to the emission limitations/control measures specified in this section.]	See b)(2)h., c)(7), d)(11), e)(9), f)(1)n., f)(6), and f)(7) below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
j.	40 CFR Part 61 Subpart E, (NESHAP)	The Mercury (Hg) emission limitation specified by this rule is less stringent than the Hg emission limitation established pursuant to 40 CFR Part 62, Subpart LLL.

(2) Additional Terms and Conditions

a. The total, combined mass emissions from emissions units N009, N010 and N011, as a 12-month rolling summation, shall not exceed the following:

PE 16.88 tons/year;

PM_{10} 16.88 tons/year;

$PM_{2.5}$ 13.37 tons/year;

SO_2 70.16 tons/year;

VOC 29.16 tons/year;

NO_x 159.69 tons/year;

CO 74.33 tons/year;

Lead 0.41 ton/year; and

Mercury 1.29 tons/year.

The permittee has proposed these federally enforceable emission limitations based on the total combined dry sludge feed rate and natural gas combustion amount. See c)(2) below.

b. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

c. The application and enforcement of the provisions of the National Emissions Standards for Hazardous Air Pollutants (NESHAP), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 61, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 61 are also federally enforceable.

d. The monthly average concentration of carbon monoxide in the exit gas from this emissions unit, corrected for zero percent moisture and to seven percent oxygen, shall not exceed 100 parts per million on a volumetric basis.

e. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE/PM_{10}, $PM_{2.5}$ and lead emissions from this air contaminant source since the calculated annual emission rate for these pollutants are each less than 10 tons

per year taking into account the following federally enforceable limitation and voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee:

i. venturi and impingement tray scrubbers.

However, the permittee has voluntarily accepted a BAT limit for PE/PM_{10} and $PM_{2.5}$ for the purpose of avoiding PSD, NNSR, and satisfying Ohio EPA's minor source air dispersion modeling requirement.

f. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO monitoring system, designed to ensure continuous valid and representative readings of CO emissions in units of the applicable standard(s).

The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

g. This emissions unit is not subject to the beryllium NESHAP (40 CFR Part 61, Subpart C) because the sewage sludge processed in this emissions unit does not contain any "beryllium containing waste". As defined in 40 CFR 61.31(g), "beryllium containing waste" means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this subpart (40 CFR Part 61, Subpart C). See e)(10).

h. The permittee shall comply with the applicable emission limits and standards required under 40 CFR Part 62, Subpart LLL including the following sections:

62.15955; and 62.15970	Emission limits, and emission standards requirements
Table 2 to Subpart LLL of Part 62	Emission limits and standards

c) Operational Restrictions

(1) The incinerator, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.

(2) The total combined emissions from N009, N010, and N011 shall not exceed the following limitations, based upon a rolling, 12-month summation:

[(Amount dry sludge feed tons/yr) X (0.40 lb PE/dry ton) + (Amount NG MMCF/yr) X (7.6 lbs PE/MMCF)] x ton/2000 lbs ≤ 16.88 tons PE/yr

[(Amount dry sludge feed tons/yr) X (0.40 lb PM_{10}/dry ton) + (Amount NG MMCF/yr) X (7.6 lbs PM_{10}/MMCF)] x ton/2000 lbs ≤ 16.88 tons PM_{10}/yr

[(Amount dry sludge feed tons/yr) X (0.32 lb $PM_{2.5}$/dry ton) + (Amount NG MMCF/yr) X (6.2 lbs $PM_{2.5}$/MMCF)] x ton/2000 lbs ≤ 13.37 tons $PM_{2.5}$/yr

[(Amount dry sludge feed tons/yr) X (1.7 lbs SO_2/dry ton) + (Amount NG MMCF/yr) X (0.60 lb SO_2/MMCF)] x ton/2000 lbs ≤ 70.16 tons SO_2/yr

[(Amount dry sludge feed tons/yr) X (0.70 lb VOC/dry ton) + (Amount NG MMCF/yr) X (5.5 lbs VOC/MMCF)] x ton/2000 lbs ≤ 29.16 tons VOC/yr

[(Amount dry sludge feed tons/yr) X (3.75 lbs NO_x/dry ton) + (Amount NG MMCF/yr) X (100 lbs NO_x/MMCF)] x ton/2000 lbs ≤ 159.69 tons NO_x/yr

[(Amount dry sludge feed tons/yr) X (1.7 lbs CO/dry ton) + (Amount NG MMCF/yr) X (84 lbs CO/MMCF)] x ton/2000 lbs ≤ 74.33 tons CO/yr

[(Amount dry sludge feed tons/yr) X (0.01 lb lead/dry ton) + (Amount NG MMCF/yr) X (0 lbs lead/MMCF)] x ton/2000 lbs ≤ 0.41 ton lead/yr

[(Amount dry sludge feed tons/yr) X (0.022 lb mercury/dry ton) + (Amount NG MMCF/yr) X (0 lbs mercury/MMCF)] x ton/2000 lbs ≤ 1.29 tons mercury/yr

Where,

NG = natural gas

MMCF = million cubic feet

After stack testing is completed in accordance with f) below, emission factors derived from the average of the 3 test runs completed during the most recent stack test that demonstrated compliance shall be used in place of the emission factors noted above.

(3) The permittee shall only use natural gas as the supplemental fuel for N009, N010 and N011.

(4) The emissions from this emissions unit shall be vented to the Venturi and Impingement wet scrubbers at all times the emissions unit is in operation.

(5) No changes in the operation shall be made, which would potentially increase mercury emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Administrator.

(6) Municipal solid waste shall not be fired in this emissions unit.

(7) The permittee shall comply with the applicable operational restrictions and requirements under 40 CFR Part 62, Subpart LLL, including the following sections:

62.15920 through 62.15950	Operator training and qualification
62.15960; 62.15965; and 62.15970	Operating limitations
62.15985	Establish operating limits
Table 4 to Subpart LLL of Part 62	Operating parameters

d) Monitoring and/or Recordkeeping Requirements

(1) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements for pressure drop and operating temperature from 40 CFR Part 62, Subpart LLL are as stringent as or more stringent than the monitoring and record keeping requirements for pressure drop and operating temperature from 40 CFR Part 60, Subpart O: C.1.d)(10).

(2) The permittee shall properly calibrate, maintain and operate a monitoring device that continuously measures and records the oxygen content of the incinerator exhaust gas while this emissions unit is in operation. The oxygen monitor located upstream of any source of dilution air. The oxygen monitoring device shall be certified by the manufacturer to have a relative accuracy of plus or minus 5 percent over its operating range and shall be calibrated according to the methods prescribed by the manufacturer at least once each 24-hour operating period.

The permittee shall collect and record the following information and maintain in its files for a period of not less than five (5) years:

a. a continuous record of the oxygen content of the exhaust gas;

b. records of the downtimes for the monitoring equipment when this emissions unit is in operation;

c. records of monitoring equipment calibration checks; and

d. records of the average oxygen content in the incinerator exhaust gas for each period of one-hour duration or more that the oxygen content of the incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test (which demonstrated the emissions unit to be in compliance) by more than 3 percent and when the throughput is greater than or equal to 90% of the average compliance test value.

(3) The permittee shall maintain on-site the letter/document of certification from Ohio EPA for the carbon monoxide sampling site and certification that the continuous CO monitoring system meets the requirements of Performance Specification 4 or 4a. The letter/document of certification from Ohio EPA shall be made available to the director and/or the Cleveland Division of Air Quality (Cleveland DAQ) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditions hardware, analyzers, and data processing hardware and software.

(4) The permittee shall calibrate, maintain and operate equipment to continuously monitor and record CO emissions in the exit gas from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous CO monitoring system for a period of five years including, but not limited to:

a. emissions of CO in parts per million on an instantaneous (one-minute) basis;

b. emissions of CO in all units of the applicable standard(s) in the appropriate averaging period;

c. results of quarterly cylinder gas audits;

d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;

e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);

f. hours of operation of the emissions unit, continuous CO monitoring system, and control equipment;

g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous CO monitoring system;

h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous CO monitoring system; as well as,

i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

(5) The permittee shall calibrate, maintain, and operate a flow measuring device which can be used to determine the mass of sludge charged to the incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of plus or minus 5 percent over its operating range.

(6) The permittee shall calibrate, maintain and operate an instrument that continuously measures and records information used to determine the moisture content in the sewage sludge incinerator stack exit gas for this sewage sludge incinerator.

(7) The permittee shall record the following information annually and retain that information for a period of five years:

a. information compiled from the Ohio's Toxic Release Inventory for the annual report in e)(8) that confirms there is no facility located within the permittee's service area that reported a release of beryllium or beryllium containing compounds and discharged its wastewater to this facility; and

b. the annual sewage sludge feed rate (dry tons/year).

(8) The permittee shall provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.

(9) The permittee shall collect and record the following information on a monthly basis for emissions units N009, N010, and N011 combined:

a. the amount of dry sludge processed, in tons;

b. the amount of natural gas consumption, in million cubic feet (MMCF); and

c. the rolling 12-month summation of emissions for PE, PM_{10}, $PM_{2.5}$, SO_2, VOC, NO_x, CO, lead and mercury, in tons/yr, determined in accordance with c)(2) above.

(10) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 62, Subpart LLL, including the following sections:

62.15950	Site-specific documentation
62.15995	Site-specific monitoring plan
62.16000	Continuous compliance with emission limits
62.16005	Demonstrate continuous compliance with operating limits
62.16010	Annual air pollution control device inspections
62.16020	Monitoring and calibration requirements
62.16025	Required records

e) Reporting Requirements

(1) Pursuant to OAC Rule 3745-77-07(A)(3)(c), the following reporting requirement for pressure drop from 40 CFR Part 62, Subpart LLL are as stringent as or more stringent than the reporting requirements for pressure drop and operating temperature from 40 CFR Part 60, Subpart O: C.1.e)(9).

(2) This facility shall submit semi-annual deviation reports to the Cleveland Division of Air Quality (Cleveland DAQ) which provide records of the operating conditions of the fluidized bed incinerator for each calendar day when:

a. the oxygen content of incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than three (3) percent for any 1-hour period and when the throughput is greater than or equal to 90% of the average compliance test value.

These semi-annual reports shall be submitted by January 30 and July 31 of each year and shall cover the previous six calendar months (January through June and July through December, respectively).

(3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO monitoring system:

a. Pursuant to the monitoring, record keeping and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Cleveland DAQ, documenting all instances of CO emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-21 and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as, the reason (if known) and the corrective actions taken

(if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s). If there are no excess emissions during the calendar quarter the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall include the following:

i. the facility name and address;

ii. the manufacturer and model number of the continuous CO and other associated monitors;

iii. the location of the continuous CO monitor;

iv. the exceedance report as detailed in (a) above;

v. the total CO emissions for the calendar quarter (tons);

vi. the total operating time (hours) of the emissions unit;

vii. the total operating time of the continuous CO monitoring system while the emissions unit was in operation;

viii. the monthly average carbon monoxide concentration in the exit gas;

ix. results and dates of quarterly cylinder gas audits;

x. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

xi. the results of any relative accuracy test audit showing the continuous CO monitor out-of-control and the compliant results following any corrective actions;

xii. the date, time, and duration of any downtime* of the continuous CO monitoring system and/or control equipment while the emissions unit was in operation; and

xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xii) and (xiii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

*each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit.

(4) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify all exceedances of the rolling 12-month emission limitations for PE, PM_{10}, SO_2, NO_x, VOC, CO, Lead, and Mercury for emissions units N009, N010 and N011, combined, as specified in b)(2)a. The deviation reports shall be submitted within 30 days after the deviations occurs.

(5) Deviation (excursion) reports shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.

(6) If the average particulate matter emission rate exceeds 0.75 lb PE per ton of dry sludge input, the permittee shall submit the reports required as specified in 40 CFR Part 60.155(a)(1)(ii) and (b).

(7) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

(8) The permittee shall submit an annual statement that, to the best of its knowledge, the sewage sludge processed in this emissions unit does not contain any "beryllium containing waste". As the basis for this statement, the permittee shall annually review the latest version of the Ohio Toxic Release Inventory to confirm that there is no facility located within the permittee's service area that reported a release of beryllium or beryllium containing compounds and discharged its wastewater to this facility.

(9) The permittee shall comply with the applicable reporting requirements under 40 CFR Part 62, Subpart LLL, including the following sections:

62.15875 through 62.15915	Compliance schedule
62.16030	Required reports
Table 1 to Subpart LLL of Part 62	Compliance schedule
Table 6 to Subpart LLL of Part 62	Summary of reporting requirements

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible emissions from any stack servicing this emissions unit shall not exceed 20 percent opacity, as a six-minute average.

Applicable Compliance Method(s):

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using methods and procedures specified in U.S. EPA Method 9. This compliance method shall be used whenever a compliance determination is warranted.

b. Emission Limitation:

1.67 lbs/hr of particulate/PM_{10} emissions

Applicable Compliance Method(s):

If required by Ohio EPA or Cleveland DAQ, compliance shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4,

5, 201 and 202. The results of the emissions test shall be reported in terms of pounds per hour.

c. Emission Limitation:

16.88 tons/year of particulate/PM_{10} emissions from emissions units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor derived from the average of the 3 test runs completed during most recent stack test that demonstrated compliance in terms of lbs PE/ton dry sludge times the actual amount of tons dry sludge/year incinerated and divided by 2,000 lbs/ton. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

d. Emission Limitation:

13.37 tons/year of $PM_{2.5}$ emissions from emissions units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor obtained in c. above by 81%, times the actual amount of tons dry sludge/year incinerated and divided by 2,000 lbs/ton. The emissions factors for $PM_{2.5}$ emissions from fluidized bed incinerators as listed in Section 2.2, Table 2.2-11 of AP-42, are 81% of the PM_{10} emissions factors. Therefore, the emissions factors determined for particulate/PM_{10} emissions derived from the most recent stack test shall be multiplied by 81% in order to calculate an emissions factor for $PM_{2.5}$ emissions. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

e. Emission Limitation:

7.08 lbs/hr of SO_2 emissions

Applicable Compliance Method(s):

If required by Ohio EPA or Cleveland DAQ, compliance shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6. The results of the emissions test shall be reported in terms of pounds per hour.

f. Emission Limitation:

70.16 tons/year of SO_2 emissions from emissions units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor derived from the average of the 3 test runs completed during most

recent stack test that demonstrated compliance in terms of lbs SO_2/ton dry sludge times the actual amount of tons dry sludge/year incinerated and divided by 2,000 lbs/ton. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

g. Emission Limitation:

2.92 lbs/hour VOC emissions

Applicable Compliance Method(s):

If required by Ohio EPA or Cleveland DAQ, compliance shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 25 or 25a. The results of the emissions test shall be reported in terms of pounds per hour.

h. Emission Limitation:

29.16 tons/year of VOC emissions from emissions units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor derived from the average of the 3 test runs completed during most recent stack test demonstrating compliance in terms of lbs VOC/ton of dry sludge times the actual amount of tons dry sludge/year incinerated and divided by 2,000 lbs/ton. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

i. Emission Limitation:

15.63 lbs/hr of NO_x emissions

Applicable Compliance Method(s):

If required by Ohio EPA or Cleveland DAQ, compliance shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 7. The results of the emissions test shall be reported in terms of pounds per hour.

j. Emission Limitation:

159.69 tons/year of NO_x emissions from emissions units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor derived from the most recent stack test demonstrating compliance in terms of lbs NO_x/ton dry sludge times the actual amount of tons dry sludge/year incinerated and divided by 2,000 lbs/ton. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions

generated due to natural gas combustion shall be determined in accordance with c)(2) above.

k. Emission Limitation:

7.08 lbs/hr of CO emissions

Applicable Compliance Method(s):

Compliance with the CO emission limitation shall be determined through monitoring and record keeping specified in d)(5).

If required by Ohio EPA or Cleveland DAQ, compliance shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10. The results of the emissions test shall be reported in terms of pounds per hour.

l. Emission Limitation:

74.33 tons/year of CO emissions from units N009, N010 and N011 combined.

Applicable Compliance Method(s):

Compliance with the CO emission limitation shall be determined through monitoring and record keeping specified in d)(5). The permittee shall use the CO monitoring data, averaged over a 12-month operating period to develop an emission factor in lbs CO/ton. Multiply the emission factor by the actual amount of dry sludge, in tons/year and divide by 2,000. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

m. Emission Limitation:

Lead emissions from emissions units N009, N010 and N011 combined shall not exceed 0.41 TPY of lead emissions.

Applicable Compliance Method(s):

Compliance with the annual emission limit shall be determined by multiplying the emission factor derived from the average of the 3 test runs completed during most recent stack test that demonstrated compliance as specified in f)(1)n. and converted to lbs lead/dry ton of sludge times the actual amount of dry tons of sludge/year incinerated and divided by 2,000 lbs/ton. If natural gas is not consumed during the stack test but is used during other times of the year, then the contribution of emissions generated due to natural gas combustion shall be determined in accordance with c)(2) above.

n. Emission Limitation:

Emission limitations from Table 2 of 40 CFR Part 62 Subpart LLL

Applicable Compliance Method:

Compliance shall be determined in accordance with f)(6) below.

o. Emission Limitation:

Mercury emissions from emissions units N009, N010 and N011 combined shall not exceed 1.29 TPY.

Applicable Compliance Method(s):

The ton/year limitation can be calculated by multiplying the emission factor derived from the most recent stack test that demonstrated compliance in terms of lbs Mercury/ton dry sludge times the actual tons dry sludge/year incinerated and divided by 2,000 lbs/ton.

(2) As specified in 40 CFR 60.8, each performance test shall consist of at least three separate runs under the same operating conditions.

(3) All continuous monitoring systems and monitoring devices shall be operational, and calibrated prior to conducting performance test.

(4) The performance test shall be conducted under representative sewage sludge incinerator conditions at or near the highest expected sewage sludge feed rate within the design capacity of the sewage sludge incinerator.

(5) Ongoing compliance with the CO emission limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record Keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

Certification tests were conducted on 5/16/2024 for N010, 10/16/2024 for N011, and 5/16/2024 for N009.

(6) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted in accordance with 40 CFR Part 62 Subpart LLL. See f)(7) below.

b. The emission testing shall be conducted to demonstrate compliance with the pollutants identified in Table 2 of Subpart LLL and visible opacity emission limitations.

c. The testing for visible emissions using Method 9 will only be required when stack testing is performed for the particulate emissions.

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

See Table 2 of Subpart LLL; and

Visible emissions: Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

e. The test(s) shall be conducted while the emissions unit is operating at a minimum of 85 percent of the maximum permitted capacity in accordance with 40 CFR Part 62, Subpart LLL, unless otherwise specified or approved by the Cleveland DAQ.

f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

g. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 60 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

(7) The permittee shall comply with the applicable testing requirements under 40 CFR Part 62, Subpart LLL, including the following sections:

62.16000	Demonstrate continuous compliance with emission limits and standards
62.16015	Performance testing, monitoring, and calibration requirements

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with, the Toxic Air Contaminant Statute, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745 114 01, will be less than 1.0 ton per year. OAC Chapter 3745 31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745 31 01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

(2) The following Permits to Install were previously issued for emissions units N009, N010 and N011:

PTI 13-04701 issued on 10/14/2008;

PTI Admin Mod P0117161 issued on 8/6/2014;

PTI Admin Mod P0118734 issued on 6/30/2015; and

PTI Admin Mod P0126752 issued on 10/15/2019.

Northeast Ohio Regional Sewer District (NEORSD)

NO_x Reasonably Available Control Technology (RACT) Study – Version 3

Southerly Wastewater Treatment Center

June 2026

Contents

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Appendices

Acronyms and Abbreviations

40 CFR	Title 40 of the United States Code of Federal Regulations
AP-42	EPA's AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition
BACT	Best Available Control Technology
BAT	Best Available Technology (OAC 3745-31-05)
BOOS	Burners Out of Service
CO	Carbon Monoxide
CFR	Code of Federal Regulations
DRE	Destruction and Removal Efficiency
EPA	United States Environmental Protection Agency
EU ID	Emissions Unit Identification Number
FBI	Fluidized Bed Incinerator
FGR	Flue Gas Recirculation
HAP	Hazardous Air Pollutant
hp	Horsepower
ICE	Internal Combustion Engine
LAER	Lowest Achievable Emission Rate
lb	Pound
LEA	Low Excess Air
LNB	Low NO_x Burners
MACT	Maximum Achievable Control Technology
MMBtu/hr	Million British Thermal Units per Hour
MMscfd	Million Standard Cubic Feet per Day
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NEORSD	Northeast Ohio Regional Sewer District
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSCR	Non-Selective Catalytic Reduction
NSPS	New Source Performance Standards

NSR	New Source Review
OEPA	Ohio Environmental Protection Agency
OAC	Ohio Administrative Code
PM	Particulate Matter
ppmv	Parts per Million by Volume
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RICE	Reciprocating Internal Combustion Engine
SCC	Source Classification Code
SIC	Standard Industrial Classification
SCR	Selective Catalytic Reduction
SNCR	Selective Noncatalytic Reduction
SO_2	Sulfur Dioxide
SSI	Sewage Sludge Incinerator
tpd	Tons per day
tpy	Tons per Year
VOC	Volatile Organic Compound

1 Introduction and Background

Northeast Ohio Regional Sewer District (NEORSD) operates the Southerly Wastewater Treatment Center (facility) located at 6000 Canal Road in Cuyahoga Heights, Ohio. The facility is classified under standard industrial classification (SIC) code 4952 (Sewerage Systems) and currently operates under Title V Permit No. P0137493. The facility operates three (3) fluidized bed incinerators (FBIs) for the combustion of sewage sludge and six (6) 2000 kW diesel generators currently designated for standby use during emergency periods and for peak-shaving operations during times of peak electrical demand. Also, the facility operates small natural gas-fired fuel burning equipment to provide building heat and anticipates the installation of a 2500 kW emergency generator in 2026. The operation of this equipment generates air pollutant emissions including emissions of nitrogen oxides (NOx).

Reasonably Available Control Technology (RACT) requirements for NOx emissions from combustion and miscellaneous sources in Ohio are established by Chapter 3745-110 of the Ohio Administrative Code (OAC). RACT refers to air pollution control technologies or control measures for reducing air pollutant emissions from existing sources that are reasonably available in consideration of technological and economic feasibility. The NOx RACT rule applicability thresholds are defined based on the ozone nonattainment area status of a source's location with respect to the 2015 eight-hour ozone standard. The Cleveland Ozone Nonattainment Area, which includes Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit counties, was reclassified by the U.S. Environmental Protection Agency (EPA) from a moderate to a serious ozone nonattainment area effective on January 16, 2025.

To address the reclassification of the Cleveland Ozone Nonattainment Area from moderate to serious, the NOx RACT rule was amended by the Ohio Environmental Protection Agency (OEPA) effective on April 1, 2025. The rule amendments lowered the applicability threshold for sources located in the Cleveland Ozone Nonattainment Area from 100 tons per year (tpy) to 50 tpy of potential NOx emissions. Emissions information for the facility indicates a combined potential to emit (PTE) greater than 50 tpy of NOx for all sources operating onsite. Therefore, the emission units at the facility are subject to either the RACT emission standards in OAC 3745-110-03(A)-(I), the RACT study in OAC 3745-110-03(J) or are exempt units under an applicable provision in OAC 3745-110-03(K).

The NOx RACT rule includes presumptive NO_X RACT emission limits for boiler categories (small, mid-size, large, and very large boilers), stationary combustion turbines, stationary internal combustion engines, and reheat furnaces. The facility has no emission units for which a presumptive emission standard would apply.

For affected NO_X emitting sources which are not subject to the presumptive emission limits and are not otherwise exempt, or for sources which are subject to presumptive NO_X RACT emission limits but the owner or operator claims that the applicable limit is technically infeasible and/or economically unreasonable (i.e., not cost-effective), the owner or operator must conduct a study to determine the technical and economic feasibility of reducing NO_X emissions and to define RACT for the affected sources (i.e. RACT Study). The three FBI units at the facility are not subject to a presumptive NOx emission standard in OAC 3745-110-03(A)-(I) and do not qualify for an exemption. Therefore, this NOx RACT study has been prepared for the FBI units to comply with the requirements in OAC 3745-110-

03(J). The other units at the facility qualify for exemptions listed in OAC 3745-110-03(K), and as such, are not subject to a presumptive NOx emission standard and are not required to be included in this RACT study.

Table 1-1 below identifies all NOx emitting sources operated onsite and outlines any applicable exemptions.

Table 1-1. Affected Sources

EU ID	Unit Description	Rated Capacity	Current NO_x Emission Limit (tpy)	NO_x PTE (tpy)	Subject to NOx RACT Evaluation?
N009	100 dry tons per day fluidized bed incinerator No. 1 equipped with Venturi and Impingement scrubbers	100 Dry Tons Sludge/day	159.69 Combined	68.43	Yes
N010	100 dry tons per day fluidized bed incinerator No. 2 equipped with Venturi and Impingement scrubbers	100 Dry Tons Sludge/day		68.43	Yes
N011	100 dry tons per day fluidized bed incinerator No. 3 equipped with Venturi and Impingement scrubbers	100 Dry Tons Sludge/day		68.43	Yes
B004	2,000 kW No. 2 oil Internal Combustion Engine (ICE) utilized for both emergency and peak shaving electrical generation	2,000 kW	37.43 Combined and no individual engine may exceed 25 tpy	156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)
B005	2,000 kW No. 2 oil ICE utilized for both emergency and peak shaving electrical generation	2,000 kW		156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)
B006	2,000 kW No. 2 oil ICE utilized for both emergency and peak shaving electrical generation	2,000 kW		156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)
B007	2,000 kW No. 2 oil ICE utilized for both emergency and peak shaving electrical generation	2,000 kW		156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)
B008	2,000 kW No. 2 oil ICE utilized for both emergency and peak shaving electrical generation	2,000 kW		156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)
B009	2,000 kW No. 2 oil ICE utilized for both emergency and peak shaving electrical generation	2,000 kW		156.6 (based on 8,760 hr/yr)	No OAC 3745-110-03(K)(19)

EU ID	Unit Description	Rated Capacity	Current NO_x Emission Limit (tpy)	NO_x PTE (tpy)	Subject to NOx RACT Evaluation?
B010	Emergency Generator – 250 kW	250 kW	Currently permitted under Permit-By-Rule for Emergency Generators	2.60	No OAC 3745-110-03(K)(3)
B015	Emergency Generator – 125 kW	125 kW	Currently permitted under Permit-By-Rule for Emergency Generators	1.30	No OAC 3745-110-03(K)(3)
B016	Boiler for Hot Water/Building Heat	4.4 mmBtu/hr	N/A (Exempt under OAC 3745-31-03(B)(1)(a)	1.89	No OAC 3745-110-03(K)(1)
B017	Boiler for Hot Water/Building Heat	5.5 mmBtu/hr	N/A (Exempt under OAC 3745-31-03(B)(1)(a)	2.36	No OAC 3745-110-03(K)(1)

2 OAC 3745-110-03(j) NO_x RACT Study Requirements

As non-exempt emission sources, the three FBI units operated at the facility (EU IDs N009 – N011) are subject to NOx RACT study requirements. OAC 3745-110-03(J) specifies the information required for a NOx RACT study. The table below presents a summary of the NOx RACT study requirements and demonstration of compliance for the affected FBI units.

Table 2-1. NOx RACT Study Summary

OAC 3745	Requirement	Demonstration of Compliance
110-03(J)(1)(a)	*The complete facility name, Ohio EPA air program facility identification number, and address.*	*Complete Facility Name:* Southerly Wastewater Treatment Center *Facility ID:* 1318172479 *Address:* 6000 Canal Road Cuyahoga Heights, OH 44125
110-03(J)(1)(b)	*The name, title, address and telephone number of the owner or operator's representative within the company who is the contact person for this facility regarding the engineering study and affected sources.*	*Name:* Sarah Buzas *Title:* Project Manager II (Environmental Compliance)

OAC 3745	Requirement	Demonstration of Compliance
		Address: 3900 Euclid Avenue Cleveland, OH 44115-2506 *Telephone:* 216.881.6600 x6427
110-03(J)(1)(c)	*The name, title, address and telephone number of the official who is responsible for approval of the engineering study.*	*Name:* Robin Halperin *Title:* Deputy Director, Watershed Programs *Address:* 3900 Euclid Avenue Cleveland, OH 44115-2506 *Telephone:* 216.881.6600
110-03(J)(1)(d)	*The standard industrial classification code and source classification code numbers which are applicable to the facility's operation.*	*Facility SIC:* 4952 *FBI SCC:* 50100803 *Diesel Engines SCC:* 20200102
110-03(J)(1)(e)(i)	*Ohio Environmental Protection Agency application number*	*Application Number: See Table 2-2 below for emission units covered in this report.*
110-03(J)(1)(e)(ii)	*Company identification and Ohio EPA emissions unit identification number (EU ID)*	See Table 1-1 for list of affected sources
110-03(J)(1)(e)(iii)	*Source Description*	See Section 3 for this information.
110-03(J)(1)(e)(iv)	*Month and year installed*	See Table 3-1
110-03(J)(1)(e)(v)	*Normal operating schedule (hours per day, days per week, and weeks per year).*	EU ID — N009-N011: 24 hrs/day; 7 days/week; 52 weeks/yr
110-03(J)(1)(e)(vi)	*Annual production rates for each of the three full calendar years preceding the submission of a RACT study under paragraph (J) of this rule.*	See Appendix A for this information.
110-03(J)(1)(e)(vii)	*Average and maximum daily production rates for each of the three full calendar years preceding the submission of a RACT study under paragraph (J) of this rule.*	See Appendix A for this information.
110-03(J)(1)(e)(viii)	*The type of control equipment employed and the date installed.*	Add-on control equipment is not employed to reduce NOx emissions from the affected units at the facility. However, wet scrubber systems comprised of a venturi/impingement tray design are employed to primarily control particulate matter emissions from the FBI units.
110-03(J)(1)(f)	*A plot plan which shows the general layout of the facility and the affected source.*	See Appendix B for this information.

OAC 3745	Requirement	Demonstration of Compliance
110-03(J)(1)(g)(i)	*Average daily NO_x emissions (pounds per day of operation) based upon the highest average daily production rate for each of the three full calendar years preceding the submission of a RACT study under paragraph (J) of this rule or any other year that may be representative of the highest average daily emissions.*	See Appendix A for this information.
110-03(J)(1)(g)(ii)	*Maximum daily NO_x emissions (pounds per day of operation) based upon the highest maximum daily production rate for each of the three full calendar years preceding the submission of a RACT study under paragraph (J) of this rule or any year that may be more representative of the highest maximum daily emissions.*	See Appendix A for this information.
110-03(J)(1)(g)(iii)	*Annual NO_x emissions (tons per year) based upon the highest annual production rate for each of the three full calendar years preceding the submission of a RACT study under paragraph (J) of this rule or any year period that may be more representative of the annual production rate.*	See Appendix A for this information.
110-03(J)(1)(g)(iv)	*Documentation of the efficiency of the existing control equipment.*	Not Applicable
110-03(J)(1)(g)(v)	*Documentation of any emissions testing which has been performed.*	See Appendix C for this information.
110-03(J)(1)(h)	*A detailed discussion of the technical feasibility of employing each type of control measures listed in the rule for each affected sources.*	See Section 6.1 for this information.
110-03(J)(1)(i)	*For each type of control measure that is determined to be technically feasible, an estimate of the control efficiency that can be achieved.*	See Section 6.2 for this information.
110-03(J)(1)(j)	*For each control measure that is determined to be technically feasible, an estimate of the capital cost, annualized cost (including capital and operating costs), and the cost-effectiveness (annual dollars per ton of NO_x removed annually).*	Not Applicable
110-03(J)(1)(k)	*A comparison and discussion of the advantages and disadvantages of the control options that are determined to be technically feasible.*	Not Applicable
110-03(J)(1)(l)	*A recommended definition of RACT for the source.*	See Section 6.2 for this information.
110-03(J)(1)(m)	*An expeditious schedule for implementing the recommended definition of RACT.*	Not Applicable
110-03(J)(1)(n)	*Clean and detailed documentation of all calculations of the NO_x emissions, including all assumptions made.*	See Appendix A for this information.
110-03(J)(1)(o)	*Capital and operating costs and the cost-effectiveness estimates calculated in a manner consistent with the most recent edition of the "United States environmental protection agency air pollution control cost manual."*	Not Applicable

Table 2-2. Applicable Application Number for NOx RACT Study Units

EU ID	Active PTI Application	Active PTI	Active PTO Application	Active Title V Permit	Initial PTI Application	Notes
N009	M0005716	P0126752	A0077774	P0137493	13-04701	A0009414 – Initial PTI App.
N010	M0005716	P0126752	A0077774	P0137493	13-04701	A0009414 – Initial PTI App.
N011	M0005716	P0126752	A0077774	P0137493	13-04701	A0009414 – Initial PTI App.

3 Process Description

The facility operates three FBIs to thermally treat sewage sludge generated from the wastewater treatment plant. Each of the FBIs is designed to process a maximum of 100 dry tons per day of dewatered sludge. The FBI units combust dewatered sludge cake consisting of approximately 30 percent solids. The dewatered cake is hydraulically conveyed to the FBIs from the facility's centrifuge dewatering system via a feed pump system.

The FBI vessels have a "hot windbox" design with a steel outer shell lined with refractory and insulating materials. Each vessel is vertically oriented with a refractory arch supporting the sand bed and separating it from the windbox section located in the bottom portion of the vessel. Combustion occurs in two zones within the FBI vessel. These zones include the fluidized sand bed itself, and the freeboard area located in the space above the sand bed. The freeboard area serves essentially as an afterburner, which is designed to provide sufficient residence time for complete combustion, as well as to allow time for particles to drop out of the exhaust gas stream and remain in the vessel.

Dewatered sludge is fed into the lower portion of the FBIs. Fluidizing air blowers supply both the preheated combustion air and the air needed to fluidize the sand bed. The preheated air is injected through tuyeres, which are nozzles for delivering blasts of air from the windbox into the sand bed, to simultaneously fluidize the bed and incoming sludge. Fluidization promotes complete combustion by achieving a uniform temperature distribution and near optimal mixing of the sludge feed and the combustion air. The combustion temperatures in the FBIs are maintained at approximately 1600°F.

Combustion typically occurs autogenously (relying on the energy content of the sludge alone). However, each FBI is equipped with a natural gas auxiliary system to provide supplemental fuel when needed. Preheat burner systems, which also operate on natural gas, are used on a limited basis for cold start-ups of the FBI units. The combustion process produces exhaust gas streams containing heat energy, water vapor, various gaseous emissions, and particulate matter (PM). Notably, NO_x emissions from FBI units are generally lower than from other types of incinerators due to lower FBI operating temperatures.

To maximize energy efficiency and to generate electricity, the exhaust gases from each FBI unit pass through a series of heat recovery systems. Primary heat exchangers are used to recover heat from the FBI exhaust gas streams and preheat the fluidizing air injected into each FBI. Waste heat recovery boilers capture additional heat from the FBI exhaust streams to produce steam, which is used to generate electricity by steam turbine/generator sets. Lastly, secondary heat exchangers are used to

transfer heat from the FBI exhaust gas streams to the air pollution control system exhaust streams before discharge to the atmosphere.

Air pollution control systems are operated to reduce emissions from the FBI exhaust gas streams. These are wet scrubbing systems that incorporate a venturi/impingement tray scrubber combination. The wet scrubbers reduce PM and sulfur dioxide (SO_2) emissions, but do not meaningfully reduce NOx emissions.

Table 3-1. Fluidized Bed Incinerator Specifications

EU ID	Normal Use	Construction Date	Modification Date	Rated Capacity	Type of Fuel
N009	Sewage Sludge Incineration	Aug 2010	Sep 2013	100 Dry Tons Sludge/day	Sewage Sludge and Natural Gas
N010	Sewage Sludge Incineration	Aug 2010	Apr 2014	100 Dry Tons Sludge/day	Sewage Sludge and Natural Gas
N011	Sewage Sludge Incineration	Aug 2010	Jan 2014	100 Dry Tons Sludge/day	Sewage Sludge and Natural Gas

4 NO_x RACT Methodology

In Ohio, RACT is required for new minor sources and for existing major sources of NO_X and VOC located in the designated ozone non-attainment areas (NAA). United States Environmental Protection Agency (EPA) does not define RACT by statute or rule, rather it is defined in EPA guidance as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.”

In accordance with EPA guidance, a RACT analysis entails the identification of practicable control technologies with careful evaluation and consideration of both technological and economic feasibility. As RACT accounts for the technological and economic implications of control measures, the resulting analyses and determinations may vary across different sources and geographic locations. Because RACT is not defined in either federal or state regulations, the EPA’s Best Available Control Technology (BACT) “Top-Down” approach is applied to determine RACT for affected sources.

4.1 Top-Down Approach

4.1.1 Step 1 – Identify Control Options

In this step, control technologies that could feasibly be applied to the emission unit and the regulated air pollutant(s) are identified. The choice of technologies can vary significantly based on the process involved and the specific pollutant being addressed. Additionally, technologies successfully implemented in similar source categories may also be considered for application to the unit in question.

The following references are commonly used to identify feasible control technologies for criteria pollutants:

- EPA's RACT/BACT/LAER Clearinghouse (RBLC) database.
- NSPS, NESHAP, and RACT regulations for similar operations.
- Engineering experience with similar control applications.
- Information provided by air pollution control equipment vendors.

4.1.2 Step 2 – Eliminate Technically Infeasible Options

In this step, control options deemed "technically infeasible" are removed from the list of "potentially available" controls. A control option is considered "technically feasible" if it has been successfully "demonstrated" or if it is both "available" and "applicable" to the emission unit.

4.1.3 Step 3 – Rank Remaining Control Options

The remaining technically feasible options are assessed and ranked based on their overall pollutant control capability. Ranking is unnecessary when only one option remains or when all options demonstrate comparable control efficiency. Collateral effects (economic, environmental, and energy impacts) are typically addressed in the fourth step of the five-step "top-down" RACT evaluation.

4.1.4 Step 4 – Evaluate Remaining Control Options

Following the identification and ranking of available and technically feasible control technologies, their economic, environmental, and energy implications are assessed to determine the most appropriate control option in a "top-down" approach. The control option with the highest potential to reduce emissions is evaluated first, and if the associated impacts do not preclude its use, then it is adopted as the basis for the RACT limit. Conversely, if the economic, environmental, and energy considerations disqualify the top-ranked option, the next most stringent alternative is evaluated. This iterative process continues until a suitable technology is identified as RACT or until all control options are eliminated from consideration as RACT.

4.1.5 Step 5 – Select RACT

RACT is selected for each applicable emissions unit based on the evaluations made in the previous step. When selecting RACT, special consideration is given to economic impacts and other substantive impacts (if any) associated with implementing each technically feasible control option evaluated.

5 NO_x Formation and NO_x Control Methods

There are three types of chemical kinetic processes that form NO_x emissions from combustion process units such as FBIs. NO_x (primarily NO and NO_2) forms from three reaction mechanisms: Thermal NO_x, Fuel NO_x, and Prompt NO_x.[1]

[1] U.S. Environmental Protection Agency, "AP-42, Fifth Edition, Volume I, Chapter 1.4: Natural Gas Combustion," Supplement D, July 1998. [Online]. Available: https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf

5.1 Thermal NO_x

Thermal NO_x is generated by the oxidation of molecular nitrogen (N_2) in the combustion air as it passes through the combustion zone. The formation of NOx occurs through thermal dissociation and reaction of molecular nitrogen and molecular oxygen[1].

$$N + O_2 \rightleftharpoons NO + O$$

$$O + N_2 \rightleftharpoons NO + N$$

$$N_2 + O_2 \longrightarrow 2NO$$

This reaction is the dominant pathway for thermal NO_x formation during the high-temperature combustion (>1300 °F). The generation of Thermal NO_x is heavily dependent on the temperature and residence time of molecular nitrogen at the high combustion temperature. Thermal NO_x generation increases with increasing temperatures [1,2]. Additionally, excess oxygen in the combustion zone increases NO_x emissions. This can be mitigated through good combustion techniques which minimize the amount of excess air in the combustion zone. For the FBIs, NO_x emissions are minimized when the temperature is kept at the lower end of the desired range and when the distribution of air at the air and fuel injection zones is controlled. Ideally, maintaining low-oxygen condition near fuel injection points approaches an off-stoichiometric staged combustion process.

5.2 Fuel NO_x

Generation of fuel NO_x results from the reaction of fuel bound nitrogen molecules in a combustion reaction. Although most gaseous fuels, such as natural gas, contain negligible fuel-bound nitrogen, nitrogen is commonly present in liquid and solid fuels. As indicated by EPA (in Section 2.2 of AP-42), emissions of NOx can vary seasonally based on the nitrogen content of the sewage sludge being incinerated. Fuel NOx is expected to be the primary pathway for NOx formation in sewage sludge incineration units.

5.3 Prompt NO_x

Prompt NO_x is generated through reactions of molecular nitrogen in the combustion air and hydrocarbon radicals from the fuel source. These reactions generally occur rapidly in the flame. Prompt NOx is typically negligible or minor compared to fuel NOx and thermal NO_x generated from combustion units.

6 NO_x RACT Evaluation - Fluidized Bed Incinerators

The facility operates three FBIs each with a capacity of processing up to 100 tons per day of dry sewage sludge (a byproduct of wastewater treatment). For FBIs, evaluating RACT options involves

[2] Raadman Burner Blog, “What Is NOx? Prompt and NOx Emissions,” Nov. 6, 2024. [Online]. Available: https://raadmanburner.com/blog/nox-formation-in-combustion/#elementor-toc__heading-anchor-15.

assessing combustion and post-combustion strategies to minimize NO_x while ensuring efficient sludge volume reduction and pathogen destruction. This RACT evaluation will utilize the 5-step process described above.

6.1 Identify Control Options and Assess Technical Feasibility

Identification of potential emission controls and/or emission standards that could be used to establish RACT requirements comes from two categories of sources. The first source is a search of air quality requirements contained in federal and state regulations that apply to sewage sludge incinerators, and specifically to FBI units. The second source of potential emission controls or potential emission rates comes from a review of existing equipment databases and issued permits for similar facilities operating sewage sludge FBIs. Each of these sources can help identify emission controls that are currently in use for sewage sludge FBIs. Following the identification of emission control options, the technical feasibility of each control option for application to the FBI units will be assessed.

6.1.1 Identification of Control Options from Regulatory Sources

Current federal regulations applicable to sewage sludge incinerators under 40 CFR Part 60, Subpart LLLL (Standards of Performance for New Units) and Subpart MMMM (Emission Guidelines for Existing Units) prescribe emission limits for NOx and other pollutants. These regulations establish baseline emission levels, with NO_x limits for existing FBIs currently at 150 ppmv (dry basis, at 7% O_2). In the preamble to the proposed version of these regulations (75 Fed. Reg. 63275 (October 14, 2010), see Appendix D of this report), EPA summarized their review of add-on NO_x control technologies used for other types of combustion sources (e.g., municipal waste combustion units and boilers) and concluded that no add-on controls were appropriate for reducing NO_x emissions from sewage sludge incinerators. EPA further added that there were no existing sewage sludge FBIs using add-on NO_x controls and recognized that FBIs achieve low NO_x emissions without the use of add-on air pollution control technology due to their design features. The 40 CFR Part 60, Subpart LLLL and MMMM regulations identify wet scrubbers, fabric filters, electrostatic precipitators, activated carbon injection, and afterburners as control methods for meeting the rule's emission limits. However, none of these technologies are effective in reducing NO_x emissions.

Additionally, a search was conducted of state specific regulations for additional NO_x emission standards or prescribed control technology. There were no states found that prescribe additional controls or require more stringent standards than the federal emission guidelines for existing sewage sludge FBIs.

6.1.2 Identification of Control Options from Permitted Sources

Several databases exist to search for similar permitted sources (i.e., sewage sludge FBIs at wastewater treatment plants) and associated permitted emission rates and control technologies. The RACT/BACT/LAER Clearinghouse, WebFire stack test database, and background information for federal rulemaking were searched for potential technically feasible NO_x control options. Selected results from these searches are included in Appendix D of this report.

For sewage sludge FBI units subject to the new source emission limits under 40 CFR Part 60, Subpart LLLL, there is one wastewater treatment facility located in Missouri currently operating a selective non-catalytic reduction (SNCR) system, on an as needed basis, to comply with the applicable NO_x limit. Also, a wastewater treatment plant located in Minnesota has a new FBI unit under construction with a requirement to install SNCR technology if uncontrolled NO_x emissions are greater than the applicable new source emission limit for NO_x. At this time, no existing sewage sludge FBI units subject to the emission guidelines for existing sources prescribed by 40 CFR Part 60, Subpart MMMM have SNCR systems installed to control NO_x emissions.

6.1.3 Evaluation of Control Options from OAC 3745-110-03(J)(1)(h)

OAC 3745-110-03(J)(1)(h) identifies over twenty NO_x control measures to be considered in a NO_x RACT evaluation. However, most of these control methods are not applicable to FBIs. The following sections assess the potential applicability of each listed NO_x control measure to FBIs.

Table 6-1. Control Options

Control Technology	Description	Feasibility
Low NO_x Burners	Low NO_x Burners (LNB) technology is a term to describe any modern burner that employs design techniques which create enhanced mixing at the nozzle to produce a fuel-rich zone at the base of the flame. The lack of sufficient oxygen leads to only partial fuel combustion. In the second, fuel-lean zone, additional air is added to complete the combustion process. NO_x is minimized because the temperature in this second zone is lower than the first zone because of mixing with the cooler secondary air.	The FBI units utilize autogenous firing of sewage sludge during normal operation igniting solid fuels in a fluidized bed which does not have a burner to utilize LNB. Therefore, this technology is not technically feasible for this source.
Close Coupled or Separated Over-Fire Ports	Close coupled or separated over-fire ports implement air-stage combustion to create a fuel-rich mixture in the main combustion zone. The fuel-rich combustion zone provides the high temperatures necessary for completion of the calcination process, but the lack of oxygen minimizes the formation of thermal and fuel NO_x. After all other stages of combustion take place, the excess air needed to complete combustion is admitted through over-fire ports mostly located above the highest level of burners in the system. In spite of the excess air available, NO_x formation is minimized due to lower temperatures in this zone.	The FBIs utilize autogenous firing of sewage sludge during normal operation igniting solid fuels in a fluidized bed which does not have a burner to utilize closed coupled or separated over-fire ports. Therefore, this technology is not technically feasible for this source.

Control Technology	Description	Feasibility
Flue Gas Recirculation (FGR)	FGR is another type of air staged combustion that reduces the formation of thermal NO_x by reducing combustion temperature. The flame temperature is lowered by recirculating cooled flue gas and diluting the oxygen content of the combustion air. The recycled flue gas may be premixed with the primary combustion air or may be injected directly into the flame zone. Direct injection allows more precise control of the amount and location of the FGR. In order for FGR to reduce NO_x formation, recycled flue gas must enter the flame zone. The FGR also reduces the peak flame temperature by heating the inert combustion products contained in the recycled flue gas.	The FBI units use precise control of air to trigger the autogenous ignition of the sewage sludge. Introduction of FGR would interrupt the fluidizing air that is needed for complete combustion of the sewage sludge. FGR is not technically feasible for this source.
Burners Out of Service (BOOS)	BOOS is a form of fuel-staged combustion that reduces the formation of thermal NOx by reducing combustion temperature. Staged combustion is achieved by having multiple burners out of service (i.e., not feeding fuel and instead supplying air or flue gas) and the balance of the fuel required to maintain the unit firing rate is achieved by the remaining burners.	The FBIs utilize a single fluidized bed for combustion of the sewage sludge. There are not individual burners to remove from service to utilize BOOS. Therefore, this technology is not technically feasible for this source.
Steam/Water Injection	Steam/water injection is a type of control measure whereby water or steam is injected into the combustion zone to lower the flame temperature.	The sewage sludge enters the FBIs with approximately 30% water content. The water content of the sludge is maintained at this level to promote proper FBI unit operation and sludge combustion. Adding additional water or steam would likely interrupt the autogenous ignition of the sludge and require additional supplemental natural gas fuel resulting in additional NOx emissions from the FBI units. Therefore, this technology is not technically feasible for this source.
Dry Low NO_x Burners	Dry low NO_x burners are special types of burners used to reduce NO_x emissions from gas fired turbines. The configuration of this control technology is only suitable for gas turbines.	The configuration of this control technology is only suitable for gas turbines. Therefore, this control technology is not technically feasible to the FBIs at the facility.
Ignition Timing Retard	ICE use ignition timing to control maximum temperature and residence time. This control technology only applies to ICE.	This control technology only applies to ICE; therefore, this control technology is not technically feasible for the FBIs at the facility.

Control Technology	Description	Feasibility
Separate Circuit After-Cooling	This control technology is applicable to ICE and works by adding a separate water circuit to cool the engine's intake air.	This control technology only applies to ICE; therefore, this control technology is not technically feasible for the FBIs at the facility.
Selective Noncatalytic Reduction (SNCR)	SNCR is a type of post combustion add-on NOx emissions control technology (similar to SCR technology) whereby ammonia or urea is injected into the combustion source to reduce NOx into elemental nitrogen and oxygen. The key difference between SCR and SNCR is that SCR uses a specialized catalyst for the reduction reaction to take place. For SNCR systems to be effective, the ammonia or urea must be injected into a region with a narrow temperature range (usually 1600–2100 °F). Different factors such as temperature, residence time, type of reducing agent, reagent injection rate, and uncontrolled NOx level affect the reduction potential of this technology. The reaction temperature is critical since heat is needed to drive the reaction. At lower temperatures, reaction kinetics are slow, resulting in potential ammonia slip. At higher temperatures, ammonia oxidizes resulting in additional NOx formation.	Based on review of EPA's RACT/BACT/LAER Clearinghouse (RBLC) and comparable source air quality permits, SNCR may be a potentially feasible control technology. SNCR has been specified in permits for two sewage sludge FBI units for meeting the NOx emission limit in the federal NSPS applicable to new FBI units. At this time, no existing FBI emission units have installed SNCR as an add-on control technology.
Non-Selective Catalytic Reduction (NSCR)	Nonselective catalytic reduction (NSCR) is an add-on NO_x control technology which uses catalysts to reduce NO_x emissions from internal combustion engines. To achieve optimum NO_x reduction, the oxygen content of the exhaust streams must be low.	This control technology only applies to ICE; therefore, this control technology is not technically feasible for the FBIs at the facility.
Selective Catalytic Reduction (SCR)	SCR is a post combustion, add-on control technology in which ammonia is injected into the flue gas streams upstream of the catalyst bed to reduce NO_x into elemental nitrogen and water. SCR systems employ metal-based catalysts with activated sites to increase the reduction rate of NO_x. Critical parameters which affect the reduction rate of NO_x include reaction temperature range, residence time available in the optimum temperature range, molar ratio of injected ammonia to uncontrolled NO_x, degree of mixing between ammonia and NO_x, and ammonia slip. The reaction temperature for the reduction reaction ranges between 480-800 °F with optimum NO_x removal occurring at approximately 700 °F. Efficient SCR systems require stable flue gas streams in regard to temperature, flow rate, and NO_x concentrations. If designed and operated efficiently, SCR systems can reduce NOx emissions by 70 percent - 90 percent.	The exhaust streams from the sewage sludge FBIs have a low concentration of NOx. Dilute NOx in the exhaust lowers the effective removal of NOx from an SCR system. SCR is not a demonstrated control technology for sewage sludge FBI units and is not technically feasible due to operating temperature issues and potential catalyst poisoning from sulfur oxides present in the exhaust gas stream.
Fuel Emulsification	Fuel emulsification is a type of NO_x control technology whereby thermal NO_x generation is reduced by decreasing combustion temperatures. Reduction in combustion temperatures is achieved by injecting water into the liquid fuels burned in the combustion sources.	The FBI units utilize solid fuel (sewage sludge) that has an approximate water content of 30 percent. Fuel emulsification is a technology for liquid fuels. Therefore, this technology is not technically feasible for this source.

Control Technology	Description	Feasibility
Incineration (for sources other than boilers)	Incinerators are typically used to control emissions from facilities that operate paint lines or have hazardous waste.	This control technology is not applicable to the FBIs as the source itself is a type of incinerator.
Scrubbing (for sources other than boilers)	Oxidation/reduction scrubbing is a low-temperature oxidation process that employs an oxidizing agent such as ozone or chlorine dioxide to oxidize NO to higher oxides of nitrogen such as NO_2 or N_2O_5 which are water soluble.	While wet scrubbers are widely used for control of particulate matter from sewage sludge FBIs (including at the subject facility), other types of scrubbers are not technically feasible for achieving meaningful NO_x reductions from the FBIs since the NO_x concentrations in the exhaust streams are too dilute.
Process Modification	Any modification of the operating process which would result in lowered NO_x emissions for the source.	Process modification is not a feasible option for the FBIs at the facility since the sewage sludge feed is directly tied to the operation of the wastewater plant, which has strict effluent discharge limits, and is therefore not considered in this study.
Fuel Switching	Using fuels with low concentrations of fuel-bound nitrogen reduces the nitrogen available for fuel NO_x formation. Examples of low-nitrogen fuels include natural gas, coke, and ultra-low-nitrogen liquid fuel oils. The FBIs at the facility primarily combust dry sewage sludge with natural gas as a supplemental fuel.	Since the primary purpose of the FBIs is to reduce sewage sludge volume, the main fuel cannot be substituted. The FBIs already utilize a low-nitrogen supplemental fuel; therefore, this control option is not applicable nor technically feasible.
Adjustment of Air/Fuel Ratio (ICE Only)	During the operation of ICE units, the air-to-fuel ratio may be adjusted to optimize combustion conditions and lower NO_x emissions.	This control option only applies to ICE; therefore, this control option is not technically feasible for the FBIs at the facility.
Low Excess Air (LEA)	LEA is a type of control measure whereby the net excess air flow is limited to reduce combustion temperature and oxygen availability, minimizing potential NOx formation. Even though LEA is applicable to combustion sources that burn all types of fuels, insufficient air supply can result in lower combustion efficiency due to incomplete combustion and thus increased CO emissions.	FBI relies on a large volume of warm air to fluidize the combustion bed for autogenic ignition of the sewage sludge. Reducing the combustion air will decrease the effectiveness of the fluidized bed for combustion. Therefore, this control measure is not applicable.
Mid-Kiln Firing	Mid-kiln firing refers to injecting auxiliary fuel or waste-derived fuel into the middle section of the rotary kiln, rather than only at the primary burner at the front end.	The FBIs are not rotary kilns, therefore this control option is not applicable.
Mid-Kiln Air Injection	Mid-Kiln Air Injection refers to injecting additional air into the middle section of the rotary kiln to optimize combustion efficiency.	The FBIs are not rotary kilns, therefore this control option is not applicable.

Control Technology	Description	Feasibility
Gaseous Fuels Reburn	Fuel reburning is a NO_x control measure whereby cooled flue gas mixed with added fuel is injected back into the main combustion zone for chemical reduction of NO_x to thermal nitrogen. In addition to chemically reducing NO_x, the primary combustion temperature is lowered, reducing thermal NO_x formation.	Fuel reburning requires the addition of fuel to the exhaust gas. The FBIs burn solid fuel that can not be mixed into the exhaust gas for recirculation. This control option is not technically feasible for FBI units.

6.1.4 Technical Feasibility of NO_x Control Options

SNCR is the only control technology that was identified above as a potentially feasible option for reducing NO_X emissions from the facility's three (3) FBIs. However, upon further analysis, it was determined to be technically infeasible based on the following factors:

- SNCR has not been demonstrated as a retrofit technology for application to existing FBIs as no existing FBI units have installed SNCR systems to reduce NO_x emissions. Further, as discussed in Section 6.1.1 above, EPA has recognized in the preamble to the proposed 40 CFR Part 60 NSPS/EG regulations for sewage sludge incinerators that sewage sludge FBIs achieve low NO_x emission levels without the use of add-on air pollution control technology and no add-on controls were identified as appropriate for reducing NO_x emissions from FBI units.
- Operating temperatures in the freeboard area of the FBIs are in the range of 1575 - 1600 °F, which is at the low end of the temperature window required for SNCR technology to effectively reduce NO_x emissions (SNCR systems are most effective within the temperature range of 1600 - 2100 °F). At lower temperatures, the reduction reaction kinetics are slow with minimal NO_x reduction efficiencies expected to be achieved.
- Given the relatively low NO_x concentrations associated with the facility's FBI units, above normal quantities of reagent (urea or ammonia) would be required to reduce NO_x emissions. Increased reagent usage would lead to increased ammonia slip levels (which is an adverse environmental impact) while only achieving marginal reductions in NO_x emissions.
- SNCR systems have been successfully implemented to efficiently reduce NO_x emissions from other types of combustion units including coal-fired boilers and municipal waste combustors. However, these types of combustion units have much higher uncontrolled NO_x emissions with levels above 250 ppmv (dry basis). In contrast, uncontrolled NO_x emission levels from the facility's FBI units are much lower as measured during recent performance tests. At these comparatively low levels, the application of SNCR would not be expected to substantially reduce NO_x emissions.
- Annual NO_x emissions from the facility's FBIs have been calculated to be low (in the range of 4.6 - 10.6 tons per year per unit over the past three years as shown in Appendix A). Minimal NO_x emission reductions could be realized from these low levels.

Based on the above considerations, the application of SNCR technology is not well suited as a retrofit for the facility's FBI units. Therefore, SNCR technology is not a technically feasible option for reducing

NO_x emissions from the facility's FBI units and is not further evaluated in this RACT study. Because no other control alternatives were identified as technically feasible options for reducing NO_x emissions from the FBIs, this top-down RACT evaluation concludes below with the RACT selection.

6.2 Select RACT

Based on this RACT study, the application of add-on air pollution control technology, including SNCR, has been determined to be technically infeasible for the facility's FBI units in consideration of factors including low uncontrolled NO_x emission levels and FBI unit operating conditions. Further, SNCR and other add-on control technologies have not been successfully demonstrated as appropriate retrofit options for reducing NO_x emissions from any existing sewage sludge FBI. Therefore, add-on air pollution control technology, including SNCR, is not suitable as RACT for the facility's FBI units.

To satisfy NO_x RACT requirements, NEORSD will continue to use good combustion practices to minimize NO_x emissions from the operation of the FBI units and to effectively comply with permitted emission limitations. As a RACT standard, the facility proposes a new NO_x limitation of 123 ppmv (dry basis at 7% O_2). This proposed limit is lower than the applicable NO_x standard of 150 ppmv (dry basis at 7% O_2) specified by the federal emission guidelines for existing sewage sludge FBIs. The proposed standard was determined based on a historical review of performance test results and reflects the average of the three highest historical test results for the three FBI units (see Table 6-2 below). To account for operational variability and seasonal changes in sewage sludge characteristics, a 10 percent factor was included. NEORSD will demonstrate compliance with the new standard based on average NO_x results from periodic performance testing conducted in accordance with the Federal Plan Requirements for Sewage Sludge Incinerators under 40 CFR Part 62, Subpart LLL. NEORSD will be able to implement this new standard for the FBI immediately upon approval of this NO_x RACT Study.

Table 6-2. Proposed NO_x RACT Emission Standard

Test Date	Average NO_x Concentration	Average NO_x Concentration (all three units)	Proposed RACT Standard (including 10% Factor)
	(ppmv, dry basis at 7% O_2)		
11/12/2014	114.2	112	123
12/01/2015	102.4		
05/15/2020	119.8		

Appendix A

Emissions Calculations

Table A-1
NEORSD NOx RACT Study
Incinerator #1- N009 Production
June 2026

Year	Month	Run Hours Per Month	Dry Sludge Burned (Tons/month)	NG Consumption Rate (MMSCF/month)	Hourly Sludge Burn Rate (Tons/hour) [1]	Hourly NG Consumption Rate (MMSCF/hour) [1]	Average Daily Sludge Burn Rate (Tons/day) [2]	Average Daily NG Consumption Rate (MMSCFD) [2]	Maximum Daily Sludge Burn Rate (Tons/day) [3]	Maximum Daily NG Consumption Rate (MMSCFD) [3]	Annual Sludge Burning Rate (Tons/yr) [4]	Annual NG Consumption Rate (MMSCFY) [4]
2022	January	0.00	0.00	0.000	0.000	0.000	69.9	0.18	82.9	0.4	14319.3	37.4
	February	0.00	0.00	0.000	0.000	0.000						
	March	0.00	0.00	0.305	0.000	0.000						
	April	682.90	2359.20	4.767	3.455	0.007						
	May	722.12	2393.30	6.285	3.314	0.009						
	June	155.87	504.30	2.459	3.235	0.016						
	July	310.54	853.90	4.143	2.750	0.013						
	August	530.70	1275.70	3.643	2.404	0.007						
	September	408.65	1227.80	4.467	3.005	0.011						
	October	741.53	2413.50	4.566	3.255	0.006						
	November	638.89	1526.30	2.434	2.389	0.004						
	December	728.54	1765.30	4.314	2.423	0.006						
2023	January	738.71	2162.60	4.063	2.928	0.006	67.7	0.17	81.8	0.3	14383.8	37.0
	February	381.96	1301.20	4.036	3.407	0.011						
	March	708.18	2093.30	7.177	2.956	0.010						
	April	698.34	2198.10	8.454	3.148	0.012						
	May	698.77	1811.90	4.642	2.593	0.007						
	June	713.89	1666.10	2.530	2.334	0.004						
	July	697.13	1919.20	5.294	2.753	0.008						
	August	464.74	1231.37	0.819	2.650	0.002						
	September	0.00	0.00	0.000	0.000	0.000						
	October	0.00	0.00	0.000	0.000	0.000						
	November	0.00	0.00	0.000	0.000	0.000						
	December	0.00	0.00	0.000	0.000	0.000						
2024	January	151.22	503.87	4.361	3.332	0.029	63.6	0.16	80.0	0.7	14338.8	35.2
	February	486.29	1533.95	3.622	3.154	0.007						
	March	676.01	2170.30	4.359	3.210	0.006						
	April	712.88	2103.50	3.930	2.951	0.006						
	May	738.55	1890.40	2.520	2.560	0.003						
	June	554.58	1254.68	3.737	2.262	0.007						
	July	683.87	1666.80	4.598	2.437	0.007						
	August	716.10	1725.20	4.526	2.409	0.006						
	September	693.75	1490.10	3.577	2.148	0.005						
	October	0.00	0.00	0.000	0.000	0.000						
	November	0.00	0.00	0.000	0.000	0.000						
	December	0.00	0.00	0.000	0.000	0.000						

Values to be Used in accordance with OAC 3745-110-03(J)(g):

Sludge Burned

(i) Highest Average Daily Production Rate:	69.9	Tons/day
(ii) Maximum Daily Production Rate:	82.9	Tons/day
(iii) Highest Annual Production Rate:	14383.8	Tons/year

Natural Gas Consumption

(i) Highest Average Daily Production Rate:	0.18	MMSCFD
(ii) Maximum Daily Production Rate:	0.7	MMSCFD
(iii) Highest Annual Production Rate:	37.4	MMSCF/yr

[1] Monthly Thouroughput / Monthly Runtime
[2] Σ RY Thouroughput per Month / Σ RY Runtime per Month x 24 hour/day = Average Daily Rate
[3] RY Maximum Hourly Rate x 24 hour/day = Daily Maximum Rate
[4] Σ RY Thouroughput per Month

Table A-2
NEORSD NOx RACT Study
Incinerator #1- N009 NO_x Emissions
June 2026

Incinerator N009

Average Daily Rate

	Natural Gas Combustion		*Sludge Burning*	
Consumption	0.18	MMSCFD	69.854	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.377	lbs NOx/Ton Sludge
NO_x Emissions	18.24	lbs/day	26.335	lbs/day

Total NO_x Emissions **44.57 lbs/day**

Maximum Daily Production

	Natural Gas Combustion		*Sludge Burning*	
Consumption	0.69	MMSCFD	82.912	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.377	lbs NOx/Ton Sludge
NO_x Emissions	69.21	lbs/day	31.258	lbs/day

Total NO_x Emissions **100.47 lbs/day**

Annual Emissions

	Natural Gas Combustion		*Sludge Burning*	
Consumption	37.38	MMSCF/yr	14,383.770	Tons/yr
Emission Factor [1,2]	100	lbs/MMSCF	0.377	lbs NOx/Ton Sludge
NO_x Emissions	1.87	Tons/yr	2.711	Tons/yr

Total NO_x Emissions **4.58 Tons/yr**

[1] *Emission factors for Natural Gas Combustion from US EPA AP-42 Chapter 1.4.*
[2] *Emission factor for dry sludge combustion from site specific stack test.*

Table A-3
NEORSD NOx RACT Study
Incinerator #2- N010 Production
June 2026

Year	Month	Run Hours Per Month	Dry Sludge Burned (tons/month)	NG Consumption Rate (MMSCF/month)	Hourly Sludge Burn Rate (Tons/hour) [1]	Hourly NG Consumption Rate (MMSCF/hour) [1]	Average Daily Sludge Burn Rate (Tons/day) [2]	Average Daily NG Consumption Rate (MMSCFD) [2]	Maximum Daily Sludge Burn Rate (Tons/day) [3]	Maximum Daily NG Consumption Rate (MMSCFD) [3]	Annual Sludge Burning Rate (Tons/yr) [4]	Annual NG Consumption Rate (MMSCFY) [4]
2022	January	652.97	1694.00	5.827	2.594	0.009	69.0	0.23	79.8	0.3	20952.3	71.4
	February	358.30	924.50	3.757	2.580	0.010						
	March	671.69	1987.20	6.710	2.959	0.010						
	April	460.26	1300.70	4.863	2.826	0.011						
	May	741.05	2185.00	7.005	2.949	0.009						
	June	587.58	1880.70	5.926	3.201	0.010						
	July	685.65	2279.80	7.542	3.325	0.011						
	August	723.61	2242.40	5.312	3.099	0.007						
	September	633.88	2090.60	7.403	3.298	0.012						
	October	474.23	1397.80	5.608	2.948	0.012						
	November	606.51	1502.00	4.373	2.476	0.007						
	December	692.80	1467.60	7.038	2.118	0.010						
2023	January	732.82	2106.80	7.151	2.875	0.010	65.6	0.29	82.5	1.5	11418.3	50.3
	February	330.14	1041.10	4.958	3.154	0.015						
	March	702.42	2322.00	7.688	3.306	0.011						
	April	480.12	1650.30	5.045	3.437	0.011						
	May	0.00	0.00	0.000	0.000	0.000						
	June	0.00	0.00	0.000	0.000	0.000						
	July	0.00	0.00	0.000	0.000	0.000						
	August	0.00	0.00	0.000	0.000	0.000						
	September	57.53	138.40	3.631	2.406	0.063						
	October	656.08	1487.30	6.736	2.267	0.010						
	November	656.99	1490.80	6.937	2.269	0.011						
	December	562.93	1181.63	8.188	2.099	0.015						
2024	January	237.33	633.57	3.555	2.670	0.015	69.4	0.22	84.7	0.4	13341.2	42.0
	February	657.88	2230.76	6.115	3.391	0.009						
	March	632.79	2232.50	5.694	3.528	0.009						
	April	711.14	2097.00	5.335	2.949	0.008						
	May	607.80	1659.10	5.470	2.730	0.009						
	June	0.00	0.00	0.000	0.000	0.000						
	July	0.00	0.00	0.000	0.000	0.000						
	August	0.00	0.00	0.000	0.000	0.000						
	September	0.00	0.00	0.000	0.000	0.000						
	October	508.32	1163.60	4.390	2.289	0.009						
	November	529.17	1516.00	7.266	2.865	0.014						
	December	726.55	1808.70	4.170	2.489	0.006						

Calculation Values to be Used in accordance with OAC 3745-110-03(J)(g):

Sludge Burned

(i) Highest Average Daily Production Rate:	69.4	ton/day
(ii) Maximum Daily Production Rate:	84.7	ton/day
(iii) Highest Annual Production Rate:	20952.3	ton/year

Natural Gas Consumption

(i) Highest Average Daily Production Rate:	0.29	MMSCFD
(ii) Maximum Daily Production Rate:	1.5	MMSCFD
(iii) Highest Annual Production Rate:	71.4	MMSCF/yr

[1] Monthly Thouroughput / Monthly Runtime
[2] Σ RY Thouroughput per Month / Σ RY Runtime per Month x 24 hour/day = Average Daily Rate
[3] RY Maximum Hourly Rate x 24 hour/day = Daily Maximum Rate
[4] Σ RY Thouroughput per Month

Table A-4
NEORSD NOx RACT Study
Incinerator #2 - N010 NO_x Emissions
June 2026

Incinerator N010

Average Daily Rate

	Natural Gas Combustion		*Sludge Burning*	
Consumption	0.29	MMSCFD	69.441	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.549	lbs NOx/Ton Sludge
NO_x Emissions	28.91	lbs/day	38.123	lbs/day

Total NO_x Emissions **67.03 lbs/day**

Maximum Daily Production

	Natural Gas Combustion		*Sludge Burning*	
Consumption	1.51	MMSCFD	84.673	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.549	lbs NOx/Ton Sludge
NO_x Emissions	151.48	lbs/day	46.485	lbs/day

Total NO_x Emissions **197.96 lbs/day**

Annual Emissions

	Natural Gas Combustion		*Sludge Burning*	
Consumption	71.36	MMSCF/yr	20,952.300	Tons/yr
Emission Factor [1,2]	100	lbs/MMSCF	0.676	lbs NOx/Ton Sludge
NO_x Emissions	3.57	Tons/yr	7.086	Tons/yr

Total NO_x Emissions **10.65 Tons/yr**

[1] *Emission factors for Natural Gas Combustion from US EPA AP-42 Chapter 1.4.*
[2] *Emission factor for dry sludge combustion from site specific stack test.*

Table A-5
NEORSD NOx RACT Study
Incinerator #3- N011 Production
June 2026

Year	Month	Run Hours Per Month	Dry Sludge Burned (tons/month)	NG Consumption Rate (MMSCF/month)	Hourly Sludge Burn Rate (Tons/hour) [1]	Hourly NG Consumption Rate (MMSCF/hour) [1]	Average Daily Sludge Burn Rate (Tons/day) [2]	Average Daily NG Consumption Rate (MMSCFD) [2]	Maximum Daily Sludge Burn Rate (Tons/day) [3]	Maximum Daily NG Consumption Rate (MMSCFD) [3]	Annual Sludge Burning Rate (Tons/yr) [4]	Annual NG Consumption Rate (MMSCFY) [4]
2022	January	635.24	1639.800	4.128	2.581	0.006	75.3	0.13	83.6	0.2	6006.6	10.7
	February	645.66	2250.000	2.533	3.485	0.004						
	March	633.80	2116.800	4.007	3.340	0.006						
	April	0.00	0.000	0.000	0.000	0.000						
	May	0.00	0.000	0.000	0.000	0.000						
	June	0.00	0.000	0.000	0.000	0.000						
	July	0.00	0.000	0.000	0.000	0.000						
	August	0.00	0.000	0.000	0.000	0.000						
	September	0.00	0.000	0.000	0.000	0.000						
	October	0.00	0.000	0.000	0.000	0.000						
	November	0.00	0.000	0.000	0.000	0.000						
	December	0.00	0.000	0.000	0.000	0.000						
2023	January	0.00	0.000	0.000	0.000	0.000	62.9	0.16	74.3	0.5	14773.9	37.5
	February	0.00	0.000	0.000	0.000	0.000						
	March	0.00	0.000	0.000	0.000	0.000						
	April	210.85	644.800	4.328	3.058	0.021						
	May	725.32	1700.900	3.539	2.345	0.005						
	June	713.81	1724.300	2.489	2.416	0.003						
	July	699.95	1792.400	4.236	2.561	0.006						
	August	493.70	1528.190	8.821	3.095	0.018						
	September	688.01	2117.900	3.310	3.078	0.005						
	October	684.34	1897.700	3.868	2.773	0.006						
	November	680.55	1684.600	3.715	2.475	0.005						
	December	739.60	1683.150	3.189	2.276	0.004						
2024	January	691.18	2027.560	6.602	2.933	0.010	61.5	0.17	75.8	2.9	14429.1	38.8
	February	172.26	544.250	2.306	3.159	0.013						
	March	0.00	0.000	0.000	0.000	0.000						
	April	0.00	0.000	0.000	0.000	0.000						
	May	38.12	92.900	4.666	2.437	0.122						
	June	628.33	1600.380	2.825	2.547	0.004						
	July	707.76	1881.600	3.209	2.659	0.005						
	August	708.60	1768.700	3.608	2.496	0.005						
	September	699.39	1593.500	3.061	2.278	0.004						
	October	733.68	1842.900	3.504	2.512	0.005						
	November	564.72	1572.500	4.792	2.785	0.008						
	December	691.08	1504.800	4.247	2.177	0.006						

Calculation Values to be Used in accordance with OAC 3745-110-03(J)(g):

Sludge Burned

(i) Highest Average Daily Production Rate:	75.3	ton/day
(ii) Maximum Daily Production Rate:	83.6	ton/day
(iii) Highest Annual Production Rate:	14773.9	ton/year

Natural Gas Consumption

(i) Highest Average Daily Production Rate:	0.17	MMSCFD
(ii) Maximum Daily Production Rate:	2.9	MMSCFD
(iii) Highest Annual Production Rate:	38.8	MMSCF/yr

[1] Monthly Thouroughput / Monthly Runtime
[2] Σ RY Thouroughput per Month / Σ RY Runtime per Month x 24 hour/day = Average Daily Rate
[3] RY Maximum Hourly Rate x 24 hour/day = Daily Maximum Rate
[4] Σ RY Thouroughput per Month

Table A-6
NEORSD NOx RACT Study
Incinerator #3 - N011 NO_x Emissions
June 2026

Incinerator N011

Average Daily Rate

	Natural Gas Combustion		*Sludge Burning*	
Consumption	0.17	MMSCFD	75.290	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.571	lbs NOx/Ton Sludge
NO_x Emissions	16.53	lbs/day	42.991	lbs/day

Total NO_x Emissions **59.52 lbs/day**

Maximum Daily Production

	Natural Gas Combustion		*Sludge Burning*	
Consumption	2.94	MMSCFD	83.635	Tons/day
Emission Factor [1,2]	100	lbs/MMSCF	0.571	lbs NOx/Ton Sludge
NO_x Emissions	293.77	lbs/day	47.756	lbs/day

Total NO_x Emissions **341.52 lbs/day**

Annual Emissions

	Natural Gas Combustion		*Sludge Burning*	
Consumption	38.82	MMSCF/yr	14,773.940	Tons/yr
Emission Factor [1,2]	100	lbs/MMSCF	0.571	lbs NOx/Ton Sludge
NO_x Emissions	1.94	Tons/yr	4.218	Tons/yr

Total NO_x Emissions **6.16 Tons/yr**

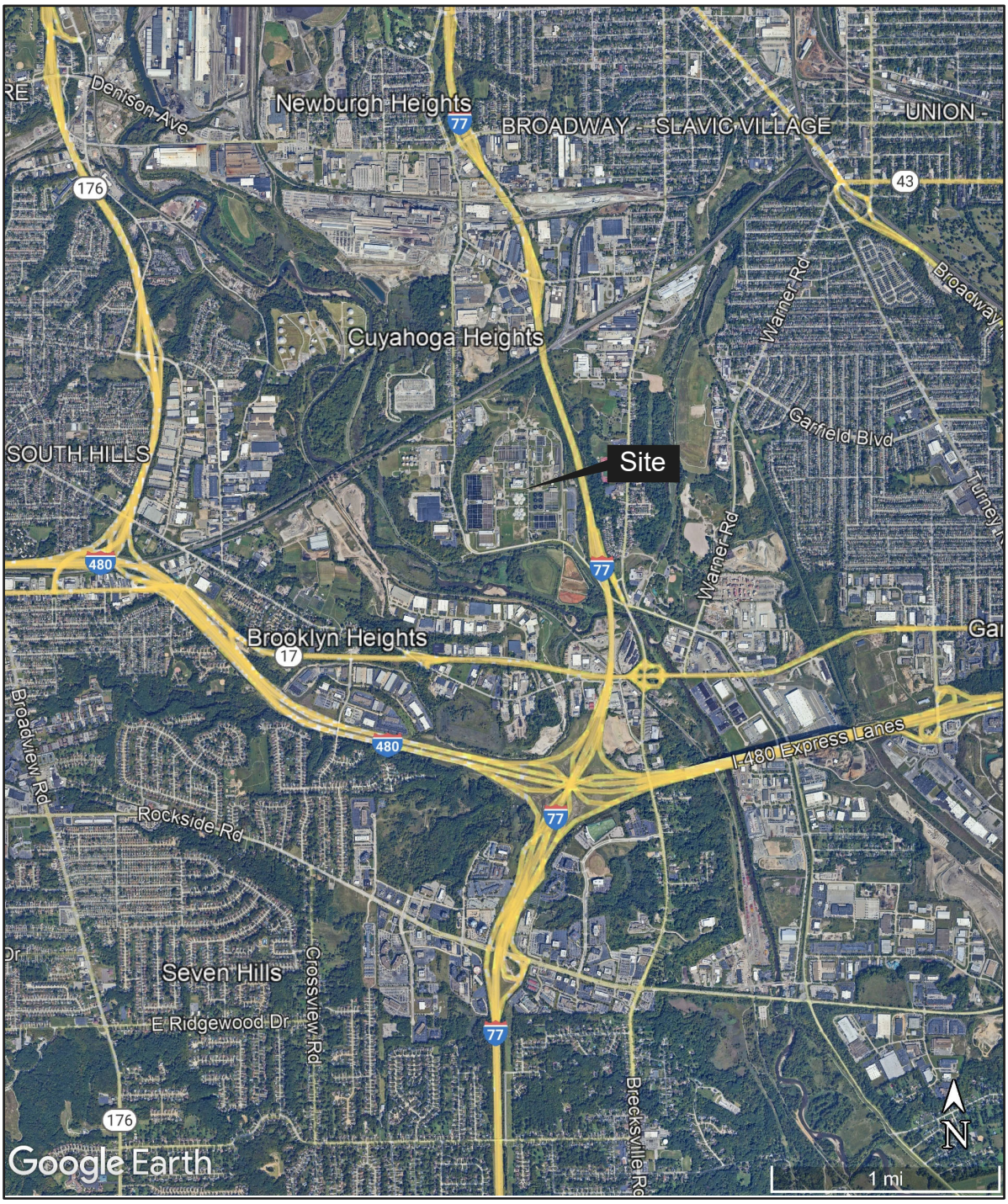
[1] *Emission factors for Natural Gas Combustion from US EPA AP-42 Chapter 1.4.*
[2] *Emission factor for dry sludge combustion from site specific stack test.*

Appendix B

Area Map & Plot Plan

Figure 1
Site Location

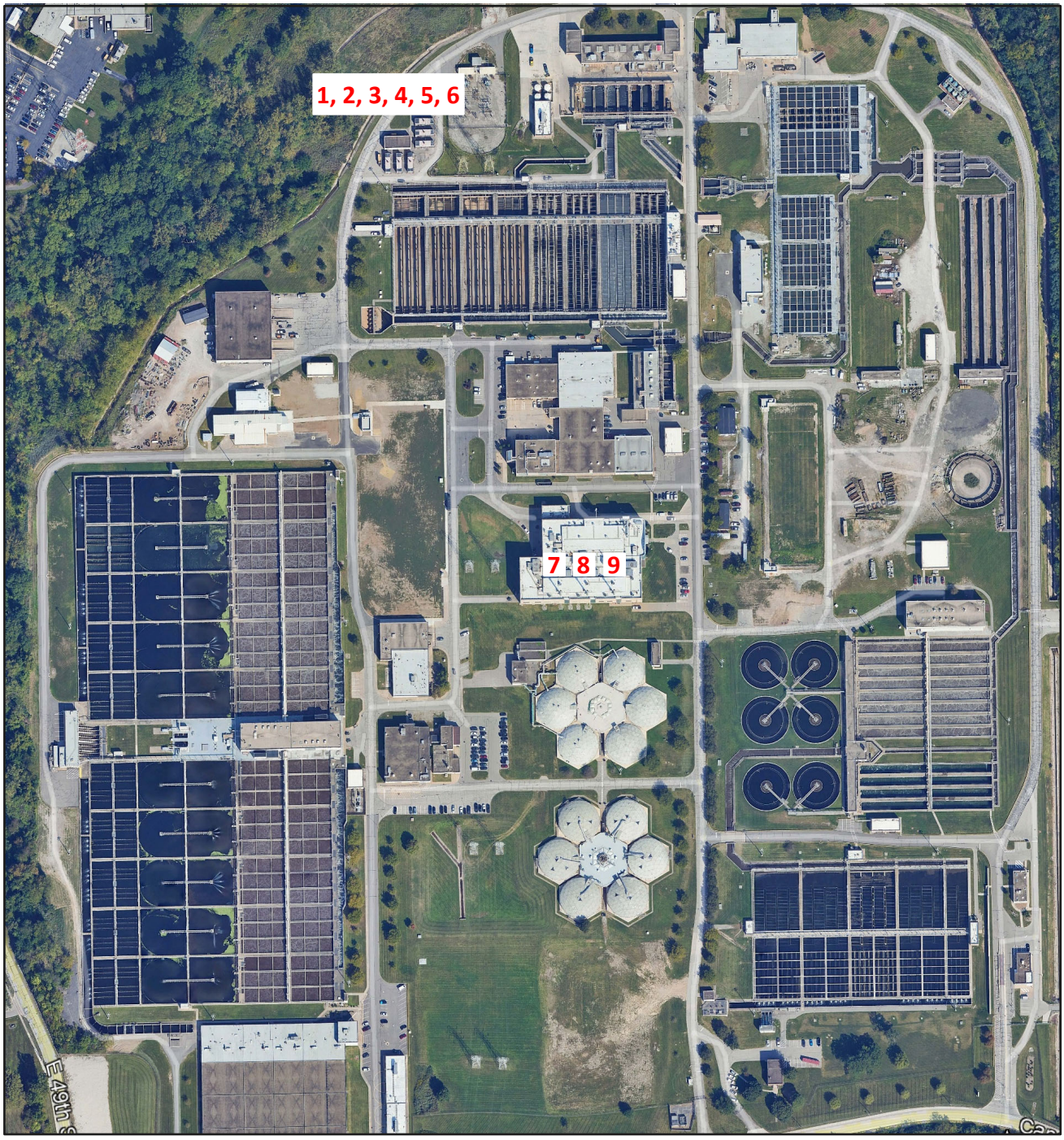
NEORSD- Southerly Wastewater Treatment Center
Cuyahoga Heights, Ohio



Imagery source: ESRI, Google Earth Online, September 2023

Figure 2
Site Layout

NEORSD- Southerly Wastewater Treatment Center
Cuyahoga Heights, Ohio



Imagery source: ESRI, Google Earth Online, September 2023

Figure 3 – Legend
Site Layout

NEORSD- Southerly Wastewater Treatment Center
Cuyahoga Heights, Ohio

Map ID #	EU ID	Description
1	B004	Generator #1 - 2000 kW Diesel Generator
2	B005	Generator #2 - 2000 kW Diesel Generator
3	B006	Generator #3 - 2000 kW Diesel Generator
4	B007	Generator #4 - 2000 kW Diesel Generator
5	B008	Generator #5 - 2000 kW Diesel Generator
6	B009	Generator #6 - 2000 kW Diesel Generator
7	N009	100 Dry Tons per Day Fluidized Bed Incinerator
8	N010	100 Dry Tons per Day Fluidized Bed Incinerator
9	N011	100 Dry Tons per Day Fluidized Bed Incinerator

Appendix C

Summary of Emissions Testing Results

Table C-1
NEORSD NOx RACT Study
Incinerator #1- N009 Performance Testing Results
RY2020-RY2024

Test Date: 01/31/2024				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	21.62	27.07	27.87	25.5
lb/hr	2.39	2.99	3.08	2.82
lb/dry ton	0.58	0.72	0.77	0.69

Test Date: 07/25-26/2023				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	14.3	14	16.9	15.1
lb/hr	1.44	1.29	1.66	1.46
lb/dry ton	0.30	0.27	0.44	0.33

Test Date: 09/01-04/2020				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	14.3	16	18.9	16.4
lb/hr	1.30	1.39	1.49	1.39
lb/dry ton	0.35	0.39	0.39	0.38

Summary of Test Results

NOx results	Average	Maximum
ppmvd @ 7% O2	19.0	25.5
lb/hr	1.89	2.82
lb/dry ton	0.47	0.69

Table C-2
NEORSD NOx RACT Study
Incinerator #2- N010 Performance Testing Results
RY2020-RY2024

Test Date: 05/16/2024				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	7.43	16.01	16.02	13.2
lb/hr	0.74	1.62	1.59	1.32
lb/dry ton	0.19	0.43	0.42	0.35

Test Date: 10/26/2022				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	22.6	19.3	21	20.9
lb/hr	2.21	1.90	2.03	2.04
lb/dry ton	0.59	0.51	0.55	0.55

Test Date: 10/12/2021				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	36.2	31.8	33.3	33.8
lb/hr	2.99	2.66	2.89	2.84
lb/dry ton	0.74	0.66	0.73	0.71

Summary of Test Results

NOx results	Average	Maximum
ppmvd @ 7% O2	22.6	33.8
lb/hr	2.07	2.84
lb/dry ton	0.54	0.71

Table C-3
NEORSD NOx RACT Study
Incinerator #3- N011 Performance Testing Results
RY2020-RY2024

Test Date: 10/18/2024				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	*NOx testing not performed during test event (NOx emissions testing was not required in 2024 for N011 under 40 CFR 62 Subpart LLL)*			
lb/hr				
lb/dry ton				

Test Date: 07/26-27/2023				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	16.8	15.8	15.6	16.1
lb/hr	1.82	1.53	1.54	1.63
lb/dry ton	0.46	0.39	0.40	0.42

Test Date: 07/16/2020				
NOx results	Run 1	Run 2	Run 3	Average
ppmvd @ 7% O2	22.4	21.9	21.3	21.9
lb/hr	2.20	2.00	2.10	2.10
lb/dry ton	0.60	0.55	0.57	0.57

Summary of Test Results

NOx results	Average	Maximum
ppmvd @ 7% O2	19.0	21.9
lb/hr	1.87	2.10
lb/dry ton	0.49	0.57

Appendix D

Summary of Permitted Sources and Background Information

Table D-1
Current Fluidized Bed Incinerators Permit Information
Northeast Ohio Regional Sewer District
Southerly Wastewater Treatment Center
June 2026

Facility Name	Utility/Owner	City	State	Incinerator Type	# Units	Design Rate (dt/hr or dt/day)	Air Pollution Contol	Air Permit ID/Notes	Source URL 1	Source URL 2
Manchester Wastewater Treatment Plant	City of Manchester, Department of Public Works (EPD)	Manchester	NH	Fluidized-bed SSI	1	—	—	NH Title V pending; operates under SP-0267 & TP-0248 until Title V issued	https://www4.des.state.nh.us/OneStopPub/Air/330110008914-0141TypeSummary.pdf	https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/CWDP-18.pdf
Saratoga County Sewer District No. 1 WWTP	Saratoga County Sewer District No. 1	Mechanicville / Ballston Spa	NY	Fluidized-bed SSI	1	—	Impingement plate scrubber	NY Air Title V 5-4138-00014/00018	https://extapps.dec.ny.gov/data/dar/afs/permits/541380001400018.pdf	https://extapps.dec.ny.gov/docs/air_pdf/spsewageincin.pdf
Mattabassett District WPCF	The Mattabassett District	Cromwell	CT	Fluidized-bed SSI	1 (new Thermylis®) + legacy backup	1.5 dt/hr	VenturiPak wet scrubber + WESP + fixed-bed activated carbon (CPPE KOMBISORBON)	CT NSR Permit 043-0030 (2018 mod.)	https://portal.ct.gov/-/media/deep/air/permits/titlev/mattabassett-district/p-043-0030.pdf	https://www.nebiosolids.org/mattabassett-celebrates-ssi-upgrades
Naugatuck Water Pollution Control Facility	Borough of Naugatuck / Naugatuck Environmental Technology LLC	Naugatuck	CT	Fluidized-bed SSI	1	3.5 dt/hr (design feed rate)	Waste-heat dryer + APC system (per CT permit)	CT Air Permit 109-0081; Title V 109-0059-TV (draft renewal 2024)	https://portal.ct.gov/-/media/deep/air/permits/titlev/borough-of-naugatuck/p109-0081.pdf	https://portal.ct.gov/-/media/deep/public_notice_attachments/draft_permits/2024april8boroughnaugatuckdraftpermit109-0059-tv.pdf
T.Z. Osborne Water Reclamation Facility	City of Greensboro, Water Resources	Greensboro	NC	Fluidized-bed SSI	1 (replacement completed)	—	—	City project page confirms FB replacement project	https://www.greensboro-nc.gov/departments/water-resources/system-improvements/fluidized-bed-incinerator-replacement-	https://www.greensboro-nc.gov/departments/water-resources/wastewater-system/history
East Bank WWTP	Sewerage & Water Board of New Orleans	New Orleans	LA	Fluidized-bed SSI	1	—	Scrubber system (per O&M)	LA Air Permit #2140-00089-02 (referenced in O&M plan)	https://www2.swbno.org/documents/Consent%20Decree/Ex1.pdf	https://www.swbno.org/Wastewater/Overview
Ypsilanti Community Utilities Authority WWTP	YCUA	Ypsilanti	MI	Fluidized-bed SSI (EU-FBSSI)	1	—	Advanced APC incl. WESP / carbon (per reports)	MI-ROP-B6237-2020 (EU-FBSSI)	https://www.deq.state.mi.us/aps/downloads/SRN/B6237/B6237_TEST_20171205.pdf	https://www.egle.state.mi.us/aps/downloads/SRN/B6237/B6237_TEST_20211122.pdf
Metropolitan Water Resource Recovery Facility (Metro Plant)	Metropolitan Council Environmental Services	Saint Paul	MN	Fluidized-bed SSI	3 existing + 1 new under construction	—	Baghouse + wet scrubber + WESP + Hg control (per project pages)	MPCA Air Permit 12300053-101 (amended 2024 for 4th unit)	https://metrocouncil.org/Wastewater-Water/Projects/Metro-Plant-Solids-Management.aspx	https://metrocouncil.org/Wastewater-Water/Projects/Metro-Plant-Solids-Management/Design.aspx
Bayshore Regional Sewerage Authority	BRSA	Union Beach	NJ	Fluidized-bed SSI	2 (U42 NIRO; U43 Dorr-Oliver)	—	Venturi scrubber + WESP + GAC (U42); Venturi scrubber + GAC (U43)	NJ Title V (Statement of Basis)	https://dep.nj.gov/wp-content/uploads/boss/public-notices/21753-bop210008-sm-statementbasis.pdf	https://dep.nj.gov/wp-content/uploads/boss/public-notices/brsasb.pdf
Somerset Raritan Valley Sewerage Authority	SRVSA	Bridgewater	NJ	Fluidized-bed SSI (R2)	1 active (R2)	—	—	Title V renewal public notice (Dec 7, 2023)	https://dep.nj.gov/wp-content/uploads/ej/docs/srvsa-notice-english-20231207.pdf	https://srvsa.org/about/authority-profile/
Southerly Wastewater Treatment Center – Renewable Energy Facility	Northeast Ohio Regional Sewer District (NEORSD)	Cuyahoga Heights (Cleveland)	OH	Fluidized-bed SSI	3	—	Heat recovery + WESP + other APC (per REF documentation)	LEED-certified REF; started 2013	https://www.neorsd.org/l_Library.php?SOURCE=library/REF-facts.pdf&a=download_file&LIBRARY_RECORD_ID=4840	https://www.neorsd.org/green-neorsdref-will-be-clean-green/
Mill Creek WWTP	Metropolitan Sewer District of Greater Cincinnati (MSDGC)	Cincinnati	OH	Fluidized-bed SSI	3	—	CEMS + SSI MACT stack testing per bid scope	Annual CEMS RATA & SSI MACT performance tests (bid)	https://www.bidnetdirect.com/public/supplier/solicitations/statewide/443581303350/abstract	https://msdgc.org/contact-us/msd-facilities/
Little Miami WWTP	Metropolitan Sewer District of Greater Cincinnati (MSDGC)	Cincinnati	OH	Fluidized-bed SSI (HTFB)	1 (historical/upgrade context)	72 dt/day (per article)	Air-to-gas heat exchanger; typical HTFB train	Article describes FB replacing MHI at LMWWTP	https://www.waterworld.com/home/article/16192133/fluid-bed-incineration-reduces-sludge-volume	https://msdgc.org/contact-us/msd-facilities/
Greater Hazleton Joint Sewer Authority WWTP	GHJSA	Hazleton	PA	Fluidized-bed SSI (HTFB)	1	15 dt/day (plant sizing)	WESP + demister/coalescer + recuperator + HEPA + GAC	Stack test passed Dec 2021 (LLL/LLLL compliance)	http://ghjsa.org/incinerator/	https://greenport.pa.gov/Earthwise/Catalog/CourseDetails?courseId=8716
Woonsocket Thermal Conversion Facility	Synagro (co-located at Woonsocket WWTF)	Woonsocket	RI	Fluidized-bed SSI (upgraded from MHI in 2007)	1	Up to 105 dt/day (per project write-up)	WESP + fixed carbon bed mercury scrubber + baghouse + ID fan	Operations & planned changes covered in recent news; potential closure discussions (2025)	https://www.synagro.com/locations/woonsocket-thermal-conversion-facility-2/	https://www.nebiosolids.org/woonsocket-intends-to-shutter-ssi

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2009–0559; FRL–9210–8]

RIN 2060–AP90

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes how EPA will address Clean Air Act requirements to establish new source performance standards for new units and emission guidelines for existing units for specific categories of solid waste incineration units. In previous actions, EPA has promulgated new source performance standards and emission guidelines for large municipal waste combustion units, small municipal waste combustion units, commercial and industrial solid waste incineration units, and other solid waste incineration units. These actions did not establish emission standards for sewage sludge incineration units. In this action, EPA is proposing new source performance standards and emission guidelines for sewage sludge incineration units.

DATES: *Comments.* Comments must be received on or before November 15, 2010, unless a public hearing is held. If a public hearing is held, then comments must be received on or before November 29, 2010. Under the Paperwork Reduction Act, since the Office of Management and Budget is required to make a decision concerning the information collection request between 30 and 60 days after October 14, 2010, a comment to the Office of Management and Budget is best assured of having its full effect if the Office of Management and Budget receives it by November 15, 2010.

Public Hearing. If anyone contacts EPA by October 25, 2010 requesting to speak at a public hearing, EPA will hold a public hearing on October 29, 2010.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2009–0559, by one of the following methods:

http://www.regulations.gov: Follow the on-line instructions for submitting comments.

E-mail: Send your comments via electronic mail to *a-and-r-Docket@epa.gov,* Attention Docket ID No. EPA–HQ–OAR–2009–0559.

Facsimile: Fax your comments to (202) 566–9744, Attention Docket ID No. EPA–HQ–OAR–2009–0559.

Mail: Send your comments to: EPA Docket Center (EPA/DC), Environmental Protection Agency, Mailcode 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. EPA–HQ–OAR–2009–0559. Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**).

Hand Delivery: Deliver your comments to: EPA Docket Center (EPA/DC), EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC, 20460, Attention Docket ID No. EPA–HQ–OAR–2009–0559. Such deliveries are accepted only during the normal hours of operation (8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays) and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2009–0559. The EPA's policy is that all comments received will be included in the public docket and may be made available on-line at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information or other information whose disclosure is restricted by statute. Do not submit information that you consider to be Confidential Business Information or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Public Hearing: If a public hearing is held, it will be held at EPA's Campus located at 109 T.W. Alexander Drive in Research Triangle Park, NC, or an alternate site nearby. Contact Ms. Joan Rogers at (919) 541–4487 to request a hearing, to request to speak at a public hearing, to determine if a hearing will be held, or to determine the hearing location. If no one contacts EPA requesting to speak at a public hearing concerning this proposed rule by October 25, 2010, the hearing will be cancelled, and a notification of cancellation will be posted on the following Web site: *http://www.epa.gov/ttn/atw/eparules.html.*

Docket: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2009–0559. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at *http://www.regulations.gov* or in hard copy at the EPA Docket Center EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Ms. Amy Hambrick, Natural Resource and Commerce Group, Sector Policies and Programs Division (E143–03), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; *telephone number:* (919) 541–0964; *fax number:* (919) 541–3470; *e-mail address: hambrick.amy@epa.gov.*

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. Several acronyms and terms are used in this preamble. While this may not be an exhaustive list, to ease the reading of this preamble and for reference purposes, the following terms and acronyms are defined here:

7–PAH 7-polycyclic Aromatic Hydrocarbons
ANSI American National Standards Institute
AsvArsenic
ASME American Society of Mechanical Engineers
ASTM American Society of Testing and Materials

variability analysis was conducted on the data to calculate a MACT floor level of control, and the results are provided in Table 7 of this preamble.

TABLE 7—VARIABILITY CALCULATION FOR $PM_{2.5}$

[Mg/Dscm@7%O_2]

Subcategory	Avg of top 12%	99% of UPL	Limit
Existing FB Incinerators	4.2	11.7	12
Existing MH Incinerators	17	57.6	58
All New Units	1.5	2.29	2.3
Potential New MH Incinerators (See Discussion In IV.C.2)	2.6	10.7	11

There are potential concerns with the emissions data and whether it is appropriate to set $PM_{2.5}$ standards for SSI units. Other Test Method 27 is not an appropriate test method for sizing particulate at 2.5 μm when there are entrained water droplets in the stack gas, which will bias the measurements. All SSI units use wet scrubbers to control emissions, and water droplet entrainment may be an issue at some portion of these sources, resulting in them not being able to measure $PM_{2.5}$ using OTM 27. A review of the temperature and moisture data collected during the $PM_{2.5}$ emissions tests indicates that water droplet entrainment is not an issue with the emissions data collected from the sources tested. Other test reports, at sources with stack gas moisture levels in excess of the vapor capacity, and thus with entrained water droplets, did not provide $PM_{2.5}$ information. Additional information on the emission characteristics would be necessary to make a conclusion about general stack gas parameters in the SSI source category.

Because of this concern, we decided not to include $PM_{2.5}$ standards in this proposal. We are requesting comment on whether the $PM_{2.5}$ limits in Table 6 of this preamble should be set for the promulgated rule, and whether the combination of OTM 27 and 28 are appropriate measurement techniques. We are also requesting additional $PM_{2.5}$ emissions stack test data and supporting documentation for both MH and FB incinerators.

D. Rationale for Beyond-the-Floor Alternatives

As discussed above, EPA may adopt emission limitations and requirements that are more stringent than the MACT floor (*i.e.,* beyond-the-floor). Unlike the MACT floor methodology, EPA must consider costs, nonair quality health and environmental impacts and energy requirements when considering beyond-the-floor standards.

1. Beyond-the-Floor-Analysis for Existing Sources

In order to identify beyond-the-floor options, we first identified control requirements for each pollutant that would be more stringent than required to meet the MACT floor level of control and determined whether they were technically feasible. If the more stringent controls were technically feasible, a cost and emission impacts analysis was conducted for applying them. The cost, emission reduction, and cost-effectiveness of the technically feasible controls were reviewed, and controls that were relatively cost-effective in reducing emissions were selected as possible beyond-the-floor control options.

The control technologies that would be needed to achieve the MACT floor levels (*i.e.,* FF and packed bed scrubbers) are generally the most effective controls available for reducing PM, Cd, Pb, HCl and SO_2. Therefore, no beyond-the-floor technologies were identified for these pollutants. We analyzed options of applying FF and packed bed scrubbers to units that did not have these controls already or did not need them to meet the MACT floor emissions limits. A preliminary cost and emission reduction analysis was performed for these options. The results indicate that the application of FF (to control Cd and Pb), or application of a packed bed scrubber (to control HCl and SO_2), as a beyond-the-floor option results in high costs for the emission reduction achieved, and is not cost-effective. Consequently, the FF and packed bed beyond-the-floor options were not further analyzed. This analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units" found in the SSI docket. We identified and analyzed impacts of beyond-the-floor technologies for the other pollutants (CO, NO_X, Hg, and CDD/CDF). These analyses are summarized in the following paragraphs.

As discussed in section IV.C.4 of this preamble, our analysis indicates that all existing FB and MH units would meet the MACT floor levels of control for NO_X and CO without applying any additional control; therefore, no control technologies were costed for these pollutants at the MACT floor level. For the beyond-the-floor analysis, we analyzed applicable controls, as discussed below, to provide reductions of NO_X and CO from all SSI units.

For NO_X, we reviewed add-on control technologies that achieve NO_X reduction at other combustion sources, such as MWC units, CISWI units, and boilers. These include SCR, SNCR, and FGR. However, none of these technologies were determined to be appropriate for SSI units. To our knowledge, SSI units do not use SCR or SNCR. Additionally, we are not aware of any successful applications of SCR technology to waste combustion units. This may be due to the difficulties operating SCR where there is significant PM or sulfur loading in the gas stream. Application of SNCR also may not be technically feasible because the combustion mechanism of MH incinerators provides inadequate mixing of combustion gas and SNCR reagent. Additionally, SSI operating conditions (*e.g.,* low temperatures and residence times for MH incinerators and low uncontrolled NO_X emissions for FB incinerators) are not well suited for application of SNCR. Flue gas recirculation has been used on combustion devices to reduce NO_X emissions. Emissions information collected by EPA contains data from one MH incinerator with FGR. However, its emission levels are similar to units without FGR. Therefore, no conclusion could be made on FGR performance. Additionally, there are no FB incinerators that currently use any add-on NO_X control because, due to their design, FB incinerators achieve low NO_X emission levels without add-on controls.

With regard to Hg and CDD/CDF, the most effective control technology to reduce these emissions is activated

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096 (PSCAA)	5.57	ppmvd	Venturi Scrubber
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096 (PSCAA)	5.64	ppmvd	Venturi Scrubber
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096 (PSCAA)	5.79	ppmvd	Venturi Scrubber
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	6.35	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 2				6.40	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	6.63	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Stack Lower**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. 0125251**	***6.66***	***ppmvd***	*IMPINGEMENT SCRUBBER, VENTURI SCRUBBER*
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 2				7.10	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 2				7.30	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER, ,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	7.37	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	7.57	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Lynnwood Wastewater Treatment Facility	Edmonds	WA	SSI Stack				7.70	ppmvd	Wet Scrubber
Lynnwood Wastewater Treatment Facility	Edmonds	WA	SSI Stack				7.80	ppmvd	Wet Scrubber
Lynn Regional WPCP	Lynn	MA	FBI	Borough of Naugatuck WPCF	FBI	MA DEP MRB-02-INC-001	7.99	ppmvd	INCINERATOR, INCINERATOR, SCRUBBER, SCRUBBER, VENTURI

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	7.99	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Lynn Regional WPCP	Lynn	MA	FBI	Borough of Naugatuck WPCF	FBI	MA DEP MRB-02-INC-001	8.06	ppmvd	INCINERATOR, INCINERATOR, SCRUBBER, SCRUBBER, VENTURI
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	8.10	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				8.20	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
Lynn Regional WPCP	Lynn	MA	FBI	Borough of Naugatuck WPCF	FBI	MA DEP MRB-02-INC-001	8.31	ppmvd	INCINERATOR, INCINERATOR, SCRUBBER, SCRUBBER, VENTURI
Lynnwood Wastewater Treatment Facility	Edmonds	WA	SSI Stack				8.33	ppmvd	WET SCRUBBER, , , ,
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				8.39	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				8.50	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096	8.60	ppmvd	VENTURI SCRUBBER, INCINERATOR, , ,
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				8.70	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	8.74	ppmvd	Scrubber Ring Jets Water Flow, Scubber Tower Top and Mid Section Water Flow, Scrubber Tower Bottom and Quench Spray Venturi Water Flow, WESP Power, WESP Wash

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	8.82	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	8.83	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096	9.00	ppmvd	VENTURI SCRUBBER, INCINERATOR, , ,
Wyoming Valley Sanitary Authority	Wilkes Barre	PA	Final Stack Discharge	Wyoming Valley Sanitary Authority	23-6429192-1	40-00067	9.00	ppmvd	VENTURI SCRUBBER, ACTIVATED CARBON ADSORPTION, HIGH-EFFICIENCY PARTICULATE AIR FILTER (HEPA), WET ELECTROSTATIC
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	9.10	ppmvd	WET SCRUBBER, , , ,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	9.11	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				9.27	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	9.32	ppmvd	WET SCRUBBER, , , ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	9.34	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	9.34	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	9.51	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	9.51	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				9.60	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	9.76	ppmvd	Scrubber Ring Jets Water Flow, Scubber Tower Top and Mid Section Water Flow, Scrubber Tower Bottom and Quench Spray Venturi Water Flow, WESP Power, WESP Wash
Lynnwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust	Sewage Sludge Incinerator	SSI	16096	9.79	ppmvd	VENTURI SCRUBBER, INCINERATOR, , ,
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	9.81	ppmvd	WET SCRUBBER, , , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.84	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.84	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	9.91	ppmvd	SCRUBBER RING JETS WATER FLOW, CARBON ADSORBER DELTA TEMPERATURE, CARBON ADSORBER dP, WESP POWER, WESP WASH
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.96	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.96	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.97	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	9.97	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Wyoming Valley Sanitary Authority	Wilkes Barre	PA	Final Stack Discharge	Wyoming Valley Sanitary Authority	23-6429192-1	40-00067	10.00	ppmvd	VENTURI SCRUBBER, ACTIVATED CARBON ADSORPTION, HIGH-EFFICIENCY PARTICULATE AIR FILTER (HEPA), WET ELECTROSTATIC

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				10.00	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
City of Lynwood Wastewater Treatment Plant	Edmonds	WA	SSI Exhaust				10.00	ppmvd	VENTURI SCRUBBER, INCINERATOR, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER,
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 1				10.00	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER, ,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	10.05	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	10.08	ppmvd	Scrubber Ring Jets Water Flow, Scubber Tower Top and Mid Section Water Flow, Scrubber Tower Bottom and Quench Spray Venturi Water Flow, WESP Power, WESP Wash
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			20057 (PCP 140001)	10.10	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power, WESP Totalized Flow
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			20057 (PCP 140001)	10.10	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power, WESP Totalized Flow
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	10.10	ppmvd	WET SCRUBBER, , , ,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. 0125251**	**10.17**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, VENTURI SCRUBBER,
Wyoming Valley Sanitary Authority	Wilkes Barre	PA	Final Stack Discharge	Wyoming Valley Sanitary Authority	23-6429192-1	40-00067	10.20	ppmvd	VENTURI SCRUBBER, ACTIVATED CARBON ADSORPTION, HIGH-EFFICIENCY PARTICULATE AIR FILTER (HEPA), WET ELECTROSTATIC

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			20057 (PCP 140001)	10.40	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power, WESP Totalized Flow
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	10.50	ppmvd	WET SCRUBBER, , , ,
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 1				10.50	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER, ,
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				10.53	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
ALCOSAN (Allegheny County Sanitary	Pittsburgh	PA	Unit 1				10.60	ppmvd	VENTURI SCRUBBER, MULTIPLE CYCLONES, WET SCRUBBER, ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	10.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	10.70	ppmvd	WET SCRUBBER, , , ,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. 0125251**	**10.72**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, VENTURI SCRUBBER,
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	10.74	ppmvd	SCRUBBER RING JETS WATER FLOW, CARBON ADSORBER DELTA TEMPERATURE, CARBON ADSORBER dP, WESP POWER, WESP WASH
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	10.78	ppmvd	SCRUBBER RING JETS WATER FLOW, CARBON ADSORBER DELTA TEMPERATURE, CARBON ADSORBER dP, WESP POWER, WESP WASH

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				10.80	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				10.80	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	10.80	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	10.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	10.90	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	10.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	10.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.00	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	11.04	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.10	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	11.19	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	11.24	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Northwest Bergen County Utilities Authority	Waldwick	NJ	Incinerator Stack	NIRO	Incinerator 1	BOP140001	11.26	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.30	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.30	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.30	ppmvd	WET SCRUBBER, , , ,
City of Lynnwood Wastewater Treatment Plant	Edmunds	WA	SSI				11.40	ppmvd	VENTURI SCRUBBER, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER, INCINERATOR,
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 18-3302	11.47	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 18-3302	11.48	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District, EU-16	Independence	MO	EU16				11.50	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.50	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.50	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.60	ppmvd	Wet Scrubber
City of Lynnwood Wastewater Treatment Plant	Edmunds	WA	SSI				11.70	ppmvd	VENTURI SCRUBBER, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER, INCINERATOR,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Lynn Regional Wastewater Treatment Plant	Lynn	MA	FBI	Lynn WPCF	FBI	MBR-02-INC-001	11.73	ppmvd	FBI Bed Zone 5 Temp, Carbon Adsorber delta T, Carbon Adsorber delta P, Quench Venturi delta P,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	11.80	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.80	ppmvd	WET SCRUBBER, , , ,
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 18-3302	11.83	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	11.89	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	11.90	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 13-3047	12.00	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.00	ppmvd	WET SCRUBBER, , , ,
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				12.10	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.10	ppmvd	WET SCRUBBER, , , ,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	12.12	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District, EU-16	Independence	MO	EU16				12.20	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.30	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.30	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				12.60	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.60	ppmvd	WET SCRUBBER, , , ,
City of Lynnwood Wastewater Treatment Plant	Edmunds	WA	SSI				12.60	ppmvd	VENTURI SCRUBBER, Activated Carbon Injection (ACI), IMPINGEMENT PLATE SCRUBBER, INCINERATOR,
Little Blue Valley Sewer District - Atherton WWTP	Independence	MO	Incinerator	Fluidized Bed Incinerator	EU16	082011-003	12.70	ppmvd	WET SCRUBBER, , , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	12.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	12.75	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District, EU-16	Independence	MO	EU16				12.80	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**12.81**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**12.83**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	13.01	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	13.01	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N011 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 3**	**N011**	**OEPA Title V Permit No. 0125251**	**13.10**	**ppmvd**	VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				13.30	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				13.30	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.30	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				13.40	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				13.40	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Average Bed Temperature, Venturi Pressure Drop, WESP TOTALIZED
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				13.41	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N011 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 3**	**N011**	**OEPA Title V Permit No. 0125251**	**13.52**	**ppmvd**	VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, , ,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.53	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 13-3047	13.55	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.58	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.58	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.73	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.73	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				13.74	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		13.79	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	13.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Stack Lower**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. P0125251**	**13.96**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, VENTURI SCRUBBER,
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823-24 & 2479	14.00	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Stack Lower**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. P0125251**	**14.05**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, VENTURI SCRUBBER,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		14.13	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		14.13	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack				14.20	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	14.24	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	14.24	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.30	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 2**	**N010**	**OEPA Title V Permit No. 0125251**	**14.34**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, VENTURI SCRUBBER,
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack Y				14.36	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Mattabassett Water Pollution Control Facility	Cromwell	CT	Stack	The Mattabassett District	043-0030		14.39	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Biosolids Cake Solids, Average Bed Temperature, Scrubber Pressure Drop
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**14.76**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.80	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	14.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack X				15.05	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	15.08	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	15.08	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (BOP 140001)	15.08	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.10	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	15.18	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	15.18	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (BOP 140001)	15.18	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Westside Water Reclamation Facility	Vancouver	WA	FBI Stack	Fluidized Bed Incinerator	ID 1	ADP 13-3047	15.18	ppmvd	INCINERATOR, VENTURI SCRUBBER, VENTURI SCRUBBER, Tray Scrubber, Tray Scrubber
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Greater Hazleton Joint Sewer Authority	West Hazleton	PA	Sewage Sludge Incinerator	Sewage Sludge Incinerator	101	40-00121A	15.29	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR,
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack Y				15.30	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	15.43	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	15.43	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Greater Hazleton Joint Sewer Authority	West Hazleton	PA	Sewage Sludge Incinerator	Sewage Sludge Incinerator	101	40-00121A	15.49	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR,
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	15.49	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	15.49	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N011 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 3**	**N011**	**OEPA Title V Permit No. 0125251**	**15.68**	**ppmvd**	VENTURI SCRUBBER, IMPINGEMENT SCRUBBER, , ,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
SOMERSET-RARITAN VALLEY SEWERAGE AUTHORITY	Bridgewater	NJ	FBSSI R2 (U1 OS2)	Incinerator 2 (FBSSI Unit R2)	U1 OS2	BOP190001	15.74	ppmvd	WET SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, MERCURY EMISSION CONTROL
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	15.80	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	15.80	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Greater Hazleton Joint Sewer Authority	West Hazleton	PA	Sewage Sludge Incinerator	Sewage Sludge Incinerator	101	40-00121A	15.89	ppmvd	VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	15.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack Y				15.99	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	16.19	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	16.19	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.20	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	16.28	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	16.30	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	16.30	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	16.30	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.30	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.30	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.30	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	16.38	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	16.40	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack X				16.43	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
SOMERSET-RARITAN VALLEY SEWERAGE AUTHORITY	Bridgewater	NJ	FBSSI R2 (U1 OS2)	Incinerator 2 (FBSSI Unit R2)	U1 OS2	BOP190001	16.49	ppmvd	WET SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, MERCURY EMISSION CONTROL
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	16.50	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	16.55	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Greater Hazleton Joint Sewer Authority	WEST HAZLETON	PA	Incinerator Outlet	Sewage Sludge Incinerator	101	40-00121A	16.55	ppmvd	INCINERATOR, ELECTROSTATIC PRECIPITATOR, VENTURI SCRUBBER, VENTURI SCRUBBER,
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	16.60	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.70	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.80	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	16.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	17.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	17.00	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	17.06	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	17.06	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER,
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	17.30	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	17.50	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Metropolitan Wastewater Treatment Plant	St. Paul	MN	Sewage Sludge Incinerator Exhaust				17.53	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	17.70	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	17.75	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	17.75	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	18.10	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	18.10	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Indepedence	MO	EU16	Sewage Sludge Incinerator	EU16	Operating Permit # OP2018-087	18.20	ppmvd	WET ELECTROSTATIC PRECIPITATOR, SCRUBBER, ACTIVATED CARBON ADSORPTION, NSCR (NON-SELECTIVE CATALYTIC REDUCTION),
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**18.60**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
SOMERSET-RARITAN VALLEY SEWERAGE AUTHORITY	Bridgewater	NJ	FBSSI R2 (U1 OS2)	Incinerator 2 (FBSSI Unit R2)	U1 OS2	BOP190001	19.74	ppmvd	WET SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, MERCURY EMISSION CONTROL
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	19.85	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	19.85	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	19.88	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	19.88	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	19.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	19.90	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	20.31	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823	20.31	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	20.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	20.40	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	20.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	20.60	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Erie County Southtowns Wastewater Treatment Plant	Buffalo	NY	Stack X				21.31	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	21.70	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	22.34	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	22.34	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Southerly Waste Water Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber**	**Fluidized Bed Incinerator No. 2**	**N010**	**Ohio EPA Title V Permit: P0125251**	**22.54**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Little Blue Valley Sewer District	Independence	MO	SSI Primary	Little Blue Valley Sewer District	095-0186	OP2018-087	22.80	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Little Blue Valley Sewer District	Independence	MO	SSI Secondary	Little Blue Valley Sewer District	095-0186	OP2018-087	22.80	ppmvd	SELECTIVE NONCATALYTIC REDUCTION FOR NOX, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Mist Eliminator, ACTIVATED CARBON ADSORPTION
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	23.71	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823-24 & 2479	23.97	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
Southerly Waste Water Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber**	**Fluidized Bed Incinerator No. 2**	**N010**	**Ohio EPA Title V Permit: P0125251**	**24.10**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	24.37	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (PCP 140001)	24.37	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21573 (BOP 140001)	24.37	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**24.97**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Southerly Wastewater Treatment Center	**Cuyahoga Heights**	**OH**	**N009 Scrubber Exhaust Stack (Lower)**	**Fluidized Bed Incinerator No. 1**	**N009**	**OEPA Title V Permit No. 0125251**	**25.06**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
Southerly Waste Water Treatment Center	**Cuyahoga Heights**	**OH**	**N010 Scrubber**	**Fluidized Bed Incinerator No. 2**	**N010**	**Ohio EPA Title V Permit: P0125251**	**25.41**	**ppmvd**	IMPINGEMENT SCRUBBER, VENTURI SCRUBBER, , ,
City of Anacortes WWTP	Anacortes	WA	Sewage Sludge Incinerator Exhaust				25.63	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
WWTF Sewage Sludge Incinerator	Woonsocket	RI	Stack	Dorr-Oliver Fluidized Bed Sewage Sludge Incinerato	FBC Stack	Approval No. 1823-24 & 2479	26.15	ppmvd	Venturi Scrubber Pressure Drop - Minimum, Venturi Scrubber Water Flowrate - Minimum, Tray Scrubber Water Flowrate - Minimum, Incinerator Combustion Chamber Temperature - Minimum, Incinerator Combustion Chamber Temperature -
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	26.90	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	26.90	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	27.16	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	27.16	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	27.24	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Incinerator Stack	NIRO	Incinerator 1	21753	27.24	ppmvd	Average Bed Temperature, Scrubber Water pH, WESP Power, ,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	27.30	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	27.30	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Somerset Raritan Valley Sewerage Authority	Bridgewater Township	NJ	Outlet Stack	Somerset Raritan Valley Sewerage	35857	BOP 190001	27.78	ppmvd	SCRUBBER pH, , , ,
City of Anacortes WWTP	Anacortes	WA	Sewage Sludge Incinerator Exhaust				28.44	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 1	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	29.90	ppmvd	UNCONTROLLED, , , ,
City of Anacortes WWTP	Anacortes	WA	Sewage Sludge Incinerator Exhaust				30.66	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Somerset Raritan Valley Sewerage Authority	Bridgewater Township	NJ	Outlet Stack	Somerset Raritan Valley Sewerage	35857	BOP 190001	30.86	ppmvd	SCRUBBER pH, , , ,
Somerset Raritan Valley Sewerage Authority	Bridgewater Township	NJ	Outlet Stack	Somerset Raritan Valley Sewerage	35857	BOP 190001	31.45	ppmvd	SCRUBBER pH, , , ,
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 2	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	33.10	ppmvd	UNCONTROLLED, , , ,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 1	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	33.20	ppmvd	UNCONTROLLED, , , ,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	33.38	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	33.38	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 2	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	34.50	ppmvd	UNCONTROLLED, , , ,
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 2	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	35.40	ppmvd	UNCONTROLLED, , , ,
Sewerage and Water Board of New Orleans East Bank	New Orleans	LA	FBI Stack Operating Condition 1	Fluid Bed Incinerator Stack	EQT 0001	LDEQ Title V Permit No. 2140-0089-V2	35.50	ppmvd	UNCONTROLLED, , , ,
Naugatuck Water Pollution Control Facility	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	39.01	ppmvd	Freeboard Minimum Temp - PS62 SubLLL- FREEBOARD TEMP, Wet Scrubber Minimum Pressure Drop - P62 SubLLL TOTSCRUB dP, Wet Scrubber - Tray Stage min influent water flow- TOT SCRUB WATER FLW, Wet Scrubber - Venturi Stage min water flow - TOTVENT WATER FLW,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	40.58	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Atlantic County Utilities Authority	Atlantic City	NJ	Incinerator B Stack	Incinerator B	E1301	BOP160001	40.58	ppmvd	WET SCRUBBER, AFTERBURNER, , ,
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	43.39	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Borough of Naugatuck WPCF	Naugatuck	CT	FBI	Borough of Naugatuck WPCF	FBI	CTDEEP 109-0081	43.39	ppmvd	INCINERATOR, INCINERATOR, VENTURI SCRUBBER, SCRUBBER, VENTURI SCRUBBER
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				47.38	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (BOP 140001)	50.28	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	50.28	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	50.28	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				53.16	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	53.72	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	55.50	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	58.00	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				59.16	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	60.88	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	61.00	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	61.00	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	64.35	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	64.99	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	66.86	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	66.86	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				69.60	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (BOP 140001)	72.30	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	72.30	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	72.30	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	76.93	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	78.24	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
Manchester WWTP	Manchester	NH	Stack	Fluidized Bed Sewage Sludge Incinerator (I1)	EU01	TV-0066	78.24	ppmvd	VENTURI SCRUBBER- Pressure Drop, TRAY SCRUBBER - Pressure Drop, VENTURI SCRUBBER - Flow Rate, TRAY SCRUBBER - Flow Rate,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (BOP 140001)	79.55	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	79.55	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Bayshore Regional Sewerage Authority	Union Beach	NJ	Stack			21753 (PCP 140001)	79.55	ppmvd	Average Bed Temperature, Scrubber Pressure Drop, Scrubber Water pH, WESP Power,
Metropolitan Sewerage District of Buncombe	Asheville	NC	Exhaust Stack	Fluidized Bed Incinerator	TC-1	11-772-14A	82.05	ppmvd	CAUSTIC SCRUBBER, VENTURI SCRUBBER, , ,
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	87.40	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
CWA Authority, Inc. Belmont Advances Wastewater	Indianapolis	IN	Incinerator #4	Sludge Incincerator #4		T097-44845-00032	89.30	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	89.62	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				93.22	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City of Anacortes WWTP	Anacortes	WA	SSI Exhaust				94.87	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	95.55	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	96.61	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	100.54	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1
City Of Bellingham Wastewater Treatment Plant	Bellingham	WA	Sewage Sludge Incinerator Exhaust			1318-EM02-W	102.14	ppmvd	VENTURI SCRUBBER (Flow), VENTURI SCRUBBER (DeltaP), VENTURI SCRUBBER (pH), SCRUBBER (DeltaP), Bed Temperature 1

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
CWA Authority, Inc. Belmont Advanced Wastewater	Indianapolis	IN	Incinerator #2	Sludge Incinerator #2		T097-44845-00032	102.30	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,
CWA Authority, Inc. Belmont Advances Wastewater	Indianapolis	IN	Incinerator #4	Sludge Incincerator #4		T097-44845-00032	105.00	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,
CWA Authority, Inc. Belmont Advances Wastewater	Indianapolis	IN	Incinerator #4	Sludge Incincerator #4		T097-44845-00032	110.70	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,
Albany County Water Purification District	Albany	NY	Stack			4-0101-00020/00004	116.09	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Water Outlet pH, Stack Oxygen % Wet, Scrubber Quench Flow Rate
Albany County Water Purification District	Albany	NY	Stack	MHI	2	4-0126-00138/00012	118.52	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Outlet pH, Wet Oxygen, Quench
Albany County Water Purification District	Albany	NY	Stack	MHI	2	4-0126-00138/00012	120.63	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Outlet pH, Wet Oxygen, Quench
Albany County Water Purification District	Albany	NY	Stack			4-0101-00020/00004	122.75	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Water Outlet pH, Stack Oxygen % Wet, Scrubber Quench Flow Rate
Albany County Water Purification District	Albany	NY	Stack	MHI	2	4-0126-00138/00012	129.43	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Outlet pH, Wet Oxygen, Quench
CWA Authority, Inc. Belmont Advanced Wastewater	Indianapolis	IN	Incinerator #2	Sludge Incinerator #2		T097-44845-00032	131.60	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,

Facility Name	City	State	Location Name	Permit_Source_Name	Source ID	Air Permit	Method Mass	Units	Add On Controls
Albany County Water Purification District	Albany	NY	Stack			4-0101-00020/00004	139.23	ppmvd	Total Scrubber Differential Pressure, Total Scrubber Water Flow, Scrubber Water Outlet pH, Stack Oxygen % Wet, Scrubber Quench Flow Rate
CWA Authority, Inc. Belmont Advanced Wastewater	Indianapolis	IN	Incinerator #2	Sludge Incinerator #2		T097-44845-00032	150.30	ppmvd	ACTIVATED CARBON ADSORPTION, VENTURI SCRUBBER, WET ELECTROSTATIC PRECIPITATOR, Regenerative Thermal Oxidizer,

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Public Notice
Ohio Environmental Protection Agency
Draft State Implementation Plan
NOx Reasonably Available Control Technology (RACT)
for Southerly Wastewater Treatment Center (Facility ID 1318172479)

Cuyahoga County

Notice is hereby given that the Director of the Ohio Environmental Protection Agency, (Ohio EPA) is submitting to the United States Environmental Protection Agency (U.S. EPA) Reasonably Available Control Technology (RACT) for Southerly Wastewater Treatment Center (Facility ID 1318172479) for approval into Ohio's state implementation plan (SIP) for the 2015 ozone National Ambient Air Quality Standard (NAAQS).

On March 17, 2025, Ohio submitted a revision to Ohio's SIP to address RACT requirements for the 2015 8-hour ozone NAAQS. As noted in this submittal, OAC rule 3745-110-03(J) requires facilities that have the potential to emit of fifty tons per year or more, but less than one hundred tons per year of nitrogen oxides (NOx) and are located in nonattainment counties to submit a RACT study if they are not subject to the NOx RACT limits in OAC rule 3745-110-03(A) to OAC rule 3745-110-03(G), the exemptions under OAC rule 3745-110-03(K), or that are subject to the aforementioned presumptive NOx RACT limits but claim that they are technically infeasible or economically unreasonable to achieve.

Ohio is now submitting source-specific NOx RACT for Southerly Wastewater Treatment Center (Facility ID 1318172479) for approval into Ohio's SIP. This facility is located in the Cleveland 2015 ozone maintenance area and has no prior existing source-specific RACT established in OAC rule 3745-110-03.

The updated RACT Study was submitted per OAC rule 3745-110-03(J). Ohio has determined that the updated RACT study, along with supplemental information submitted subsequently, is sufficient to justify the continued use of good combustion practices and a new, reduced NOx limitation proposed by the facility to act as RACT under the 2015 ozone standard.

Ohio EPA is now requesting approval of the proposed RACT for Southerly Wastewater Treatment Center into Ohio's SIP.

Ohio EPA is seeking public comment to satisfy U.S. EPA requirements for public involvement in SIP related activities in accordance with 40 CFR 51.102.

The public comment period will run until September 28, 2026. Written comments should be submitted at: https://ohioepa.commentinput.com - Search by entering the permit # (P0140932 for Southerly Wastewater Treatment Center) in the "Search Projects" search box.

A public hearing on this action may be requested by contacting Kathryn Jobe at 614-728-0671 or kathryn.jobe@epa.ohio.gov no later than 30 days from the draft public notice. If a public hearing is requested, a new notification will be published to identify the time and location of the public hearing. The public hearing will be held at least 30 days after the date of the new notification.

All interested persons are entitled to comment on these changes. All comments submitted to the above address by the close of business 30 days from when the draft public notice is issued will be considered by Ohio EPA prior to final action on this action. Written statements submitted after this time period may be considered as time and circumstances permit but will not be part of the official record.

Questions or comments about this document should be directed to Kathryn Jobe at 614-728-0671 or kathryn.jobe@epa.ohio.gov.

DATE

Ms. Anne Vogel
Regional Administrator
U.S. EPA, Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604

Re: Revision to Ohio's Reasonably Available Control Technology (RACT) State Implementation Plan for the 2015 Ozone National Ambient Air Quality Standards – Source-Specific NOx RACT for Southerly Wastewater Treatment Center (Facility ID 1318172479)

Dear Administrator Vogel:

On March 17, 2025, Ohio submitted a revision to Ohio's State Implementation Plan (SIP) to address Reasonably Available Control Technology (RACT) requirements for the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS) for areas classified as serious. As noted in this submittal, Ohio EPA adopted requirements in OAC rule 3745-110-04 for facilities in the nonattainment areas that emit fifty tons per year or more, but less than one hundred tons per year of NOx from sources not controlled by the presumptive NOx RACT limits in OAC rule 3745-110-03(A) to OAC rule 3745-110-03(G), the exemptions under OAC rule 3745-110-03(K), or that are subject to the aforementioned presumptive NOx RACT limits but claim that they are technically infeasible or economically unreasonable to achieve to submit an updated RACT study within one year of the effective date of the rule. Upon review of the RACT study, Ohio EPA evaluated if the RACT proposed by the facility is appropriate to satisfy RACT requirements under the 2015 ozone standard.

Ohio is now submitting source-specific NOx RACT for Southerly Wastewater Treatment Center (Facility ID 1318172479) for approval into Ohio's SIP. This facility is located in the Cleveland 2015 ozone maintenance area and has no prior existing source-specific RACT established in OAC rule 3745-110-03.

The updated NOx RACT Study was submitted per OAC rule 3745-110-03. Ohio has determined that the updated RACT study, along with supplemental information submitted subsequently, is sufficient to justify implementing the continued use of good combustion practices and a new, reduced NOx limitation proposed by the facility to act as RACT under the 2015 ozone standard. The RACT study is provided in Appendix A, and the permit that incorporated RACT is provided as Appendix B. Within the permit, we have highlighted the terms and conditions associated with RACT and request only those

provisions are subject to this SIP revision request. Appendix C provides the permit strategy write-up for the permit.

Ohio held a public comment period on Ohio's RACT determination from August 27 to September 28, 2026. Appendix D contains the public notice. ***[Ohio's response to comments received during the public comment period is in Appendix E/No comments were received during the public comment period].***

This SIP does not include the relaxation of any existing requirements and therefore will not interfere with the attainment or maintenance of the NAAQS in accordance with section 110(l) of the CAA.

Ohio EPA is now requesting approval of the proposed RACT for Southerly Wastewater Treatment Center into Ohio's SIP.

Ohio EPA is submitting this SIP via U.S. EPA's State Planning Electronic Collaboration System (SPeCS). If you have questions, please contact Jennifer Van Vlerah in our Division of Air Pollution Control at (614) 644-3696.

Sincerely,

John Logue
Director

Cc: Bob Hodanbosi, Chief, Division of Air Pollution Control, Ohio EPA

Enclosures