JOINT MEETING OF ESSEX & UNION CNTYS (41813)

Date: 4/7/2022

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: BOP **Number:** 200001

Description of Modifications: Add two (2) identical Cogen engines to Emission Unit U43.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): JOINT MEETING OF ESSEX & UNION CN **Facility ID (AIMS):** 41813

Street Address: JOINT MEETING OF ESSEX AND UNION COUNTIE
500 SOUTH FIRST ST
ELIZABETH, NJ 07202

Mailing Address: JOINT MEETING OF ESSEX AND UNION COUNTIE
500 SOUTH FIRST ST
ELIZABETH, NJ 07202

State Plane Coordinates:

X-Coordinate:	2,129,000
Y-Coordinate:	659,000
Units:	Feet
Datum:	NAD27
Source Org.:	xAddress Match
Source Type:	Hard Copy Map

County: Union

Location Description: Municipal Wastewater Treatment

Industry:

Primary SIC:	4952
Secondary SIC:	
NAICS:	221320

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: N/A
Name: STEPHEN T. PASCUCCI, P.E.
Title: CHEMICAL ENGINEER
Phone: (908) 353-1313 x
Fax: (908) 353-7925 x
Other: ( ) - x
Type:
Email: spascucci@jmeuc.com

Org. Type: Municipal
NJ EIN: 00226002146

Mailing Address: 500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

Contact Type: BOP - Operating Permits

Organization: N/A
Name: STEPHEN T. PASCUCCI, P.E.
Title: CHEMICAL ENGINEER
Phone: (908) 353-1313 x0324
Fax: (908) 353-7925 x
Other: ( ) - x
Type:
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Org. Type: Municipal
NJ EIN: 00226002146

Mailing Address: 500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

Contact Type: Emission Statements

Organization: N/A
Name: STEPHEN T. PASCUCCI, P.E.
Title: CHEMICAL ENGINEER
Phone: (908) 353-1313 x
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Org. Type: Municipal
NJ EIN: 00226002146

Mailing Address: 500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: On-Site Manager

Organization: N/A

Name: STEPHEN DOWHAN

Title: SUPERINTENDENT

Phone: (908) 353-1313 x

Fax: (908) 353-7925 x

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Type:

Email: sdowhan@jmeuc.com

Org. Type: Municipal

NJ EIN: 00226002146

Mailing Address: 500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

Contact Type: Responsible Official

Organization: N/A

Name: HANIFA JOHNSON

Title: EXECUTIVE DIRECTOR

Phone: (908) 353-1313 x

Fax: (908) 353-7925 x

Other: ( ) - x

Type:

Email: hjohnson@jmeuc.com

Org. Type: Municipal

NJ EIN: 00226002146

Mailing Address: 500 SOUTH FIRST STREET
ELIZABETH, NJ 07202

New Jersey Department of Environmental Protection
Equipment Inventory

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E79	GBT 2	Gravity Belt Thickener No. 2	Manufacturing and Materials Handling Equipment	PCP020001	7/15/2005	No	7/15/2005	
E80	GBT 3	Gravity Belt Thickener No. 3	Manufacturing and Materials Handling Equipment	PCP020001	10/1/2005	No	10/1/2005	
E81	GBT Filtrate	Filtrate Wet Well	Manufacturing and Materials Handling Equipment	PCP020001	7/1/2005	No	7/1/2005	
E82	GBT 1 Cake	Cake Well No. 1	Manufacturing and Materials Handling Equipment	PCP020001	7/1/2005	No	7/1/2005	
E83	GBT 2 Cake	Cake Well No. 2	Manufacturing and Materials Handling Equipment	PCP020001	7/15/2005	No	7/15/2005	
E84	GBT 3 Cake	Cake Well No. 3	Manufacturing and Materials Handling Equipment	PCP020001	10/1/2005	No	10/1/2005	
E301	CD1 & 2	Waste Gas Burner #1 and 2 for Digesters	Fuel Combustion Equipment (Other)					
E4301	Engine #1	Cogen Engine #1	Stationary Reciprocating Engine	PCP030001		No		ES1
E4302	Engine #2	Cogen Engine #2	Stationary Reciprocating Engine	PCP030001		No		ES1
E4303	Engine #3	Cogen Engine #3	Stationary Reciprocating Engine		1/1/2024	No		ES1
E4304	Engine #4	Cogen Engine #4	Stationary Reciprocating Engine	PCP030001		No		ES1

New Jersey Department of Environmental Protection
Equipment Inventory

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E4305	Engine #5	Cogen Engine #5	Stationary Reciprocating Engine	PCP030001		No		ES1
E4306	Engine #6	Cogen Engine #6	Stationary Reciprocating Engine		1/1/2024	No		ES1
E4401	EMGENP&O	230 KW Emergency Generator in P&O Bldg (2.7 MMBtu/hr)	Emergency Generator		1/1/1976	No	1/1/1976	
E4402	EMGENLAB	275 KW Emergency Generator in P&O Bldg (3.3 MMBtu/hr)	Emergency Generator		3/1/2008	No	3/1/2008	
E4501	Sandblaster	Econoline Abrasive Blaster	Manufacturing and Materials Handling Equipment		3/1/2014	No		
E5701	CD7	Waste Gas Burner for Sludge Storage Tanks #1 and 2	Fuel Combustion Equipment (Other)					

New Jersey Department of Environmental Protection
Control Device Inventory

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD22	CD22	Boiler	Other	7/15/1996	No	9/11/2000	
CD4301	Cat Ox 1	Catalytic Oxidizer	Oxidizer (Catalytic)		No		
CD4302	Cat Ox 2	Catalytic Oxidizer	Oxidizer (Catalytic)		No		
CD4303	Cat Ox 3	Catalytic Oxidizer	Oxidizer (Catalytic)	1/1/2024	No		
CD4304	Cat Ox 4	Catalytic Oxidizer	Oxidizer (Catalytic)		No		
CD4305	Cat Ox 5	Catalytic Oxidizer	Oxidizer (Catalytic)		No		
CD4306	Cat Ox 6	Catalytic Oxidizer	Oxidizer (Catalytic)	1/1/2024	No		
CD4501	Sandblstr DC	Econoline Dust Collector	Particulate Filter (Cartridge)	3/1/2014	No		

New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT37	PT37	Waste gas burner: sludge storage tanks #1 & #2 - Waste gas burner bldg.	Round	20	39	240	1,200.0	1,140.0	1,260.0	524.0	498.0	550.0	Up	
PT40	PT40	VAC-U-MAX unit - Round room - Sludge transfer station	Round	11	8	209	70.0	65.0	80.0	504.0	479.0	529.0	Up	
PT41	PT41	Pelletization system (Flue V) - Dryer Facility	Round	14	91	94	70.0	65.0	80.0	3,400.0	3,230.0	3,570.0	Up	
PT42	GBTs	Gravity Belt Thickeners Exhaust	Round	36	43	260	70.0	20.0	105.0	30,500.0	27,450.0	33,550.0	Up	
PT44	EMGENP&O	Emergency Generator - P & O Bldg.	Round	5	11	270	900.0	700.0	1,100.0	1,900.0	1,600.0	2,200.0	Up	
PT45	EMGENLAB	Emergency Generator - New Lab Bldg.	Round	6	10	270	1,250.0	1,000.0	1,500.0	2,400.0	2,000.0	2,800.0	Up	
PT121	PT121	Pugmill #1, EF-19 - Dewatering Facility	Round	12	79	97	75.0	65.0	120.0	1,270.0	500.0	1,490.0	Up	
PT122	PT122	Pugmill #2, EF-20 - Dewatering Facility	Round	12	79	123	75.0	65.0	120.0	1,270.0	500.0	1,490.0	Up	
PT201	PT201	Centriguge #1, CE-400 - Dewatering Facility (1st vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT202	PT202	Centriguge #1, CE-400 - Dewatering Facility (2nd vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT211	PT211	Centrifuge #2, CE-401 - Dewatering Facility (1st vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT212	PT212	Centrifuge #2, CE-401 - Dewatering Facility (2nd vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT221	PT221	Centrifuge #3, CE-402 - Dewatering Facility (1st vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT222	PT222	Centrifuge #3, CE-402 - Dewatering Facility (2nd vent)	Round	10	79	163	70.0	55.0	80.0	60.0	24.0	115.0	Up	
PT4301	Eng #1 Stack	RICE Engine #1 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1
PT4302	Eng #2 Stack	RICE Engine #2 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1
PT4303	Eng #3 Stack	RICE Engine #3 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1
PT4304	Eng #4 Stack	RICE Engine #4 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1

JOINT MEETING OF ESSEX & UNION CNTYS (41813)

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New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT4305	Eng #5 Stack	RICE Engine #5 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1
PT4306	Eng #6 Stack	RICE Engine #6 Emission Point	Round	14	30	80	600.0	350.0	910.0	6,000.0	3,500.0	8,000.0	Up	PS 1
PT4307	Eng1 Explos	RICE Engine #1 Explosion Relief Vent	Round	12	33	95	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4308	Eng2 Explos	RICE Engine #2 Explosion Relief Vent	Round	12	33	94	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4309	Eng3 Explos	RICE Engine #3 Explosion Relief Vent	Round	12	33	94	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4310	Eng4 Explos	RICE Engine #4 Explosion Relief Vent	Round	12	33	94	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4311	Eng5 Explos	RICE Engine #5 Explosion Relief Vent	Round	12	33	94	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4312	Eng6 Explos	RICE Engine #6 Explosion Relief Vent	Round	12	33	94	1,500.0	1,000.0	2,000.0	7,000.0	5,000.0	9,000.0	Up	
PT4501	Sandblaster	Econoline Abrasive Blaster	Door	148	6	165	70.0	60.0	100.0	400.0	300.0	400.0	Horizontal	

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

U 42 GBTs Gravity Belt Thickener System

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours Min.	Annual Oper. Hours Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS6	OS6	Cake Well No. 2	Normal - Steady State	E83		PT42	5-01-007-71	7,884.0	8,760.0		337.5	412.5	20.0	105.0
OS7	OS7	Cake Well No. 3	Normal - Steady State	E84		PT42	5-01-007-71	7,884.0	8,760.0		337.5	412.5	20.0	105.0

U 43 CogenEngines Six 8.3 MMBTU/hr RICE Engines

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours Min.	Annual Oper. Hours Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS1	Eng #1 DG	RICE Engine #1 Burning Digester Gas	Normal - Steady State	E4301	CD4301 (P)	PT4301	2-03-007-02	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS2	Eng #2 DG	RICE Engine #2 Burning Digester Gas	Normal - Steady State	E4302	CD4302 (P)	PT4302	2-03-007-02	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS3	Eng #3 DG	RICE Engine #3 Burning Digester Gas	Normal - Steady State	E4303	CD4303 (P)	PT4303	2-03-007-02	0.0	7,500.0		3,500.0	8,000.0	350.0	910.0
OS4	Eng #4 DG	RICE Engine #4 Burning Digester Gas	Normal - Steady State	E4304	CD4304 (P)	PT4304	2-03-007-02	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS5	Eng #5 DG	RICE Engine #5 Burning Digester Gas	Normal - Steady State	E4305	CD4305 (P)	PT4305	2-03-007-02	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS6	Eng #6 DG	RICE Engine #6 Burning Digester Gas	Normal - Steady State	E4306	CD4306 (P)	PT4306	2-03-007-02	0.0	7,500.0		3,500.0	8,000.0	350.0	910.0
OS7	Eng #1 NG	RICE Engine #1 Burning Natural Gas	Normal - Steady State	E4301	CD4301 (P)	PT4301	2-03-002-04	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS8	Eng #2 NG	RICE Engine #2 Burning Natural Gas	Normal - Steady State	E4302	CD4302 (P)	PT4302	2-03-002-04	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0

JOINT MEETING OF ESSEX & UNION CNTYS (41813)

Date: 4/7/2022

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

U 43 CogenEngines Six 8.3 MMBTU/hr RICE Engines

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours Min.	Annual Oper. Hours Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS9	Eng #3 NG	RICE Engine #3 Burning Natural Gas	Normal - Steady State	E4303	CD4303 (P)	PT4303	2-03-002-04	0.0	7,500.0		3,500.0	8,000.0	350.0	910.0
OS10	Eng #4 NG	RICE Engine #4 Burning Natural Gas	Normal - Steady State	E4304	CD4304 (P)	PT4304	2-03-002-04	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS11	Eng #5 NG	RICE Engine #5 Burning Natural Gas	Normal - Steady State	E4305	CD4305 (P)	PT4305	2-03-002-04	0.0	8,760.0		3,500.0	8,000.0	350.0	910.0
OS12	Eng #6 NG	RICE Engine #6 Burning Natural Gas	Normal - Steady State	E4306	CD4306 (P)	PT4306	2-03-002-04	0.0	7,500.0		3,500.0	8,000.0	350.0	910.0
OS13	Eng #1 Vent	RICE Engine #1 Explosion Relief Scenario	Malfunction	E4301		PT4307	2-03-007-02 2-03-002-04	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0
OS14	Eng #2 Vent	RICE Engine #2 Explosion Relief Scenario	Malfunction	E4302		PT4308	2-03-002-04 2-03-007-02	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0
OS15	Eng #3 Vent	RICE Engine #3 Explosion Relief Scenario	Malfunction	E4303		PT4309	2-03-007-02 2-03-002-04	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0
OS16	Eng #4 Vent	RICE Engine #4 Explosion Relief Scenario	Malfunction	E4304		PT4310	2-03-002-04 2-03-007-02	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0
OS17	Eng #5 Vent	RICE Engine #5 Explosion Relief Scenario	Malfunction	E4305		PT4311	2-03-007-02 2-03-002-04	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0
OS18	Eng #6 Vent	RICE Engine #6 Explosion Relief Scenario	Malfunction	E4306		PT4312	2-03-002-04 2-03-007-02	0.0	1.0		5,000.0	9,000.0	1,000.0	2,000.0

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U43 CogenEngines**

Operating Scenario: **OS0 Summary**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO			24.73000000	24.73000000	tons/yr	No
Formaldehyde			4.76000000	4.76000000	tons/yr	No
HAPs (Total)			4.76000000	4.76000000	tons/yr	No
NOx (Total)			40.98000000	40.98000000	tons/yr	No
PM-10 (Total)			3.16000000	3.16000000	tons/yr	No
TSP			3.16000000	3.16000000	tons/yr	No
VOC (Total)			11.33000000	11.33000000	tons/yr	No

Subject Item: **U43 CogenEngines**

Operating Scenario: **OS3**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO		9.90000000	0.99000000	0.99000000	lb/hr	No
Formaldehyde		0.85000000	0.19000000	0.19000000	lb/hr	No
HAPs (Total)		0.85000000	0.19000000	0.19000000	lb/hr	No
NOx (Total)		1.33000000	1.33000000	1.33000000	lb/hr	No
PM-10 (Total)		0.18000000	0.18000000	0.18000000	lb/hr	No
TSP		0.18000000	0.18000000	0.18000000	lb/hr	No
VOC (Total)		1.81200000	0.45300000	0.45300000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U43 CogenEngines**

Operating Scenario: **OS6**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO		9.90000000	0.99000000	0.99000000	lb/hr	No
Formaldehyde		0.85000000	0.19000000	0.19000000	lb/hr	No
HAPs (Total)		0.85000000	0.19000000	0.19000000	lb/hr	No
NOx (Total)		1.33000000	1.33000000	1.33000000	lb/hr	No
Pb					lb/hr	No
PM-10 (Total)		0.18000000	0.18000000	0.18000000	lb/hr	No
SO2					lb/hr	No
TSP		0.18000000	0.18000000	0.18000000	lb/hr	No
VOC (Total)		1.81200000	0.45300000	0.45300000	lb/hr	No

Subject Item: **U43 CogenEngines**

Operating Scenario: **OS9**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO		9.90000000	0.99000000	0.99000000	lb/hr	No
Formaldehyde		0.85000000	0.19000000	0.19000000	lb/hr	No
HAPs (Total)		0.85000000	0.19000000	0.19000000	lb/hr	No
NOx (Total)		1.33000000	1.33000000	1.33000000	lb/hr	No
Pb					lb/hr	No
PM-10 (Total)		0.18000000	0.18000000	0.18000000	lb/hr	No
SO2					lb/hr	No
TSP		0.18000000	0.18000000	0.18000000	lb/hr	No
VOC (Total)		1.81200000	0.45300000	0.45300000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U43 CogenEngines**

Operating Scenario: **OS12**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO		9.90000000	0.99000000	0.99000000	lb/hr	No
Formaldehyde		0.85000000	0.19000000	0.19000000	lb/hr	No
HAPs (Total)		0.85000000	0.19000000	0.19000000	lb/hr	No
NOx (Total)		1.33000000	1.33000000	1.33000000	lb/hr	No
Pb					lb/hr	No
PM-10 (Total)		0.18000000	0.18000000	0.18000000	lb/hr	No
SO2					lb/hr	No
TSP		0.18000000	0.18000000	0.18000000	lb/hr	No
VOC (Total)		1.81200000	0.45300000	0.45300000	lb/hr	No