

EMISSION STATEMENTS

May 3rd, 2023



Topics

Uses of Emission Statements

Types of Data in Emission Statements

Types of facilities in the Emission Statement Program

Preparing an Emission Statement

Submitting an Emission Statement to NJDEP



Emissions Statements

Submitted by leading air permit facilities (major and some minor)

Primary emissions inventory in New Jersey for stationary sources

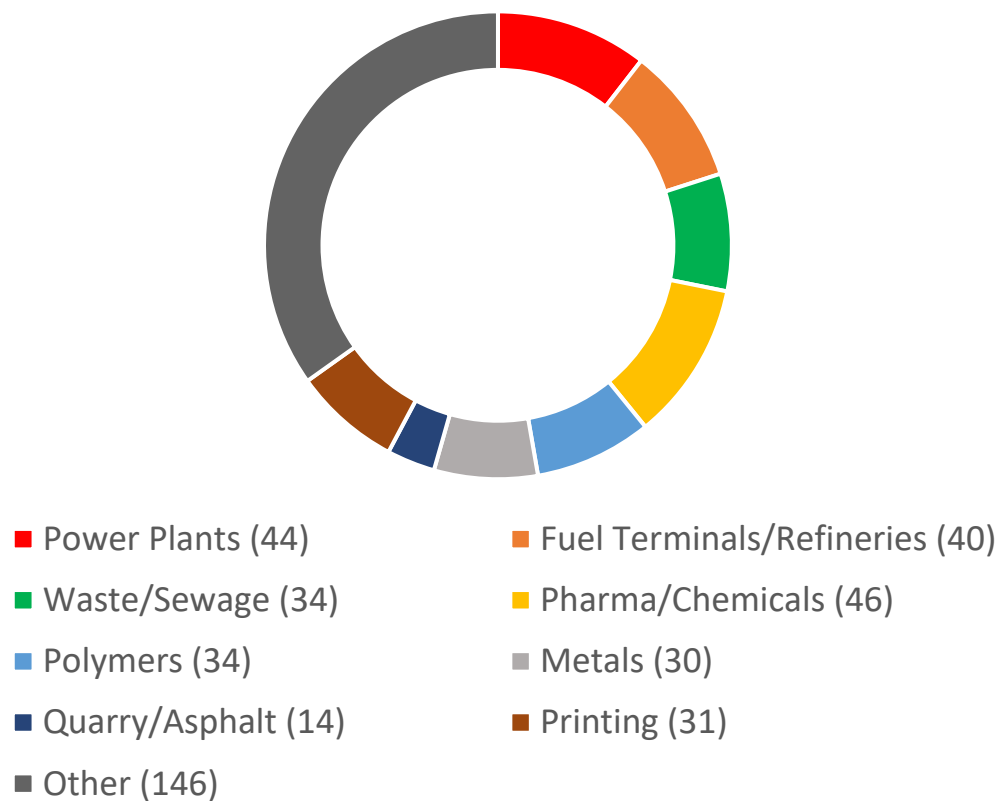
Data used/reviewed by DEP, EPA, environmental interest groups and private researchers

General Contents of an Emission Statement

- **Emissions (criteria pollutants, some GHGs and HAPs)**
- **Fuel/Raw Material Usage**
- **Equipment and Control Devices**
- **Hours of Operation**
- **Calculation Methodology**

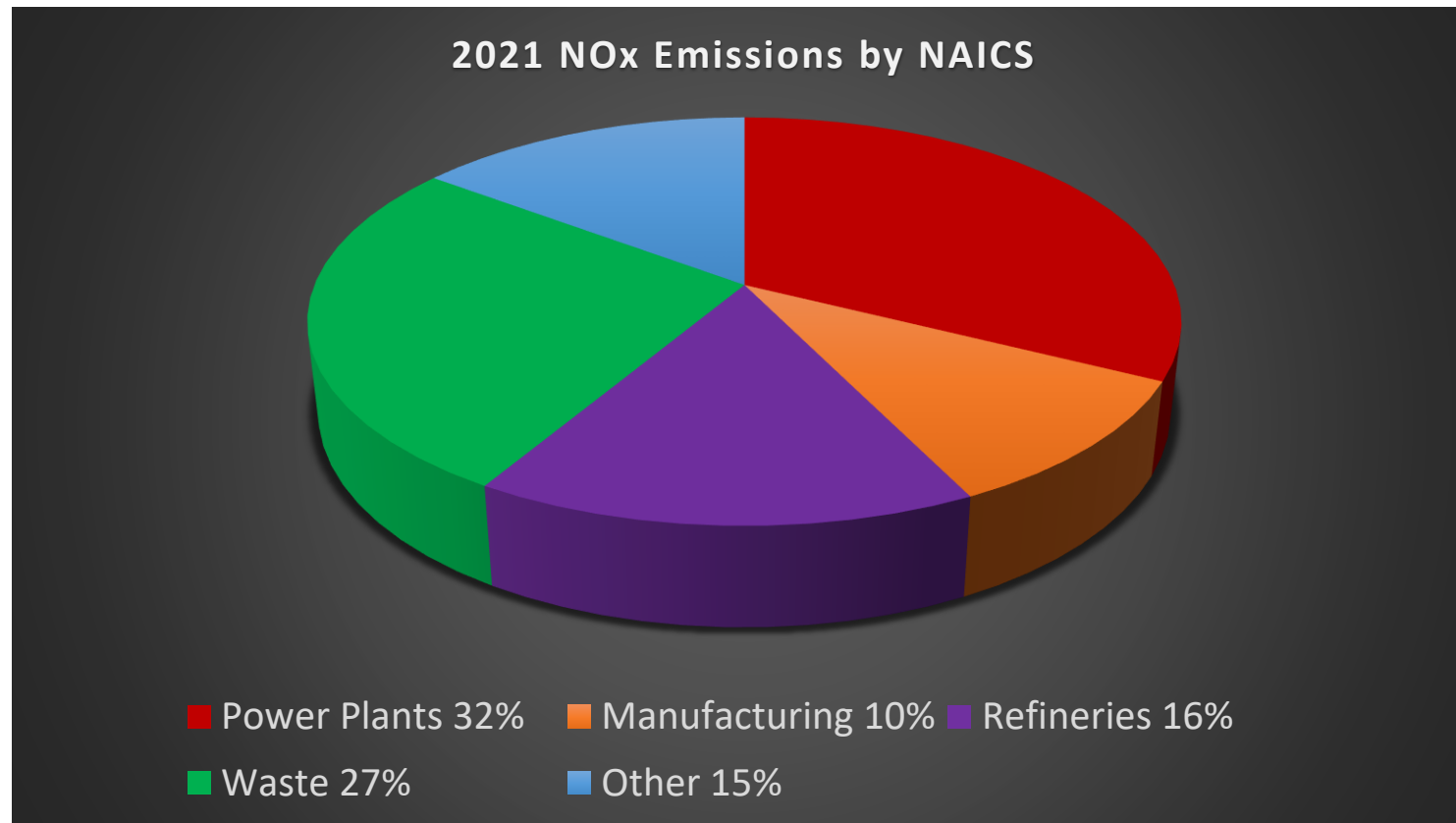
Scope of Emission Statements

Facility Type Breakdown in 2021 Emission Statements

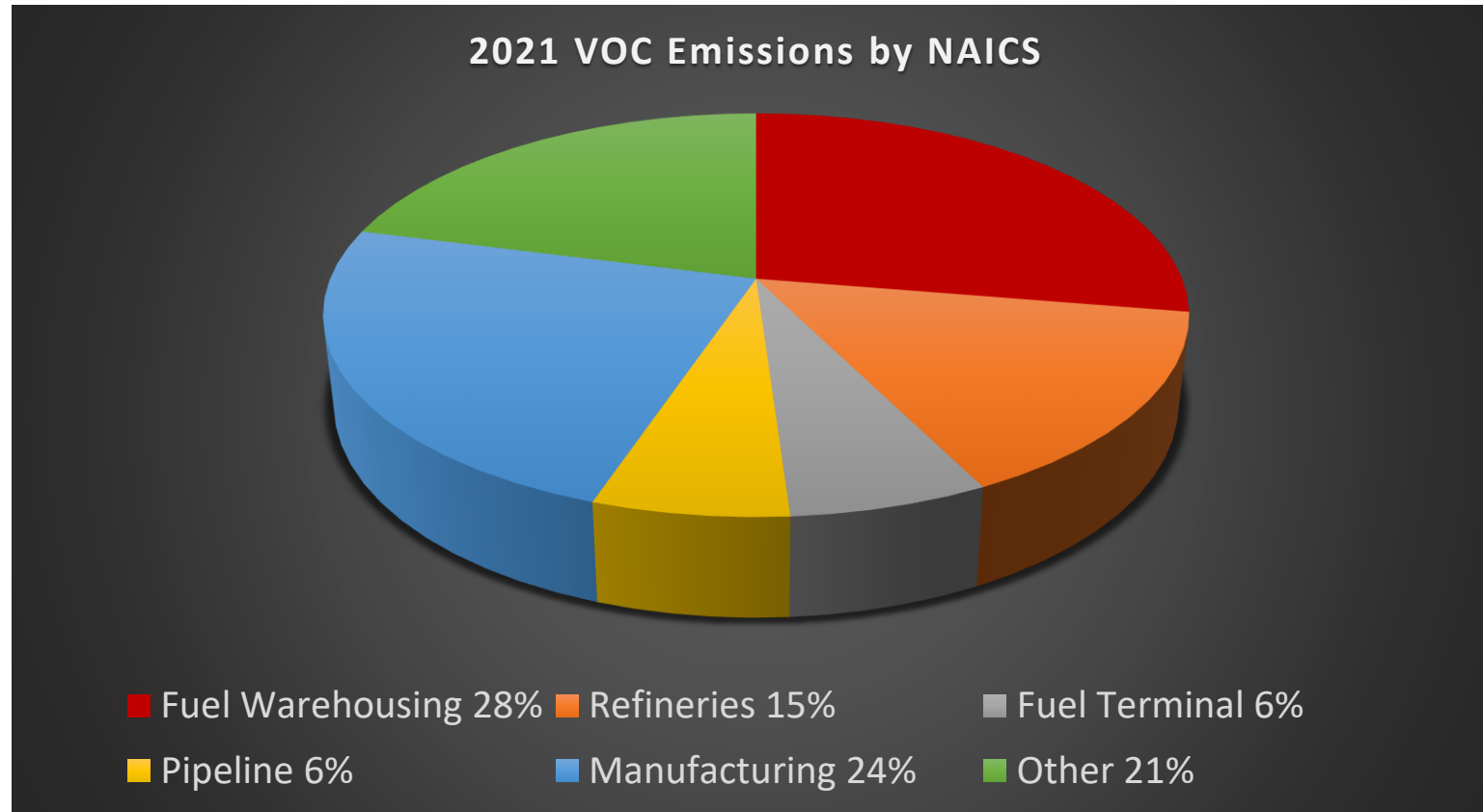


419 Facilities
182 Turbines
447 Engines
1562 Boilers
4528 Tanks
298 Oxidizers
115 SCR

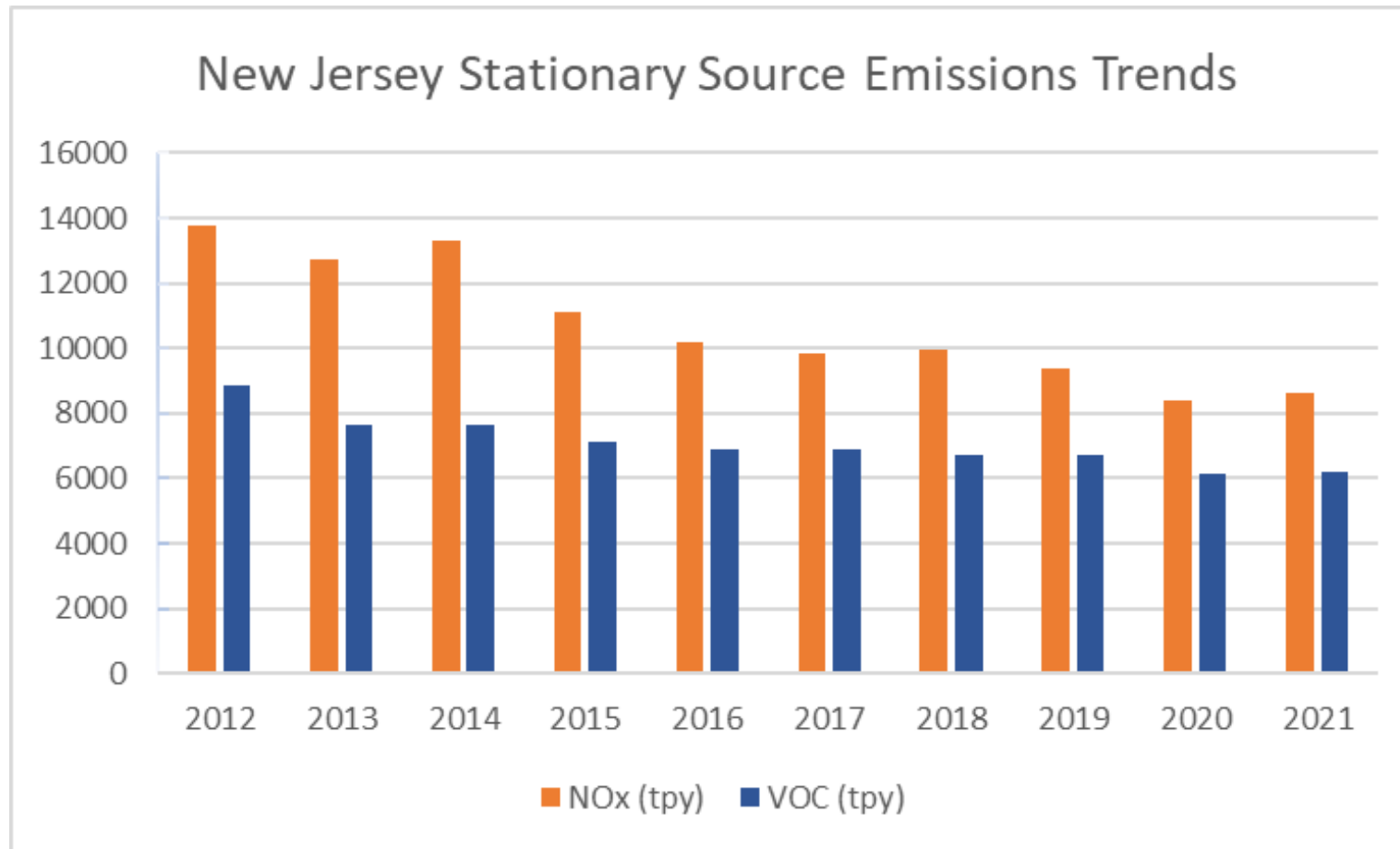
NOx Emissions by Sector



VOC Emissions by Sector

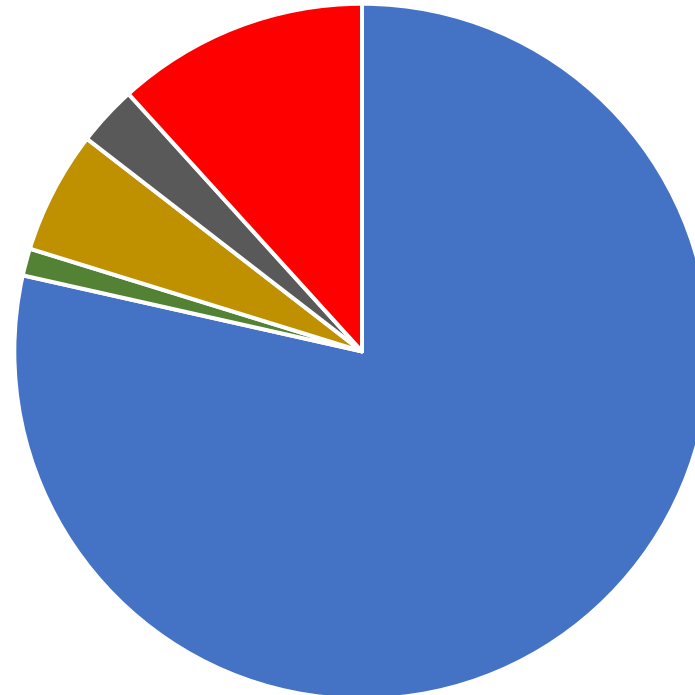


Emission Statement Ozone Trends



FUELS REPORTED IN EMISSION STATEMENTS

2021 FUEL USAGE RATIOS BASED ON RELATIVE BTU



■ NATURAL GAS 78% ■ LANDFILL GAS 1% ■ MUNICIPAL WASTE 6% ■ COKE/COAL 3% ■ DISTILLATE/OTHER 12%



Uses of Emission Statements

- NEI/NATA
- Policy Development
- Emissions Modeling/Risk Assessment
- Compliance
- Annual Operating Permit Emissions Fees

Applicability

Pollutant	Facility Wide PTE/Emissions
VOC	10 tons/year
NO _x	25 tons/year
CO, NH ₃ , PM _{2.5} , TSP PM ₁₀ , SO ₂ or CH ₄	100 tons/year
Pb	5 tons/year

Emission Statement Program

Reporting Year	Total Number of Submissions	Total Number of Major Submissions
2017	465	225
2018	458	218
2019	440	211
2020	435	208
2021	419	203

Non-applicability: https://dep.nj.gov/wp-content/uploads/boss/emission-statement-program/sub_21_non_applicability_final08182015-2.docx



Emission Statements

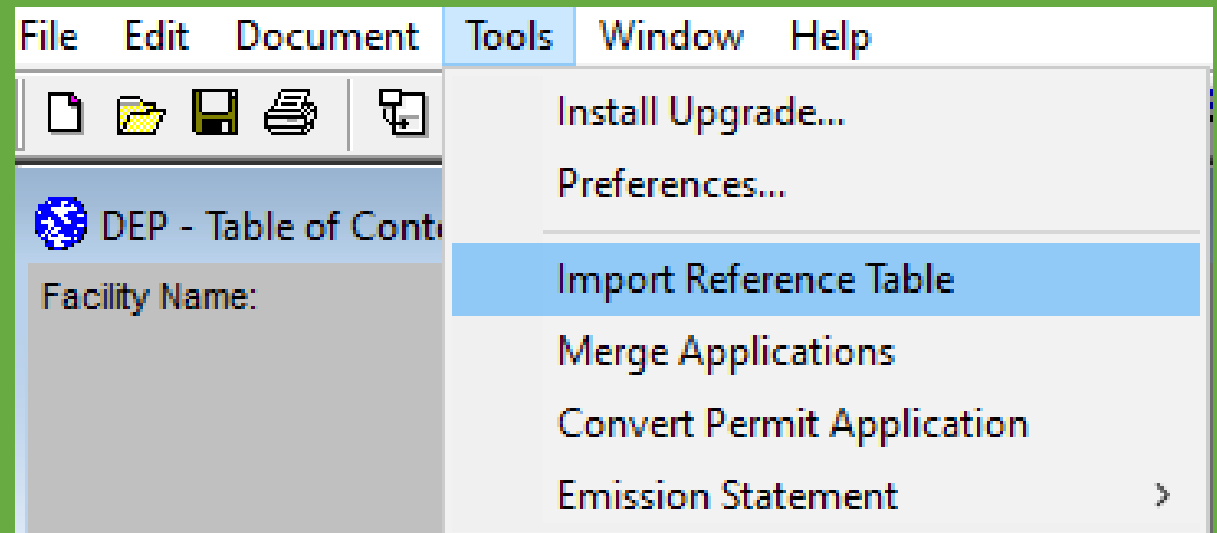
- Due May 15
- N.J.A.C. 7:27-21
<https://www.nj.gov/dep/aqm/curr/entrules/Sub%2021.pdf>
- Guidance Document:
<https://dep.nj.gov/wp-content/uploads/boss/emission-statement-program/emission-statement-guidance-document.pdf>



RADIUS

Download the software at
<https://dep.nj.gov/boss/radius/>

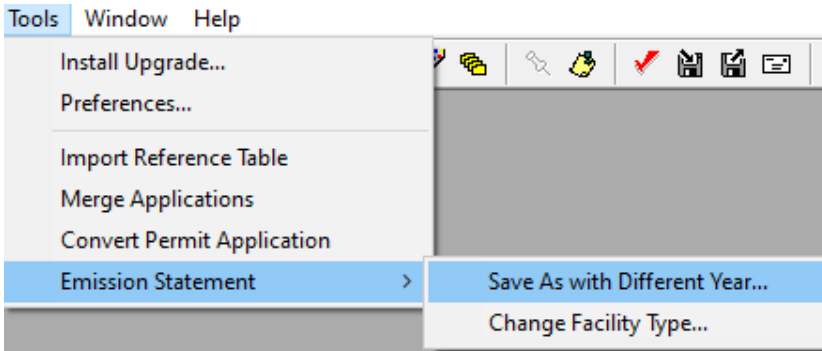
- Need administrative privileges
- Need to install new reference tables after installing



Structure of the Emission Statement

- Facility Information Forms
 - Facility Profile (General)
 - Facility Profile (Planning)
 - Non-Source Fugitive Emissions
 - Insignificant Source Emissions
 - Equipment Inventory
 - Control Device Inventory
 - Emission Point Inventory
 - Emission Unit/Batch Process Inventory**
 - Subject Item Group Inventory
- Emission Reporting Form
 - Emission Statement

- Add any applicable equipment not included in the permit (IS/FG)
- Fill in missing Emission Point Inventory
- Create a new equipment/operating scenario for control devices that burn fuel



NJID/Facility's Designation		Description			
U:	U3 NEUTRALIZING	NEUTRALIZING & PROCESS TANKS			
UOS NJID	Facility's Designation	UOS Description	Operation Type	Significant Equipment	Control Device(s)
OS1		1000 GAL NEUTRALIZING TANK	Normal - Steady State	E14	CD1 (P)
OS99		Oxidizer Emissions (CD1) - For ES Only	Normal - Steady State	E99	

What Equipment to Include

Include	Don't include *
<ul style="list-style-type: none">• Significant (permitted sources)• Insignificant (insig. emergency generators, oxidizers)• Fugitive (dust from bulldozers, crushing operations)<ul style="list-style-type: none">• Permit Exempt	<ul style="list-style-type: none">• Light commercial/residential Equipment (Forklifts, Compressors <50hp)• Some agricultural equipment• Mobile Sources (Bulldozer engines)

*See emission statement guidance document Appendix B for a list of exempt sources:

Required Pollutants

	Facility-Wide Potential to Emit or Actual Emissions	Need to Report
Minor	VOC and NO _x < 25 tons CO, SO ₂ , NH ₃ , PM _{2.5} , PM ₁₀ , CH ₄ , and TSP < 100 tons Pb < 5 tons	VOC, NO _x , CO, TAPs
Major	VOC or NO _x ≥ 25 tons CO, SO ₂ , NH ₃ , PM _{2.5} , PM ₁₀ , CH ₄ , or TSP ≥ 100 tons Pb ≥ 5 tons	VOC, NO _x , CO, SO ₂ , TSP, PM _{2.5} , PM ₁₀ , NH ₃ , Pb, CH ₄ , CO ₂ , TAPs


- List of TAPs: N.J.A.C 7:27-21 Appendix – Report only if facility-wide PTE or actual emissions meet thresholds in N.J.A.C. 7:27-17

New HAPs for RY22

HAP	Threshold (lb/yr)
Benzo(a)pyrene	0.04
Chlorine	9
Cobalt metal and compounds	0.005
Cyanide Compounds	35
Ethyl Benzene	19
Glycol Ethers	1000
Hydrogen Fluoride	600
Methyl tert-butyl ether	180
Naphthalene	1.4
Phosphorous	3.2
Styrene	80
Triethylamine	325
Xylene	2000

General

Subject Item:	U	U1 Boiler	Boiler
Operating Scenario:	OS1	5 MMBTU/hr Natural Gas Boiler	
Step:			
Equipment Type:	Boiler		

 General

<input type="checkbox"/> This Source No Longer Exists (Mark For Deletion)	<input type="checkbox"/> Associated Permit Activity #:	<input type="text"/>						
<input type="checkbox"/> This Source Has No Reportable Emissions for 2022	<input type="checkbox"/> Quarterly Throughput (%)							
<input type="checkbox"/> Source Process Data Is Considered Confidential	Q1:	<input type="text"/>	Q2:	<input type="text"/>	Q3:	<input type="text"/>	Q4:	<input type="text"/>
<input type="checkbox"/> Source Did Not Operate								
<input type="checkbox"/> NJDEP Default Emission Calculations								

Process

Subject Item: U U1 Boiler Boiler

Operating Scenario: OS1 5 MMBTU/hr Natural Gas Boiler

Step:

Equipment Type: Boiler

General Process

Source Operation Information	Operating Amount		Operating Time			# of Batches Run
	Amount of Fuel Burned	Units	Hours	Days	Weeks	
Between 6/1/22 - 8/31/22		MMft ³				
Between 12/1/21 - 2/28/22		MMft ³				
For the Entire Year of 2022	0.0200	MMft ³	3	1	1	

Additional Batch Process Infor

Amount per Batch (Avg)

Units

Avg Batch Run Time (Hrs)

SCC(s):

Emissions

Air Contaminant		Actual Emission Rates							
		2022 (Tons/Yr) (1000 tons/yr for CO2 only) (Lbs/Yr for TAPs only)		5/1/22-9/30/22 (Tons/Season)		6/1/22-8/31/22 (Lbs/Day)		12/1/21-2/28/22 (Lbs/Day)	
Name	CAS Number	Stack	Fugitive	Stack	Fugitive	Stack	Fugitive	Stack	Fugitive
CO									
NOx (Total)									
VOC (Total)									

Emissions

Calculation Methodology Code

	Value	Unit

Emission Factors

	Value	Unit

- Minor facilities need to add TAPs
- Major facilities need to add **NH₃**, **CO₂**, TAPs

Calculation Methodology

N.J.A.C. Rank	RADIUS Calculation Methodology Code
1	Continuous Emissions Monitoring
2	Predictive Emissions Monitoring
3	Agency approved and supervised source testing
4	Agency approved and supervised source testing (previous year)
5	Material balance using engineering knowledge of the process
6	<ul style="list-style-type: none"> · AP-42 · Emissions to be computer calculated by NJDEP or EPA based on standard emission factor (SCC emission factor file) · EPA computer program based on other approved emission factor · State or local agency's emission factor
7	Manufacturer's Estimate or Data
8	<ul style="list-style-type: none"> · Best engineering judgement · Industry council or organization emission factor · Estimated at one ton per year (0.1 ton per year for Pb) for any unpermitted source

Source Details

Control Operations... Source Details... Autocalculate

Emission Statement - Boiler Details...

Facility:

Boiler Equipment Parameters

Maximum Gross Heat Input (MMBtu/Hr):

Fuel Firing Method:

Boiler Operating Scenario

Fuel Type:

Sulfur Content (%):

OK Cancel

Control Operations

- **Overall Control Efficiency (%) = Operating Time (%) x Capture Efficiency (%) x Removal Efficiency (%)**
- **Default is 80% overall control eff. (if not provided)**

Pollutant	Control Device			Operating Time (%)	Capture Efficiency (%)	Removal Efficiency (%)	Overall Control Efficiency (%)	Design Efficiency Used?
	ID	Type	P/S/T					
CO	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
NOx (Total)	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
Pb	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
PM-10 (Total)	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
PM-2.5 (Total)	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
SO2	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
TSP	CD1	Oxidizer (Thermal)	P	100.00	50.000	0.000	0.000	Yes ▼
VOC (Total)	CD1	Oxidizer (Thermal)	P	100.00	50.000	98.000	49.000	Yes ▼

Common Issues from Previous Years

143 QOR sent for 2021

Missing equipment, Emission Point
Inventory, control operations, HAPs/GHG

Incorrect choice of methodology

Bad SCC/NAICS

Listserv: <https://dep.nj.gov/boss/emission-statement-listserv/>

NJDEP Online Services Portal

- Website: [Njdeponline.com](https://njdeponline.com); use NJ.gov account
- 2 certifications required
- MAJOR FACILITIES – must complete RADIUS Certification Authorization Form prior to first-time use:
dep.nj.gov/wp-content/uploads/boss/applications-and-forms/rcaf.pdf

Version: 11.0.1
Currently logged in: :
Server: Server_1

MY WORKSPACE

Service Selection

Note: Access to this electronic service selection and submittal area is granted

Air Program

- Facility Submittal
- RADIUS File Submission
- General Permits (for minor source facilities only)
- General Operating Permits (for Title V major source facilities only)

My Workspace - Submitting Emission Statement

DEP AIR TEST SITE

SUBMISSION INFORMATION

Please indicate the nature of the submission:

Is this an initial submission or a revision to a previous application/submission?

If this is a revision to a previous application/submission, has the RADIUS file been modified since the previous submission?

UPLOAD RADIUS FILE

Please use the browse button below to select the RADIUS file that you wish to submit. Once you have selected the file, please

Choose File No file chosen

Submission Confirmation and Payment

My Services - Submitted

Note: If the status of your service is "Submission Failed - Please contact DEP," please send an e-mail to njdeponlinesupport@dep.nj.gov for assistance. Please include a screenshot of the error message.

ID	Application Name	Facility Name	Description	Status
1069178	Emission Statement		RADIUS File	Submission Successful

njhome | citizen | business | government | services A to Z | departments

 newjersey **njdep**
department of environmental protection

My Workspace | **User Profile** | **Certifications** | **Payments** | **Documents and Forms** | **Permissions**

Version: 11.0.1
Currently logged in: Michael Mankbadi
Server: Server_1

VERIFY PERSONAL INFORMATION

Please verify your personal information. If your personal information below is correct, please click the button.

Current Address

Name: Michael Mankbadi
Title:
E-Mail: michael.mankbadi@dep.nj.gov
Organization:
Organization Type:

Fees are sent out in December and only to Title V facilities

Like & follow us!

    @newjerseydep  @nj.dep



Thank you!

emis_statement@dep.nj.gov
609-633-2675

<https://dep.nj.gov/boss/emission-statement-program>