Camden County Municipal Utilities Authority Delaware # 1 Water Pollution Control Facility

Facility ID: 50163

Preconstruction Permit Modification Application

PCP 070004 Modification

January 2021





75 State Street, Suite 701 Boston, Massachusetts 02109 tel: 617 452-6000

January 14, 2021

Mr. Francis Steitz, Director State of New Jersey Department of Environmental Protection Division of Air Quality 401 E. State Street, Second Floor P.O. Box 420, Mail Code 401-02 Trenton, NJ 08625-0420

Applicant: Camden County Municipal Utilities Authority

Project: Delaware No.1 Water Pollution Control Facility

Facility ID 50163

Subject: Preconstruction Permit Modification Application

PCP 070004 Modification - PTF Building Boilers

Dear Mr. Steitz:

On behalf of Camden County Municipal Utilities Authority (CCMUA), CDM Smith is submitting this preconstruction permit modification application to include the existing Cleaver Brooks Boiler No. 3 that was inadvertently omitted when the permit was revised in 2009, and to modify York Shipley Boiler No. 1 and York Shipley Boiler No. 2 as natural gas fired boilers only.

CCMUA currently owns and operates three boilers in the PTF building.

- 1) York Shipley Boiler No. 1(E-102) rated at maximum heat input capacity of 8.369 MMBtu/hr,
- 2) York Shipley Boiler No. 2(E-101) rated at maximum heat input capacity of 8.369 MMBtu/hr,
- 3) Cleaver Brooks Boiler No. 3(E-103) rated at maximum heat input capacity of 10.46 MMBtu/hr.

E-103 (PTF Boiler No. 3) was originally permitted with the NJDEP in 1992 and remained permitted through June 18, 2009. In June 2009, CCMUA initiated permit modification to NJDEP requesting decrease of fuel usage of the two York Shipley boilers (E-101 and E-102), and a final PCP 070004 was received from the Department. It was at this time that the PTF Boiler No. 3 was inadvertently omitted from the permit by NJDEP. This application is to add E-103, PTF Boiler No. 3, a Cleaver Brooks boiler (Natural Gas only) rated at maximum heat input capacity of 10.46 MMBtu/hr to be added in the PCP 070004.



Mr. Francis Steitz January 14, 2021 Page 2

In addition, CCMUA recently discontinued the use of fuel oil in the E-101(PTF Boiler No. 2) and E-102 (PTF Boiler No. 1). These two equipment were originally permitted as dual fuel (Natural Gas and No.2 Fuel Oil) equipment. All components of the No.2 Fuel Oil storage and delivery system for the boilers have been physically demolished and no longer exist. Therefore, the boilers are currently capable of being fired only on a single fuel, natural gas, at this time. This application is to revise E-101 and E-102 to be natural gas only equipment.

Enclosed is the air permit application package which includes the following attachments:

- Attachment A: A PDF of the air permit application submitted via NJDEP online completed using the NJDEP RADIUS application,
- Attachment B: Potential to Emit Calculations for the PTF Building Boilers,
- Attachment C: Compliance Plan Red-Line Markups.
- Attachment D: Netting Analysis

Pursuant to N.J.A.C. 7:27-22.31(k), we understand that a permit application fee should not be submitted at this time. Rather, the NJDEP will forward an invoice to CCMUA following the receipt of the application.

We believe that the enclosed information constitutes a complete permit application. If any questions arise or additional information is required during your review, please call John Hammell at 215-239-6522.

Sincerely,

John Hammell, PE. PMP

Project Manager

CDM Smith Inc.

cc: Vladimir Korolev, NJDEP Yogesh Doshi, NJDEP Scott Schreiber, CCMUA Jason Fry, CCMUA Sen Amit, CDM Smith Disha Shah, CDM Smith

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Executive Summary

Attachment A – A PDF of the air permit application submitted via NJDEP online completed using the NJDEP RADIUS application

Attachment B -Potential to Emit Calculations for the PTF building Boilers

Attachment C - Compliance Plan Red-Line Markups

Attachment D - Netting Analysis



Executive Summary

1.1 Introduction and Purpose of Application

The Camden County Municipal Utilities Authority (CCMUA) operates the Delaware No. 1 Water Pollution Control Facility (Facility), located at 1645 Ferry Avenue, Camden, New Jersey. The Facility is an advanced treatment plant that employs screening, grit removal, primary clarification, aeration and secondary treatment using secondary clarification, and chlorine disinfection prior to final discharge of treated effluent. The wastewater treatment plant is designed to handle a peak flow of 60 million gallons per day (MGD). Solids removed from the wastewater are processed through gravity belt thickeners, sludge storage, and dewatering. The dewatered sludge is further processed in sludge dryers to produce dried product sludge, which is hauled of off-site for disposal.

The Facility (Facility ID 50163) currently operates in accordance with a combination of 14 N.J.A.C Subchapter 8 Preconstruction Permits (PCP) and one General Permit for significant air-emitting equipment. CCMUA added a Combined Heat and Power (CHP) Plant in 2019 (PCP 180001). These additional emissions caused the Facility to become a Title V Major Source. CCMUA submitted an Initial Title V Operating Permit application to NJDEP pursuant to N.J.A.C Subchapter 22 on September 16, 2020. During the administrative review of the Initial Title V Operating Permit application, it was discovered that PCP 070004 for the existing Pre-treatment Facility (PTF) Building Boilers listed only two of the existing three boilers. PTF Boiler No. 3 (E-103) received its initial Subchapter 8 preconstruction permit, as required, in 1992. This permit was renewed through June 18, 2009. It is not known why the PTF Building Boilers PCP did not include Boiler No. 3 after that date. NJDEP determined that a formal modification to PCP 070004 would be required to include Boiler No. 3 (E-103) due to lack of documentation for this vintage equipment. This permit modification application is being submitted, therefore, to include existing Boiler No. 3 (E-103), in PCP 070004. Once this PCP modification is approved, NJDEP would be able to list PTF Boiler No. 3 as existing significant equipment in the new Title V Operating Permit.

1.2 Preconstruction Permit Application

Table 1 below provides a summary of the three existing natural-gas-fired boilers in the PTF Building.

Table 1: PTF Building Boilers Summary

Boiler No.	Equipment ID	Facility's Designation	Equipment Description	PCP Number	Maximum Heat Input Capacity (MMBtu/hr)	Make		
1.	E-101	B-2 B-1		PTF Boiler	PCP070004	8.369	York Shipley	
2.	E-102			PTF Boiler	PCP070004	8.369	York Shipley	
3.	E-103	B-3	PTF Boiler	N/A	10.461	Cleaver Brooks		



The Emission Unit ID for all three boilers is U1. The three boilers share a common stack, with an Emission Point ID PT1. CCMUA is proposing the following changes to PCP 070004:

- 1) Add the existing -10.461 MMBtu/hr Cleaver Brooks natural-gas-fired PTF Boiler No. 3 (E-103).
- 2) Change the fuel usage for PTF Boiler No. 1 (E-102) and PTF Boiler No. 2 (E-101) to be natural gas only. These boilers were originally permitted as dual-fuel (natural gas and No.2 fuel oil) equipment. However, since then, all components of the No.2 fuel oil storage and delivery system for the boilers have been physically demolished and no longer exist.

CCMUA proposes to operate only one of the three PTF Boiler at a time. This is consistent with the existing PCP 070004, which allows operation of only one boiler at a time. The maximum potential to emit for Emission Unit U1 is based on the worst-case emission rates from the three PTF Boilers. Because PTF Boiler No. 3 has a higher design heat input rate than does Boiler Nos. 1 or 2, the maximum potential emission rates are based on unrestricted use of Boiler No. 3. CCMUA is also proposing to increase the annual natural gas usage limit for Emission Unit U1 from 71.9 million standard cubic feet per year (MMscf/yr) to 89.84 MMscf/yr. This change is requested because oil is no longer a back-up fuel, and has been eliminated as an allowable fuel, and to match the natural gas design heat input rate of Boiler No. 3. The overall result of these requested changes would be lower maximum potential emission rates for criteria pollutants than currently allowed by PCP 070004. (See Table 2, below.)

1.3 Air Permit Application

The permit application forms shown in **Attachment A** are produced with NJDEP's RADIUS application software, and are being submitted electronically through the DEP Online portal (http://www.njdeponline.com). The updated criteria pollutant maximum potential emission rates for Emission Unit U1 are shown in **Attachment B**, **Table B-1**.

Table 2, below, presents the Major Stationary Source applicability thresholds and the Facility's potential to emit after the PCP 070004 modification. The Facility is currently a Title V Major Source for nitrogen oxides (NOx) and volatile organic compounds (VOC), and would remain so after the PCP 070004 modification is approved.

Table 2 Summary of Maximum Potential Emission Rates in Tons per Year

Pollutant	Existing Facility (tons/year)	U1 PTF Boiler Stack Existing PCP 070004 (tons/year)	Proposed U1 PTF Boiler Stack ² (tons/year)	U1 PTF Facility after Boiler PCP070004 Stack ² Modification		
Carbon Monoxide (CO)	52.7	6.74	4.15	50.1	100	
Nitrogen Oxides (NOx)	28.2	8.02	4.94	25.1	25	
Particulate Matter (PM ₁₀)	5.1	0.56	0.38	4.96	100	
Sulfur Dioxide (SO ₂)	4.7	0.24	0.03	4.52	100	
Total Suspended Particulate Matter (TSP)	5.1	0.56	0.38	4.97	100	



Pollutant	Existing Facility (tons/year)	U1 PTF Boiler Stack Existing PCP 070004 (tons/year)	Proposed U1 PTF Boiler Stack ² (tons/year)	Proposed Facility after PCP070004 Modification (tons/year)	Title V Major Stationary Source Applicability Threshold (tons/year) ¹	
Volatile Organic Compounds (VOC)	32.6	0.50	0.27	32.4	25	
HAPs ³	2.88	-	0.004	2.88	25	
Formaldehyde	2.1	-	0.004	2.1	10	
7,12 dimethylbenz(a)anthracene	-	-	2.11E-06	2.11E-06	10	

Note:

- 1) Title V Major Stationary Source Thresholds obtained from the definition of "Major Facility" from N.J.A.C 7:27-8.
- 2) The maximum potential to emit for Emission Unit U1 is based on the worst-case emission rates from the three PTF Boilers. Because PTF Boiler No. 3 has a higher design heat input rate than does Boiler Nos. 1 or 2, the maximum potential emission rates are based on unrestricted use of Boiler No. 3.
- 3) The maximum potential to emit for HAPs includes those HAPs, that are above reporting thresholds. The total HAPs for worst case boiler for above and below reporting thresholds is 0.22 tpy.

Maximum potential emission rates of two Hazardous Air Pollutants (HAPs), formaldehyde and 7,12 dimethylbenz(a)anthracene, would exceed the Reporting Thresholds in N.J.A.C 7:27-17.9 for each PTF Boiler. Emission rates of all other HAPs would be below the Reporting Thresholds. This is shown in **Table B-2 of Attachment B.**

1.4 Suggested Edits to Permit Compliance Plan

Attachment C provides a suggested red-line mark-up of the PCP 070004 Compliance Plan for NJDEP's consideration. These primarily include:

- 1) Updates to the OS Summary U1 air pollutant annual emission limits (tons per year (tpy), and maximum annual natural gas usage = 89.84 MMscf/yr (based on a natural gas heat content of 1,020 Btu/scf).
- 2) Addition of a new Operating Scenario OS5 for the 10.461-MMBtu/hr Cleaver Brooks natural-gas-fired PTF Boiler No. 3 (E-103). The proposed hourly (lb/hr) emission limits are based on emission factors from the U.S. Environmental Protection Agency's (U.S. EPA's) *Compilation of Air Pollutant Emission Factors*, Report No. AP-42 ("AP-42") with a 10 percent safety factor for conservatism.
- 3) Deletion of all fuel oil operating scenarios under OS3 and OS4.
- 4) Revision of emission limits in Operating Scenarios OS1 and OS2, PTF Boiler No. 1 (E-102) and PTF Boiler No. 2 (E-101). The proposed changes include the updating of the hourly (lb/hr) emission limits to be based on AP-42 emission factors with a 10 percent safety factor for conservatism.



1.5 Emissions Netting Analysis

Attachment D provides an emissions netting analysis calculation for this proposed permit modification. N.J.A.C. 7:27-18, Control and Prohibition of Air Pollution from New or Altered Sources Affecting Ambient Air Quality (Emission Offset Rule), applies to a significant modification to an existing source's Title V Operating Permit.

Because the net emissions increase for all pollutants are below the thresholds identified in N.J.A.C. 7:27-18, a Subchapter 18 analysis is not required for this Preconstruction Permit application.

1.6 Regulatory Applicability Analysis

1.6.1 State-of-the-Art (SOTA)

For an air permit application that proposes construction or installation of equipment and control apparatus which is a significant source identified in N.J.A.C. 7:27-8, the applicant is required to evaluate state-of-the-art (SOTA) for the source with potential to emit any hazardous air pollutant (HAP) at a rate equal to or greater than the SOTA threshold in Appendix 1, Table B; or with a potential to emit any criteria air pollutant at greater than or equal to 5.0 tons/year (Appendix 1, Table A of N.J.A.C. 7:27-8).

Appendix B shows that the maximum potential emission rates of all three boilers are below the SOTA thresholds, and that SOTA is not required.

1.6.2 Federal Requirements for Natural-Gas-Fired Boilers

Boilers E-101, E-102 and E-103 are not subject to New Source Performance Standards (NSPS) 40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971, because the maximum design heat input capacity of each of the three boilers is less than 250 MMBtu/hr.

Boilers E-101 and E-102 are not subject to NSPS 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units, because the maximum design heat input capacity of these two boilers is less than 10 MMBtu/hr. However, Boiler E-103 is subject to NSPS 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units, because the maximum design heat input capacity of E-103 is greater than 10 MMBtu/hr, and less than 100 MMBtu/hr, and because Boiler E-103 commenced construction after June 9, 1989. E-103 is not subject to any performance testing or emission limits under Subpart Dc. E-103 is subject to an initial notification and recordkeeping requirement. CCMUA maintains records of natural gas usage in all of the boilers.

The U.S. EPA promulgated National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boiler Area Sources (40 CFR 63, Subpart JJJJJJ). The NESHAP is not applicable to "natural-gas-fired" boilers (40 CFR 63.11195(e)). With this proposed permit modification, all three PTF Boilers would be permitted to combust natural gas only. Therefore, the NESHAP would not apply.



Attachment A

A PDF of the air permit application submitted via NJDEP online completed using the NJDEP RADIUS application

New Jersey Department of Environmental Protection Reason for Application

Permit Being Modified

Number: 70004 Permit Class: PCP

Description

Camden County Municipal Utilities Authority (CCMUA) is submitting this preconstruction of Modifications: permit modification application to include the existing Cleaver Brooks Boiler No. 3 that was inadvertently omitted when the permit was revised in 2009, and to modify York Shipley Boiler No. 1 and York Shipley Boiler No. 2 as natural gas fired boilers only.

Date: 1/7/2021

CCMUA currently owns and operates three boilers in the PTF building.

1) York Shipley Boiler No. 1(E-102) rated at maximum heat input capacity of 8.369 MMBtu/hr.

2) York Shipley Boiler No. 2(E-101) rated at maximum heat input capacity of 8.369 MMBtu/hr,

3) Cleaver Brooks Boiler No. 3(E-103) rated at maximum heat input capacity of 10.461 MMBtu/hr.

The Emission Unit ID for all three boilers is U1. The three boilers share a common stack, with an Emission Point ID PT1. CCMUA is proposing the following changes to PCP 070004:

1)Add the existing -10.461 MMBtu/hr Cleaver Brooks natural-gas-fired PTF Boiler No. 3 (E-103).

2) Change the fuel usage for PTF Boiler No. 1 (E-102) and PTF Boiler No. 2 (E-101) to be natural gas only. These boilers were originally permitted as dual-fuel (natural gas and No.2 fuel oil) equipment. However, since then, all components of the No.2 fuel oil storage and delivery system for the boilers have been physically demolished and no longer exist.

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Date: 1/7/2021

New Jersey Department of Environmental Protection Facility Profile (General)

Facility Name (AIMS): Camden County MUA Delaware # 1 WPCF Facility ID (AIMS): 50163

Street 200 JACKSON ST State Plane Coordinates:

Address: CAMDEN, NJ 08101

X-Coordinate: 489,153

Y-Coordinate: 4,419,151

Units: Other

Mailing1645 FERRY AVEDatum:NAD83Address: CAMDEN, NJ08104Source Org.:DEP-GIS

Source Type: Hard Copy Map

County: Camden

Location Delaware # 1 WPCF

Description:

Primary SIC:
Secondary SIC:

Industry:

NAICS: 221320

Email: senak@cdmsmith.com

Date: 1/7/2021

New Jersey Department of Environmental Protection Facility Profile (General)

Contact Type: Air Permit Information Contact			
Organization: Camden County Municipal Utilities Aut	hority	Org. Type:	Municipal
Name: Scott Schreiber		NJ EIN:	00222003702
Title: Executive Director			
Phone: (856) 583-1261 x	Mailing	1645 Ferry	
Fax: () - x	Address:	Camden, NJ	08104
Other: () - x			
Type:			
Email: sschreiber@ccmua.org			
Contact Type: BOP - Operating Permits			
Organization: Camden County Municipal Utilities Aut	hority	Org. Type:	Municipal
Name: Scott Schreiber		NJ EIN:	00222003702
Title: Executive Director			
Phone: (856) 583-1261 x	Mailing	1645 Ferry	
Fax: () - x	Address:	Camden, NJ	08104
Other: () - x			
Type:			
Email: sschreiber@ccmua.org			
Contact Type: Consultant			
Organization: CDM Smith		Org. Type:	Corporation
Name: Amit K. Sen		NJ EIN:	
Title: Project Manager			
Phone: (215) 636-0600 x	Mailing		ter, 1500 JFK Boulevard
Fax: (215) 636-9811 x	Address:	Suite 1208 Philadelphia	a, PA 19102
Other: () - x		1 macipina	9 111 1/104
Type:			

Email: bobc@ccmua.org

Date: 1/7/2021

New Jersey Department of Environmental Protection Facility Profile (General)

Contact Type: Emission Statements		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Scott Schreiber		NJ EIN: 00222003702
Title: Executive Director		
Phone: (856) 583-1261 x	Mailing	1645 Ferry Ave
Fax: () - x	Address:	Camden, NJ 08104
Other: () - x		
Type:		
Email: sschreiber@ccmua.org		
Contact Type: Fees/Billing Contact		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Scott Schreiber		NJ EIN: 00222003702
Title: Executive Director		
Phone: (856) 583-1261 x	Mailing	1645 Ferry Ave
Fax: () - x	Address:	Camden, NJ 08104
Other: () - x		
Type:		
Email: sschreiber@ccmua.org		
Contact Type: General Contact		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Robert G. Cornforth		NJ EIN: 00222003702
Title: Director of Operations and Maintenance		
Phone: (856) 563-2300 x	Mailing	1645 Ferry Ave
Fax: (856) 635-0605 x	Address:	Camden, NJ 08104
Other: () - x		
Type:		

Email: sschreiber@ccmua.org

Date: 1/7/2021

New Jersey Department of Environmental Protection Facility Profile (General)

Contact Type: On-Site Manager		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Robert G. Cornforth		NJ EIN: 00222003702
Title: Director of Operations and Maintenance		
Phone: (856) 563-2300 x	Mailing	1645 Ferry Ave
Fax: (856) 635-0605 x	Address:	Camden, NJ 08104
Other: () - x		
Type:		
Email: bobc@ccmua.org		
Contact Type: Regulation Officer		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Robert G. Cornforth		NJ EIN: 00222003702
Title: Director of Operations and Maintenance		
Phone: (856) 563-2300 x	Mailing	1645 Ferry Ave
Fax: (856) 635-0605 x	Address:	Camden, NJ 08104
Other: () - x		
Type:		
Email: bobc@ccmua.org		
Contact Type: Responsible Official		
Organization: Camden County Municipal Utilities Aut	hority	Org. Type: Municipal
Name: Scott Schreiber		NJ EIN: 00222003702
Title: Executive Director		
Phone: (856) 583-1261 x	Mailing	1645 Ferry Ave
Fax: () - x	Address:	Camden, NJ 08104
Other: () - x		
Type:		

New Jersey Department of Environmental Protection Facility Profile (Permitting)

Date: 1/7/2021

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	Yes
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	No
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	Yes
8. Have you submitted a netting analysis?	Yes
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	

12. Have you provided, or are you planning to provide air contaminant modeling?

New Jersey Department of Environmental Protection

Date: 1/7/2021

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand- Fathered	Last Mod. (Since 1968)	Equip. Set ID
E101	B-2	PTF Boiler (B-2) York-Shipley 8.37 MMBTU	Boiler	PCP070004		No		
E102	B-1	PTF Boiler (B-1) York-Shipley 8.37 MMBTU	Boiler	PCP070004		No		
E103	B-3	PTF Boiler (B-3) Cleaver Brooks 10.46 MMBTU	Boiler			No		

Equipment Inventory

000000 E101 (Boiler) Print Date: 1/7/2021

Make:	York Shipley
Manufacturer:	York Shipley
Model:	SPL-250-N2-189326
Maximum Rated Gross Heat Input (MMBtu/hr - HHV): Boiler Type:	8.37
• •	
Utility Type:	
Output Type:	Steam Only
Steam Output (lb/hr):	
Fuel Firing Method:	<u></u>
Description (if other):	
Draft Type:	
Heat Exchange Type:	Direct
Is the boiler using? (check all	that apply):
Low NOx Burner:	Type:
Staged Air Combustion:	
Flue Gas Recirculation (FGR):	Amount (%):
Have you attached a diagram showing the location and/or the configuration of this equipment?	No ▼
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No •

000000 E102 (Boiler) Print Date: 1/7/2021

Make:	York Shipley
Manufacturer:	York Shipley
Model:	SPL-250-N2-189326
Maximum Rated Gross Heat Input (MMBtu/hr - HHV): Boiler Type:	8.37 Fire Tube
Utility Type:	<u> </u>
Output Type:	Steam Only
Steam Output (lb/hr):	
Fuel Firing Method:	_
Description (if other):	
Draft Type:	▼
Heat Exchange Type:	Direct
Is the boiler using? (check all	
Low NOx Burner:	Type:
Staged Air Combustion: Flue Gas Recirculation	A
(FGR):	Amount (%):
Have you attached a diagram showing the location and/or the configuration of this equipment?	No 🔻
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No 🔻
Comments:	

000000 E103 (Boiler) Print Date: 1/7/2021

Make:	Cleaver Brooks
Manufacturer:	Cleaver Brooks
Model:	CB-200-250
Maximum Rated Gross Heat Input (MMBtu/hr - HHV):	10.46
Boiler Type:	Fire Tube
Utility Type:	
Output Type:	Steam Only
Steam Output (lb/hr):	
Fuel Firing Method:	
Description (if other):	
Draft Type:	
Heat Exchange Type:	Direct
Is the boiler using? (check all	that apply):
Low NOx Burner:	Type:
Staged Air Combustion:	
Flue Gas Recirculation (FGR):	Amount (%):
Have you attached a diagram showing the location and/or the configuration of this equipment?	
	No 🔻
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this	
application?	No 🔻

Camden County MUA Delaware #1 WPCF (50163)

Date: 1/7/2021

New Jersey Department of Environmental Protection Emission Points Inventory

	PT NJID	Facility's Designation	Description	Config.	Equiv. Diam.	Height (ft.)	Dist. to Prop.	Exhaust Temp. (deg. F)		Exhaust Vol. (acfm)			Discharge Direction	PT Set ID	
	NJID	Designation			(in.)	(11.)	Line (ft)	Avg.	Min.	Max.	Avg.	Min.	Max.	Direction	Set ID
P	Т1	PTF Boilers	PTF Boilers Stack	Round	36	44	120	350.0	302.0	385.0	12,750.0	12,750.0	12,750.0	Up	

000000 U1 OS1 (Primary Fuel) Print Date: 1/7/2021

Is this fuel a blend?	No 🔻
Fuel Category:	Commercial
Fuel Type:	Natural gas
Description (if other):	
Amount of Sulfur in Fuel (%):	0.0100
Amount of Ash in Fuel (%):	0.01
Fuel Heating Value:	1,020.00
Units:	BTU/scf 🔻
Estimated Maximum Amount of	
Fuel Burned Annually: Units:	71.87 MMft^3/yr
Estimated Actual Amount of Fuel Burned Annually:	18.25
Units:	MMft^3/yr ▼
Amount of Oxygen in Flue Gas (%):	
Amount of Moisture in Flue Gas (%):	

000000 U1 OS2 (Primary Fuel) Print Date: 1/7/2021

Is this fuel a blend?	No 🔻
Fuel Category:	Commercial
Fuel Type:	Natural gas
Description (if other):	
Amount of Sulfur in Fuel (%):	0.0100
Amount of Ash in Fuel (%):	0.01
Fuel Heating Value:	1,020.00
Units:	BTU/scf
Estimated Maximum Amount of	
Fuel Burned Annually: Units:	71.87 MMft^3/yr
Estimated Actual Amount of Fuel Burned Annually:	18.25
Units:	MMft^3/yr ▼
Amount of Oxygen in Flue Gas (%):	
Amount of Moisture in Flue Gas (%):	

000000 U1 OS5 (Primary Fuel) Print Date: 1/7/2021

Is this fuel a blend?	No 🔻
Fuel Category:	Commercial
Fuel Type:	Natural gas
Description (if other):	
Amount of Sulfur in Fuel (%):	0.0100
Amount of Ash in Fuel (%):	0.01
Fuel Heating Value:	1,020.00
Units:	BTU/scf 🔻
Estimated Maximum Amount of	
Fuel Burned Annually:	89.84
Units:	MMft^3/yr
Estimated Actual Amount of	
Fuel Burned Annually:	18.25
Units:	MMft^3/yr
Amount of Oxygen in Flue Gas (%):	
Amount of Moisture in Flue Gas (%):	

Camden County MUA Delaware #1 WPCF (50163)

Date: 1/7/2021

New Jersey Department of Environmental Protection Emission Unit/Batch Process Inventory

U 1 PTF Boilers PTF Boilers

UOS	Facility's	UOS			Annu Oper. H	Flow VOC (acfm)			Temp. (deg F)					
NJID	Designation	Description	Type	Equip.	Device(s)	Point(s)	SCC(s)	Min.	Max.	Range	Min.	Max.	Min.	Max.
OS1	B-1-NG	PTF BOILER (B-1) COMBUSTION - NATURAL GAS	Normal - Steady State	E102		PT1	1-02-006-03	0.0	8,760.0		3,523.0	3,523.0	302.0	302.0
OS2	B-2-NG	PTF BOILER (B-2) COMBUSTION - NATURAL GAS	Normal - Steady State	E101		PT1	1-02-006-03	0.0	8,760.0		3,523.0	3,523.0	302.0	302.0
OS5	B-3-NG	PTF BOILER (B-3) COMBUSTION - NATURAL GAS	Normal - Steady State	E103		PT1	1-02-006-02	0.0	8,760.0		3,093.0	3,093.0	385.0	385.0

Camden County MUA Delaware #1 WPCF (50163)

New Jersey Department of Environmental Protection Potential to Emit

Date: 1/7/2021

Subject Item: U1 PTF Boilers
Operating Scenario: OS0 Summary

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
со				4.15000000	tons/yr	No
Dimethylbenz(a)anthracene (7,12-)				0.00158000	lb/yr	No
Formaldehyde				7.41000000	lb/yr	No
HAPs (Total)				0.00371000	tons/yr	No
NOx (Total)				4.94000000	tons/yr	No
Pb				D	tons/yr	No
PM-10 (Total)				0.38000000	tons/yr	No
SO2				0.03000000	tons/yr	No
TSP				0.38000000	tons/yr	No
VOC (Total)				0.27000000	tons/yr	No

Subject Item: U1 PTF Boilers

Operating Scenario: OS1

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
СО				0.76000000	lb/hr	No
Dimethylbenz(a)anthracene (7,12-)				0.00000014	lb/hr	No
Formaldehyde				0.00067700	lb/hr	No
HAPs (Total)				0.00067700	lb/hr	No
NOx (Total)				0.90000000	lb/hr	No
Pb				D	lb/hr	No
PM-10 (Total)				0.07000000	lb/hr	No
SO2				0.01000000	lb/hr	No

New Jersey Department of Environmental Protection Potential to Emit

Date: 1/7/2021

Subject Item: U1 PTF Boilers

Operating Scenario: OS1

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP				0.07000000	lb/hr	No
VOC (Total)				0.05000000	lb/hr	No

Subject Item: U1 PTF Boilers

Operating Scenario: OS2

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
СО				0.76000000	lb/hr	No
Dimethylbenz(a)anthracene (7,12-)				0.00000014	lb/hr	No
Formaldehyde				0.00067700	lb/hr	No
HAPs (Total)				0.00067700	lb/hr	No
NOx (Total)				0.90000000	lb/hr	No
Pb				D	lb/hr	No
PM-10 (Total)				0.07000000	lb/hr	No
SO2				0.01000000	lb/hr	No
TSP				0.07000000	lb/hr	No
VOC (Total)				0.05000000	lb/hr	No

New Jersey Department of Environmental Protection Potential to Emit

Date: 1/7/2021

Subject Item: U1 PTF Boilers

Operating Scenario: OS5

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
СО				0.95000000	lb/hr	No
Dimethylbenz(a)anthracene (7,12-)				0.00000018	lb/hr	No
Formaldehyde				0.00084600	lb/hr	No
HAPs (Total)				0.00084600	lb/hr	No
NOx (Total)				1.13000000	lb/hr	No
Pb				D	lb/hr	No
PM-10 (Total)				0.09000000	lb/hr	No
SO2				0.01000000	lb/hr	No
TSP				0.09000000	lb/hr	No
VOC (Total)				0.06000000	lb/hr	No

Attachment B

Potential to Emit Calculations for the PTF building Boilers

Attachment B Table B-1 - Potential to Emit Calculations for PTF Building Boilers U1 OS Summary Camden County Municipal Utilities Authority Camden, NJ

External Combustion - Boilers and Heaters - Maximum Potential to Emit (Criteria Pollutants)

						Maximum Hourly Emissions (lbs/hr)					Maximum Annual Emissions (tons/year)					
					Max.											
	Design Heat		Max NG Flow		Annual											
Description	Input Rating	Units	(MMScf/yr)	Unit	Hours	co	NOx	voc	PM	SO2	co	NOx	voc	PM10	SO2	
Boiler 1 operating NG	8.369	MMBtu/hr	71.87	MMscf/yr	8,760	0.76	0.90	0.05	0.07	0.01	3.32	3.95	0.22	0.30	0.02	
Boiler 2 operating NG	8.369	MMBtu/hr	71.87	MMscf/yr	8,760	0.76	0.90	0.05	0.07	0.01	3.32	3.95	0.22	0.30	0.02	
Boiler 3 operating NG	10.461	MMBtu/hr	89.84	MMscf/yr	8,760	0.95	1.13	0.06	0.09	0.01	4.15	4.94	0.27	0.38	0.03	
Revised OS Summary PTE	evised OS Summary PTE									•	4.15	4.94	0.27	0.38	0.03	
Notes: 1) OS Summary PTE i	tes: 1) OS Summary PTE is based on worst case of the three boilers. This assumes that only one boiler would operate at one time.															

Source: EPA. 1998. AP-42, Chapter 1.4: Natural Gas Combustion. Available online at: http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf [Accessed on April 21, 2016].

Added 10 percent safety factor to AP-42 emission factors for conservatism

Natural gas heat content

1020 Btu/scf 0.00102 mmBtu/scf

Emission Factors for External Natural Gas Combustion (Criteria Pollutants)

Pollutant	lb/MMcf	lb/MMBtu		
СО	84	0.082		
NOx	100	0.098		
Pb	5.00E-04	0.000		
SO2	0.6	0.001		
PM	7.6	0.007		
VOC	5.5	0.005		

Source: EPA. 1998. AP-42, Chapter 1.4: Natural Gas Combustion. Available online at: http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf [Accessed on April 21, 2016].

Note:

All sulfur in the fuel is assumed to be converted to SO2.

 ${\bf PM}\ emission\ factor\ equal\ to\ sum\ of\ filterable\ and\ total\ condensible\ particulate\ matter.$

External Combustion - Boilers and Heaters - Maximum Potential to Emit (Greenhouse Gases)

				Emissions (lb/hr)			Annual	Emissions (to	ns/year)	CO2e		
	Design Heat		Max. Annual									
Description	Input Rating	Units	Hours (hr/yr)	CO2	CH4	N2O	CO2	CH4	N2O	CH4	N2O	Total
Boiler 1 NG	8.369	MMBtu/hr	8,760	979	0.02	0.00	4,288	0.08	0.01	2.02	2.41	4,292
Boiler 2 NG	8.369	MMBtu/hr	8,760	979	0.02	0.00	4,288	0.08	0.01	2.02	2.41	4,292
Boiler 3 NG	10.461	MMBtu/hr	8,760	1224	0.02	0.00	5,360	0.10	0.01	2.53	3.01	5,365

Max of three boilers 5,365

Default GHG Emission Factors and High Heat Values

			Emission Fa	ctor(kg/mmB	tu)	Emission Factor(lb/mmBtu)		
Fuel Type	Default high heat value		CO2	CH4	N2O	CO2	CH4	N2O
Natural Gas	1.026E-03 mmBtu/scf		1.026E-03 mmBtu/scf 53.06 1.00E-03 1.00		1.00E-04	116.98	0.00	0.00

Source: 40 CFR 98

Global Warming Potential

CO2 1 CH4 25 N2O 298

Source: 40 CFR 98

Attachment B Table B-2 - Potential to Emit Hazardous Air Pollutant Emissions Calculations for PTF Building Boilers U1 OS Summary Camden County Municipal Utilities Authority Camden, NJ

Description	Design Heat Input Rating	Units	Max. Annual Hours (hr/yr)
Description	iliput Katilig	Ullits	nouis (III/yI)
Boiler 1 NG	8.369	MMBtu/hr	8,760
Boiler 2 NG	8.369	MMBtu/hr	8,760
Boiler 3 NG	10.461	MMBtu/hr	8,760

				Boiler 1 NG			Boiler 2 NG			Boiler 3 NG		Reporting Threshold	SOTA Threshold
Pollutant	lb/MMScf	lb/MMBtu	lb/hr	lb/yr	tpy	lb/hr	lb/yr	tpy	lb/hr	lb/yr	tpy	lb/yr	lb/yr
Hazardous Air Polluants (HAPs)													
2 Methylnaphthalene	2.40E-05	2.59E-08	2.17E-07	1.90E-03	9.49E-07	2.17E-07	1.90E-03	9.49E-07	2.71E-07	2.37E-03	1.19E-06	NA	NA
3-Methylchloranthrene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	NA	NA
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.73E-08	1.44E-07	1.26E-03	6.32E-07	1.44E-07	1.26E-03	6.32E-07	1.81E-07	1.58E-03	7.91E-07	0.0007	20
Acenaphthene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	NA	NA
Acenaphthylene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	NA	NA
Anthracene	2.40E-06	2.59E-09	2.17E-08	1.90E-04	9.49E-08	2.17E-08	1.90E-04	9.49E-08	2.71E-08	2.37E-04	1.19E-07	NA	NA
Benz(a)anthracene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	0.4	20
Benzene	2.10E-03	2.26E-06	1.90E-05	1.66E-01	8.30E-05	1.90E-05	1.66E-01	8.30E-05	2.37E-05	2.08E-01	1.04E-04	6	4000
Benzo(a)pyrene	1.20E-06	1.29E-09	1.08E-08	9.49E-05	4.74E-08	1.08E-08	9.49E-05	4.74E-08	1.35E-08	1.19E-04	5.93E-08	0.04	20
Benzo(b)fluoranthene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	0.4	20
Benzo(g,h,i)perylene	1.20E-06	1.29E-09	1.08E-08	9.49E-05	4.74E-08	1.08E-08	9.49E-05	4.74E-08	1.35E-08	1.19E-04	5.93E-08	NA	NA
Benzo(k)fluoranthene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	NA	NA
Chrysene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	2	20
Dibenzo(a,h)anthracene	1.20E-06	1.29E-09	1.08E-08	9.49E-05	4.74E-08	1.08E-08	9.49E-05	4.74E-08	1.35E-08	1.19E-04	5.93E-08	0.04	20
Dichlorobenzene	1.20E-03	1.29E-06	1.08E-05	9.49E-02	4.74E-05	1.08E-05	9.49E-02	4.74E-05	1.35E-05	1.19E-01	5.93E-05	NA	NA
Fluoranthene	3.00E-06	3.24E-09	2.71E-08	2.37E-04	1.19E-07	2.71E-08	2.37E-04	1.19E-07	3.38E-08	2.96E-04	1.48E-07	NA	NA
Flourene	2.80E-06	3.02E-09	2.53E-08	2.21E-04	1.11E-07	2.53E-08	2.21E-04	1.11E-07	3.16E-08	2.77E-04	1.38E-07	NA	NA
Formaldehyde	7.50E-02	8.09E-05	6.77E-04	5.93E+00	2.96E-03	6.77E-04	5.93E+00	2.96E-03	8.46E-04	7.41E+00	3.71E-03	3.5	4000
Hexane	1.80E+00	1.94E-03	1.62E-02	1.42E+02	7.12E-02	1.62E-02	1.42E+02	7.12E-02	2.03E-02	1.78E+02	8.89E-02	2000	10000
Indeno(1,2,3-cd)pyrene	1.80E-06	1.94E-09	1.62E-08	1.42E-04	7.12E-08	1.62E-08	1.42E-04	7.12E-08	2.03E-08	1.78E-04	8.89E-08	0.4	20
Naphthalene	6.10E-04	6.58E-07	5.51E-06	4.82E-02	2.41E-05	5.51E-06	4.82E-02	2.41E-05	6.88E-06	6.03E-02	3.01E-05	1.4	10000
Pentane	2.60E+00	2.80E-03	2.35E-02	2.06E+02	1.03E-01	2.35E-02	2.06E+02	1.03E-01	2.93E-02	2.57E+02	1.28E-01	NA	NA
Phenanthrene	1.70E-05	1.83E-08	1.53E-07	1.34E-03	6.72E-07	1.53E-07	1.34E-03	6.72E-07	1.92E-07	1.68E-03	8.40E-07	NA	NA
Pyrene	5.00E-06	5.39E-09	4.51E-08	3.95E-04	1.98E-07	4.51E-08	3.95E-04	1.98E-07	5.64E-08	4.94E-04	2.47E-07	NA	NA
Toluene	3.40E-03	3.67E-06	3.07E-05	2.69E-01	1.34E-04	3.07E-05	2.69E-01	1.34E-04	3.84E-05	3.36E-01	1.68E-04	2000	10000
Total HAPs			0.04		0.18	0.04		0.18	0.05		0.22		

Total HAPs (maximum of three boilers) for Emission Unit U1 0.22 tpy
Total HAPs (maximum of three boilers) for Emission Unit U1 above reporting thresholds 0.004 tpy
Notes:

1) HAPs emission factors are based on AP-42 Chapter 1.4.

2) Heat Content of Natural Gas (for AP-42 factors for HAPs per Chapter 1.4) - 1020 Btu/scf

3) Regulatory thresholds are from New Jersey Administrative Code Title 7, Chapter 27 Subpart 17

Attachment C

Compliance Plan Red-Line Markups

U1 PCP070004 PTF Boiler Stack

PCP070004

New Jersey Department of Environmental Protection Facility Specific Requirements Date: 6/4/2008

Emission Unit:

U1 PTF BOILER STACK

E101 PTF BOILER (B-2), E102 PTF BOILER (B-1)

Subject Item:

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
pa-4	No person shall use or cause to be used any equipment or control apparatus unless all components connected or attached to, or serving the equipment or control apparatus, are functioning properly and are in use in accordance with the preconstruction permit and certificate and all conditions and provisions thereto.	None.	None.	None.
2	Maximum Gross Heat Input <= 8.7 MMBTU/hr (HHV). [N.J.A. 6.7:27- 8.13(h)]	None.	None.	None.
3	Only natural gas and #2 distillate fact oil shall be burned as boiler fuels. [N.J.A.C. 7:27-8.13(h)]	None.	None.	None.

Add New Ref # 4: 4. Maximum Gross Heat Input <= 10.46 MMBtu/hr (HHV) for E-103.

Maximum Gross Heat Input <=8.369 MMBtu/hr for E-101 and E-102 each

Date: 6/4/2008

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit:

U1 PTF BOILER STACK

OS Summary

Operating Scenario:

The maximum PTE for U1 is based on the worst-case emission rates from the three PTF boilers. Because PTF Boiler No. 3 has a higher design heat input rate than Boiler No.1 and 2, the maximum PTE are based on unrestricted boiler use of Boiler

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
-	No person shall use or cause to be used any equipment or control apparatus unless all components connected or attached to, or serving the equipment or control apparatus, are functioning properly and are in use in accordance with the preconstruction permit and certificate and all conditions and provisions thereto.[N.J.A.C. 7:27-8.3(e)].	TSP <= 0.38 tons/yr		
2	TSP <= 0.5 tons/yr [N.J.A.C. 7:27-8.13(h)]	None.	None.	None.
3	PM-10 (Total) <= 0.5 tons/yr. [N.J.A.C. 7:27- 8.13(h)]	None. PM10 <= 0.38 tons/yr	None.	None.
4	VOC (Total) <= 0.54 tons/yr. [N.J.A.C. 7:27- 8.13(h)]	None. VOC <= 0.2	7 tons/yr	None.
5	NOx (Total) <= 6.96 tons/yr. [N.J.A.C. 7:27-8.13(h)]	None. NOx <= 4.94 tons/yr	None.	None.
6	CO <= 4. 9 tors/yr [N J.A.C. 7:27-8.13(h)]	None.	None.	None.
7	SO2 <= 4.81 tons/yr. [N.J.A.C. 7:27-8.13(h)]	None. CO<= 4.15 tons/yr	None.	None.
8	[N.J.A.C. 7:27- 8.13(h)]	None.	None.	None.
9	Maximum No. of Billable Compliance Inspections <= 2 inspections over the life of the Operating Certificate. The permittee will be invoiced for a service fee per inspection pursuant to N.J.A.C. 7:27-8.6 after the periodic compliance inspection is conducted. [N.J.A.C. 7:27- 8.13(e)]	None. SO2 tpy <= 0.03 tons/yr	None.	None.
10	Natural Gas Usage <= 71.9 MM 37 r. [N.J.A.C. 7:27-8.13(h)] Natural Gas Usage < = 89.84 MMScf/yr. Only one boiler can operate at any time.	Natural Gas Usage: Monitored by fuel flow/firing rate instrument daily, based on a 12 calendar month average. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27- 8.13(d)2]	Natural Gas Usage: Recordkeeping by manual logging of parameter annually. [N.J.A.C. 7:27- 8.13(d)3]	

PCP070004

New Jersey Department of Environmental Protection Facility Specific Requirements

Date: 6/4/2008

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1 1	No. 2 Fuel Oil Usage = 299,400 gal/yr. [N.J.A.C. 7:27- 8.13(h)]	No. 2 Fuel Oil Usage: Monitored by fuel flow/firing rate instrument daily, based on a 12 calendar month average. The permittee snall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specimentions. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27- 8.13(d)2]	No. 2 Fuel Oil Usage: Recordkeeping by manual logging of parameter annually. [N.J.A.C. 7:27-8.13(d)3]	

Delete all Fuel oil related applicable requirements.

New Jersey Department of Environmental Protection

Facility Specific Requirements

Emission Unit:

U1 PTF BOILER STACK

OS1 PTF BOILER (B-1) COMBUSTION - NATURAL GA

Operating Scenario:

Revise emission limits for U1 OS1 PTF Boiler No. 1 (E-102) and PTF Boiler No. 2 (E-101). The proposed changes include the updating of the lb/hr emission limits to be based on AP-42 emission factors with a 10 percent safety factor for conservatism.

Date: 6/4/2008

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 0.05 lb/14. [N.J.A.C. 7:27- 8.13(h)]	None. TSP<=0.07 lb/hr	None.	None.
2	PM-10 (Total) <= 0.05 lb/hr . [N.J.A.C. 7:27- 8.13(h)]	None. PM10<=0.07 lb/hr	None.	None.
3	VOC (Total) <= 0.96 lb/hr. [N.J.A.C. 7:27-8.13(h)]	None. VOC (total)<=0.05	None.	None.
4	CO <= 0.69 lb/hp. [N.J.A.C. 7:27- 8.13(h)]	None. CO<=0.76 lb/hr	None.	None.
5	NOx (Total) <= 0.82 ib/hr. [N.J.A.C. 7:27-8.13(h)]	None. NOx<=0.90 lb/hr	None.	None.
6	SO2 <= 0.05 lb/hr. [N.J.A.C. 7:27- 8.13(h)]	None.	None.	None.
7	No visible emissions. As specified in N.J.A.C. 7:27-3.2(c), this provision does not apply to smoke which is visible for a period of time of not longer than three (3) minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-3.2(a)]	SO2<=0.01lb/hr Deminimis	None.	None.
8	The permittee shall annually adjust the combustion process as specified at N.J.A.C. 7:27-19.16(a): Inspect burner, and clean or replace necessary components. Inspect flame patterns and the system controlling air-to-fuel ratio and make necessary adjustments to ensure optimum burner efficiency. [N.J.A.C. 7:27-19.7(a)1]		Recordkeeping by manual logging of parameter annually. The permittee shall record the date and times of the adjustment; the name, title and affiliation of the person who made the adjustment; the concentration of NOx and CO in the effluent stream in ppm after each adjustment was made; and the concentration of O2 at which the NOx and CO concentrations were measured. [N.J.A.C. 7:27-19.16(c)]	
9	Particulate Emissions <= 5.22 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.

PCP070004

New Jersey Department of Environmental Protection

Facility Specific Requirements

Emission Unit:

U1 PTF BOILER STACK

Operating Scenario:

Revise emission limits for U1 OS1 PTF Boiler No. 1 (E-102) and PTF Boiler No. 2 (E-101). The proposed changes include the updating of the lb/hr OS2 PTF BOILER (B-2) COMBUSTION - NATURAL GA emission limits to be based on AP-42 emission factors with a 10 percent safety factor for conservatism.

Date: 6/4/2008

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions <= 5.22 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	Particulate Emissions: Monitored by stack emission testing once initially and every 5 years, based on any 60 minute period. [N.J.A.C. 7:27-4.4]	Particulate Emissions: Recordkeeping by stack test results once initially and every 5 years. [N.J.A.C. 7:27- 8.13(d)3]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to stack testing requirements specified in this permit. [N.J.A.C. 7:27- 8.4(f)5]
2	TSP <= 0.05 lb/hr (N.J.A.C. 7:27- 8.13(h)]	None. TSP<=0.07 lb/hr	None.	None.
3	PM-10 (Total) ← 0.05 lb/hr. ♣N.J.A.C. 7:27- 8.13(h)]	None. PM10<=0.07 lb/hr	None.	None.
4	VOC (Total) <= 0.06 lb/hr, FN.J.A.C. 7:27- 8.13(h)]	VOC (total)<=0.05	None.	None.
5	CO <= 0 .69 lb/br [N.J.A.C. 7:27 8.13(h)]	None. CO<=0.76 lb/hr	None.	None.
6	NOx (Total) <= 0.82 lb/hr (N.J.A.C. 7:27-8.13(h)]	None. NOx<=0.90 lb/hr	None.	None.
7	SO2 <= 0.05 lb /br. {N.J.A.C. 7:27- 8.13(h)]	None.	None.	None.
8	No visible emissions. As specified in N.J.A.C. 7:27-3.2(c), this provision does not apply to smoke which is visible for a period of time of not longer than three (3) minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-3.2(a)]	None. SO2<=0.01lb/hr Deminimis	None.	None.
9	The permittee shall annually adjust the combustion process as specified at N.J.A.C. 7:27-19.16(a): Inspect burner, and clean or replace necessary components. Inspect flame patterns and the system controlling air-to-fuel ratio and make necessary adjustments to ensure optimum burner efficiency. [N.J.A.C. 7:27-19.7(a)1]		Recordkeeping by manual logging of parameter annually. The permittee shall record the date and times of the adjustment; the name, title and affiliation of the person who made the adjustment; the concentration of NOx and CO in the effluent stream in ppm after each adjustment was made; and the concentration of O2 at which the NOx and CO concentrations were measured. [N.J.A.C. 7:27-19.16(c)]	

Date: 6/4/2008

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit:

U1 PTF BOILER STACK

OS3 PTF BOILER (B-1) COMBUSTION - NO. 2 FUEL OIL

Operating Scenario:

Delete all applicable requirements related to fuel oil for U1 OS3

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement				
1	TSP <= 0.12 lb/hr. [N.J.A.C. 7.27-8.13(h)]	None.	None.	None.				
2	PM-10 (Total) <= 0.12 lb/hr. [N.J.A.C. 7:27- 8.13(h)]	None.	None.	None.				
3	VOC (Total) <= 0.12 lb/hr. [N.J.A.C. 7:27-8.13(h)]	None.	None.	None.				
4	CO <= 0.82 lb/hr. [N.J.A.C. 7:27- 8.13(h)]	None.	None.	None.				
5	NOx (Total) <= 1.43 lb/hr. [N.J.A.C. 7:27-8.13(h)]	None.	None.	None.				
6	SO2 <= 1.88 lb/hr. [N.J.A.C. 7:27- 8.13(h)]	SO2: Monitored by stack emission testing once initially and every 5 years, based on any 60 minute period. [N.J.A.C. 7:27-8.13(d)1]	S62: Recordkeeping by stack test results once initially and every 5 years. [N.J.A.C. 7:27-8.13(d)3]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to stack testing requirements specified in this permit. [N.J.A.C. 7:27- 8.4(f)5]				
7	No visible emissions. As specified in N.J.A.C. 7:27-3.2(c), this provision does not apply to smoke which is visible for a period of time of not longer than three (3) minutes in any consecutive 30-minute period. [N.J.A.C. 7:27- 3.2(a)]	Monitored by visual determination each week during operation, based or an instantaneous determination. The permittee shall conduct the visual inspection during daylight hours. Visual inspections shall consist of a visual survey to identify if the stack has visible emissions (other than condensed water vapor) greater than the prescribed standard. If visible emissions are observed and the corrective action taken does not correct the opacity problem within 24 hours, the permittee shall perform a check via a certified opacity reader, in accordance with N.J.A.C. 7:27B-2. Such test shall be conducted each operating day until corrective action is taken to successfully correct the opacity problem. [N.J.A.C. 7:27-8.13(d)1]	Recordkeeping by manual logging of parameter each week during operation. The permittee shall maintain the following records: (1) Date and time of inspection; (2) Emission point number; (3) Operational status of equipment; (4) Observed results and conclusions; (5) Description of corrective actions taken if necessary; (6) Date and time opacity problem was solved, if applicable; (7) N.J.A.C. 7:27B-2 results if conducted; and (8) Name of person(s) conducting inspection. [N.J.A.C. 7:27-8.13(d)3]	Conduct an inspection: Upon occurrence of event. If visible emissions are observed, the permittee shall verify that the equipment and/ or control device causing the emission is operating according to manufacturer's specifications and the compliance plan. If the equipment or control device is not operating properly, the permittee shall take corrective action immediately to eliminate the excess emissions. The permittee shall report any permit violation to the Department pursuant to N.J.A.C. 7:27-8.13(d)4. [N.J.A.C. 7:27-8.13(d)4]				
8	Sulfur Content in Fuel <= 0.2 weight %. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records once per bulk fuel shipment, based on no averaging period. [N.J.A.C. 7:27- 8.13(d)1]	Sulfur Content in Fuel: Recordkeeping by fuel certification receipts once per bulk fuel shipment. [N.J.A.C. 7:27- 8.13(d)1]					

CAMDEN CNTY MUA DELAWARE #1 WPCF (50163)

PCP070004

New Jersey Department of Environmental Protection Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO2 <= 0.21 lb/MMBTU. [N.J. A.C. 7:27-9.2(e)]	SO2: Monitored by review of fuel delivery records once per bulk fuel shipment, based on no averaging period. [N.J.A.C. 7:27-8.13(d)1]	SO2: Recordkeeping by fuel certification receipts once per bulk fuel shipment. [N.J.A.C. 7:27- 8.13(d)1]	
10	The permittee shall annually adjust the combustion process as specified at N.J.A.C. 7:27-19.16(a): Inspect burner, and clean or replace necessary components. Inspect flame patterns and the system controlling air-to-fuel ratio and make necessary adjustments to ensure optimum burner efficiency. [N.J.A.C. 7:27-19.7(a)1]		Recordkeeping by manual logging of parameter annually. The permittee shall record the date and times of the adjustment; the name, title and affiliation of the person who made the adjustment; the concentration of NOx and CO in the effluent stream in ppm after each adjustment was made; and the concentration of O2 at which the NOx and CO concentrations were measured. [N.J.A.C. 7:27-19.16(c)]	
11	Particulate Emissions <= 5.22 lb/hr. [N.J.A.C. 7:27- 4.2(a)]	None.	None.	None.

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Date: 6/4/2008

New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit:

U1 PTF BOILER STACK

OS4 PTF BOILER (B-2) COMBUSTION - NO. 2 FUEL OIL

Operating Scenario:

The requirements for this item are identical to those for: U1 OS3

Delete all applicable requirements related to fuel oil for U1 OS4

Add New U1 OS5 PTF Boiler (B-3) Combustion - Natural Gas applicable requirements here:

TSP <= 0.09 lb/hr

PM10<= 0.09 lb/hr

NOx<=1.13 lb/hr

CO <= 0.95 lb/hr

VOC <= 0.06 lb/hr

SO2 < = 0.01 lb/hr (Deminimis)

Attachment D

Netting Analysis

NJ01 - NETTING ANALYSIS RESULTS - Consistent with N.J.A.C. 7:27-18.7

Facility Information — Facility PI: 50163 Facility Name: Camden County Municipal Utilities Authority BOP Activity: 52517

Calculation of NI for this Permit Action - NO DATA ENTRY REQUIRED

This table is automatically populated after Table 1 and Table 2 below are completed.

	IP	INP	IF	IA	DO	DC	NI	Significant Net	Significant Net
								Emission Increase	Emission
Air Contaminant	Emission Increase	Emission Increase	Emission Increase	Emission Increase	Emission Decrease	Emission Decrease	Net Emission	Thresholds	Increase?
	from Permitted	from Non-	from Fugitive	from the Current	from Emission	from Creditable	Increase at the	(N.J.A.C. 7:27-18.7	Yes/No
	Sources	Permitted Sources	Emissions	Modification	Offsets	Emission	Facility	Table 3)	
						Reductions			
VOC	18.22	0.00	0.00	0.27	0.00	0.00	18.49	25	No
NOx	12.00	0.00	0.00	4.94	0.00	0.00	16.94	25	No
СО	36.32	0.00	0.00	4.15	0.00	0.00	40.47	100	No
SO2	3.62	0.00	0.00	0.22	0.00	0.00	3.84	40	No
TSP	1.66	0.00	0.00	0.38	0.00	0.00	2.04	25	No
PM10	1.66	0.00	0.00	0.38	0.00	0.00	2.04	15	No
PM2.5	1.40	0.00	0.00	0.38	0.00	0.00	1.78	10	No

Table 1 - Calculation of Total IA for this Permit Action (Modification or GOP) - ENTER ALL DATA FOR THIS PERMIT ACTION

	Emission Unit /		Start of Constr.	Start of	VOC	NOx	CO	SO2	TSP	PM10	PM2.5
Equipment ID	Batch Process	Equipment Description	Date	Operation Date	TPY						
E-103	U1	PTF Boiler No. 3	12/21/2020	12/21/2020	0.27	4.94	4.15	0.22	0.38	0.38	0.38
	Totals for this Permit Action (IA):					4.94	4.15	0.22	0.38	0.38	0.38

NJ01 - NETTING ANALYSIS RESULTS PAGE 1 OF 4

Table 2 - Total IP, INP, IF, DO, & DC for the Contemporaneous Period – ENTER ALL DATA FOR THE CONTEMPORANEOUS PERIOD SHOWN BELOW

Contemporaneous Period Start: 1/1/2015 Contemporaneous Period End: 12/21/2020

Use the Equipment ID drop-down filter to uncheck blank rows before printing.

	Emission Unit /			Permit Approval		VOC	NOx	СО	SO2	TSP	PM10	PM2.5
Equipment ID		Equipment Description	BOP Activity	Date	Netting Term	TPY	TPY	TPY	TPY	TPY	TPY	TPY
	U2	Two CHPs and Four digester tanks	,	4/29/2019	IP	13.97	9.93	33.11	3.62	1.40	1.40	1.40
	U3	Dual fuel boiler		4/29/2019	IP		1.04	0.53		0.26	0.26	
	U4	Emergency generator engine		4/29/2019	IP	0.03	0.07	0.14				
	U1001	Sludge Handling Biofilter System		4/1/2016	IP	4.22						
	U1002	Two NG boilers serving SH Biofilter		4/1/2016	IP		0.96	2.54				

NJ01 - NETTING ANALYSIS RESULTS PAGE 2 OF 4

	Emission Unit /			Permit Approval		VOC	NOx	CO	SO2	TSP	PM10	PM2.5
Equipment ID	Batch Process	Equipment Description	BOP Activity	Date	Netting Term	TPY	TPY	TPY	TPY	TPY	TPY	TPY
_qa.pc	Datem 1 Tocc33	Equipment Description	DOI Activity	Dute	recting remi							

NJ01 - NETTING ANALYSIS RESULTS PAGE 3 OF 4

	Emission Unit /			Permit Approval		VOC	NOx	CO	SO2	TSP	PM10	PM2.5
Equipment ID	Batch Process	Equipment Description	BOP Activity	Date	Netting Term	TPY	TPY	TPY	TPY	TPY	TPY	TPY

NJ01 - NETTING ANALYSIS RESULTS PAGE 4 OF 4



