Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

03/18/2025

Title V O-1333-24-V
Statement of Basis

Source:	**Recast Energy Louisville, LLC (Recast)** **4014 Bells Lane** **Louisville, KY 40211**	**Owner:**	**Recast Energy, LLC** **P.O. Box 71686** **Richmond, VA 23255**

Application Documents:	See Table I-9	Administratively Complete:	August 02, 2024
Draft Permit:	01/30/2025	Proposed Permit:	03/18/2025
Permitting Engineer:	Blake Clark		
Plant ID: 1333	SIC: 4961	NAICS: 221330	

Introduction

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

This permit action renews the Title V Operating Permit.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5,}$), and sulfur dioxide (SO_2). Jefferson County is classified as a nonattainment area for ozone (O_3).

Permit Application Type

☐ Initial issuance

Permit Revision
- ☐ Administrative
- ☐ Minor
- ☐ Significant

☒ Permit renewal

Compliance Summary

☐ Compliance certification signed
☐ Source is out of compliance
☐ Compliance schedule included
☒ Source is operating in compliance

I Source Information

1. Product Description

Recast Energy is an industrial energy service provider.

2. Process and Emission Unit Description

Produces steam with biomass and natural gas boilers that is then purchased by adjacent chemical plants.

Emission Unit	Equipment Description
U1 - Boilers	No. 4 Boiler, with an oxygen trim system, Babcock & Wilcox (Wood Residue/ Biomass Only) [190 MMBtu/Hr] No. 8 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr] No. 9 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr]

3. Site Determination

There are no other facilities that are contiguous or adjacent to this facility.

4. Environmental Justice Analysis

According to U.S. EPA's EJScreen 2.3, as of January 2025, the area within a one-mile radius of Recast Energy Louisville, LLC is comprised of 94% People of Color (POC) and 60% low-income. The state of Kentucky is comprised of 16% POC and 37% low-income. The approximate population within this area is 4,868.

5. Fugitive Sources

There are fugitive emissions from fuel handling and ash handling operations.

6. Permit Revisions

Permit No.	Public Notice	Issue Date	Change Type	Description/Scope
27652-14-TV	05/24/14	07/08/14	Initial	Initial Permit Issuance
O-1333-19-V	10/26/19	12/11/19	Renewal	Title V Permit Renewal
O-1333-19-V	01/30/25	03/18/25	Renewal	Title V Permit Renewal

7. Application and Related Documents

Document Number	Date	Description
802712	06/03/2024	Title V Renewal Application
888738	10/03/2024	Insignificant Activities PTE

8. Emission Summary

Pollutant	Actual Emissions 2023 Data (tpy)	Potential Emissions (tpy)	Pollutant that triggered Major Source Status (based on PTE)
CO	137.01	568.70	Yes
NO_x	93.91	209.51	Yes
SO_2	9.18	21.30	No
PM_{10}	10.78	256.59	Yes
$PM_{2.5}$	10.78	222.65	Yes
VOC	6.44	18.69	No
Total HAPs	14.30	34.94	Yes
Highest Single HAP			
Hydrogen chloride	6.96	15.81	Yes

9. Applicable Requirements

☒	40 CFR 60	☒	SIP	☒	40 CFR 63
☐	40 CFR 61	☒	District Origin	☐	Other

10. Referenced Federal Regulations

40 CFR Part 60 Subpart Db – *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*

40 CFR Part 60 Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

40 CFR Part 63 Subpart JJJJJJ – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*

11. Non-Applicable Regulations

None

II Regulatory Analysis

1. Acid Rain Requirements

Recast Energy Louisville, LLC is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Recast Energy Louisville, LLC does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r)

Recast Energy Louisville, LLC does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

4. 40 CFR Part 64 Applicability Determination

Recast Energy Louisville, LLC is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring*.

5. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
1.05	Compliance with Emission Standards and Maintenance Requirements	Establishes standards for VOC control and capture equipment.
5.00	Definitions	Establishes definitions of terms used in the Strategic Toxic Air Reduction Program
5.01	General Provisions	Establishes general provisions for process equipment from which a toxic air contaminant is or may be emitted
5.20	Methodology for Determining Benchmark	Establishes the methodology for determining the benchmark

Regulation	Title	Basis
	Ambient Concentration of a Toxic Air Contaminant	ambient concentration of a toxic air contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants	Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant
5.23	Categories of Toxic Air Contaminants	Establishes categories of toxic air contaminants
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	Establishes the determination procedure for Reasonably Available Control Technology for major VOC and NO_x emitting facilities that are subject to Prevention of Significant Deterioration of Air Quality
7.06	Standards of Performance for New Indirect Heat Exchangers	Applies to each indirect heat exchanger having input capacity of more than one million BTU per hour commenced after September 1, 1976
40 CFR 60 Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	Subpart Db establishes a PM emission limit for Boiler #4, a modified Subpart Db affected facility. There are no emission limits for SO_2 or NO_X for wood combustion.
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Subpart Dc applies to Boilers #8 and #9 as steam generating units for which construction is commenced after June 9, 1989 and have heat input capacities less than 100 MMBtu/hr, but greater than 10 MMBtu/hr.
40 CFR 63 Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	Subpart JJJJJJ establishes work practice standards, emission reduction measures, and management practices for Boiler #4, an existing affected source. Subpart JJJJJJ does not apply to natural gas-fired boilers.

b. Plantwide

i. Recast Energy Louisville, LLC is a major source for CO, NO_x and $PM_{10}/PM_{2.5}$. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources.

ii. Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.

iii. Recast Energy Louisville, LLC submitted a TAC Environmental Acceptability Demonstration to the District on December 28, 2010, and an updated EA demonstration June 4, 2014. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. SCREEN3 air modeling was performed for emission units that have non-de minimis TAC emissions. The District reviewed the EA Demonstrations submitted by the source. The following table demonstrates that the plantwide risk values presented in the source's EA Demonstration comply with the STAR EA goals required in Regulation 5.21.

TAC	Modeled Concentrations	BAC_C	BAC_{NC}	R_C (individual EA goal of 1)	HQ (individual EA goal of 1)
Acetaldehyde	2.06E-03	0.45	9	0.0046	0.0002
Acrolein	9.92E-03	--	0.02	--	0.4960
Arsenic & Compounds	5.46E-05	0.00023	0.015	0.2374	0.0036
Benzene	1.04E-02	0.45	30	0.0231	0.0003
Benzo(a)pyrene	6.45E-06	0.00091	--	0.0071	--
Beryllium	2.73E-06	0.00042	0.02	0.0065	0.0001
Cadmium	1.02E-05	0.00056	0.1	0.0182	0.0005
Carbon tetrachloride	1.12E-04	0.17	0.2	0.0007	0.0001
Chlorine	1.96E-03	--	300	--	0.0006
Chloroform	6.94E-05	0.043	0.008	0.0016	6.53E-06
Chromium, hex.	8.68E-06	0.000083	0.2	0.1046	0.0087
Cobalt & Compounds	3.55E-04	--	2	--	4.34E-05
Copper & Compounds	2.67E-03	--	400	--	0.0002
Ethylene dichloride (1,2-dichloroethane)	7.19E-05	0.038	9	0.0019	6.68E-06
Formaldehyde	1.09E-02	0.077	20	0.1416	7.99E-06
Hydrogen chloride	4.71E-02	--	--	--	0.0005
Lead & Compounds	1.19E-04	0.08	0.05	0.0015	--
Manganese & Compounds	3.97E-03	--	3	--	0.0794
Naphthalene	2.41E-04	0.029	0.05	0.0083	0.0001
Nickel & Compounds	7.94E-05	0.0038	17.5	0.0209	0.0016
Pentachlorophenol	1.26E-07	0.196	0.07	6.43E-07	7.20E-09
Phosphorus	6.70E-05	--	--	--	0.0010
Polycyclic Organic Matter	3.10E-04	0.00091	--	0.3407	--
Styrene	4.71E-03	1.7	1000	0.0028	4.71E-06
Tetrachlorodibenzo-p-dioxin, 2,3,7,8	2.13E-11	2.63E-08	4.00E-05	0.0008	5.33E-07
			Total RC	**0.9221**	
			Total EA Goal	**3.8**	

TAC with De Minimis Emissions	
Acetophenone	Methyl Bromide (bromomethane)
Aluminum	Methyl Chloride (chloromethane)
Antimony & Cmpd	Methyl Chloroform (111 trichloroethane)
Benzo(a)anthracene	Methylene Chloride (dichloromethane)
Benzo(b)fluoranthene	Nitrophenol, 4
Benzo(j,k)fluoranthene	Perchloroethylene (tetrachloroethylene)
Bis(2-ethylhexyl)phthalate (DEHP)	Phenol
Chlorobenzene	Polychlorinated biphenyls
Chromium, trivalent	Propionaldehyde
Chrysene	Propylene dichloride (1,2-dichloropropane)
Dibenzo(a,h)anthracene	Selenium
Dinitrophenol, 2,4-	Toluene
Ethylbenzene	Trichloroethylene (trichloroethene)
Hexane	Vinyl chloride
Indeno(1,2,3,c,d)pyrene	o-Xylene
Mercury	

iv. Regulation 2.16, section 4.1.9.1 and 4.1.9.2 require monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

v. Regulation 2.16, section 4.3.5, requires stationary sources for which a Title V is issued to submit an annual compliance certification by April 15 of the following calendar year. In addition, as required by Regulation 2.16, section 4.1.9.3, the source shall submit compliance reports at least every six months to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.16, section 3.5.11.

c. Emission Unit U1 – Boilers

EP	Description	Applicable Regulations	Control ID
E-BLR- #4BLR	No. 4 Boiler, with an oxygen trim system, Babcock & Wilcox (Wood Residue/ Biomass Only) [190 MMBtu/Hr]	6.42, 7.06, 40 CFR Part 60 Db and 40 CFR Part 63 Subpart JJJJJJ	C-BLR-#4BLRMLC and C-BLR-#4BLRESP
E-BLR- #8BLR	No. 8 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr]	6.42, 7.06 and 40 CFR Part 60 Subpart Dc	N/A

EP	Description	Applicable Regulations	Control ID
E-BLR- #9BLR	No. 9 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr]	6.42, 7.06 and 40 CFR Part 60 Subpart Dc	N/A

Control ID	Description	Control Efficiency
C-BLR-#4BLRMLC	Multiclone (Vented to C-BLR-#4BLRESP)	80%
C-BLR-#4BLRESP	Electrostatic Precipitator (ESP)	96%

i. Standards

(1) CO

The owner or operator shall not allow or cause CO emissions from Boilers #4, #8, and #9 to equal or exceed 249.4 tons during any consecutive 12-month period and 49.9 tons during any calendar month. [to avoid Regulation 2.05]

(2) GHG

The owner or operator shall not allow or cause the CO2e emissions from Boilers #4, #8 and #9 to equal or exceed 230,375 tons during any consecutive 12-month period. [to avoid Regulation 2.05]

(3) HAP

(a) The owner or operator shall not allow or cause the plant-wide emissions of any individual HAP to equal or exceed 10 tons during any consecutive 12- month period. [Regulation 2.03]

(b) The owner or operator shall not allow or cause the plant-wide emissions of all HAPs combined to equal or exceed 25 tons during any consecutive 12- month period. [Regulation 2.03]

(4) NOx

The owner or operator shall comply with the NOX RACT Plan – Amendment 2 that was adopted by Board Order on May 21, 2014. [Regulation 6.42, section 4.3]

(5) Opacity

For Boilers #4, #8, and #9, the owner or operator shall not cause to be discharged from each boiler particulate matter

emissions which exhibit greater than 20% opacity except: [Regulation 7.06, section 4.2]

(6) $PM/PM_{10}/PM_{2.5}$

(a) For Boiler #4, the owner or operator shall not cause to be discharged into the atmosphere any gases that contain PM in excess of 0.10 lb/MMBtu heat input. This standard applies at all times, except during periods of start-up, shutdown or malfunction. [40 CFR 60.43b(h)(3) and (g)]

(b) For each Boiler #4, #8, and #9, the owner or operator shall not cause to be discharged into the atmosphere from each affected facility particulate matter in excess of 0.10 pound per million BTU actual total heat input. [Regulation 7.06, section 4.1.2]

(c) The owner or operator shall not allow or cause the PM_{10} emissions from Boilers #4, #8, and #9 to equal or exceed 37.8 tons during any consecutive 12-month period and 7.6 tons during any calendar month. [to avoid Regulation 2.05]

(d) The owner or operator shall not allow or cause the PM_{10} emissions from Boilers #4, #8, and #9 to equal or exceed 18.3 tons during any consecutive 12-month period and 3.7 tons during any calendar month. [to avoid Regulation 2.04]

(7) SO_2

(a) For Boiler #4, the owner or operator shall not cause to be discharged into the atmosphere sulfur dioxide in excess of 1.2 pounds per million BTU actual total heat input.8 [Regulation 7.06, section 5.1]

(b) For each Boiler #8 and #9, the owner or operator shall not cause to be discharged into the atmosphere sulfur dioxide in excess of 0.8 pound per million BTU actual total heat input.9 [Regulation 7.06, section 5.1]

(8) TAC [District Only Enforceable]

(a) The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. [Regulations 5.00 and 5.21]]

III Other Requirements

1. Temporary Sources

The source did not request to operate any temporary facilities.

2. Short Term Activities

The source did not report any short term activities.

3. Emissions Trading

The source is not subject to emission trading.

4. Alternative Operating Scenarios

The source did not request any alternative operating scenarios.

5. Compliance History Since Last Permit

There are no records of any violations since the issuance of the last operating permit, effective 12/11/19.

6. Insignificant Activities

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Containers, reservoirs or tanks used exclusively for storage of lubricating oils or fuel oils with a vapor pressure of less than 10 mm Hg at conditions of 20C and 760 mm Hg. (Boiler House 1,000 Gallon Diesel Fuel Storage Tank (AST with Submerged Fill) and Portable Diesel Fuel Tote (Less than 250 gals))	1	VOC = 0.0004	Regulation 1.02, Appendix A, 3.9.2
Emission Fuel Handling	NA	PM = 0.160	Regulation 1.02, section 1.38.1.1
Ash Handling	1	PM = 0.008	Regulation 1.02, section 1.38.1.1

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.

3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.

6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.

7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) Basis of Regulation Applicability for IA units.