



Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745



Title V Operating Permit

Permit No.: 27652-14-TV

Plant ID: 1333

Effective Date: 7/8/2014

Expiration Date: 7/31/2019

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Recast Energy Louisville, LLC (Recast)
4014 Bells Lane
Louisville, KY 40211

The applicable procedures of District Regulation 2.16 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than eighteen (18) months and no later than six (6) months prior to the expiration date.

Application No. 60453

Application Received: 11/1/2013

Permit Writer: Shannon Hosey

Administratively Complete:

Public Notice Date: 5/24/2014

Proposed Permit Date: 5/24/2014

A handwritten signature in blue ink, appearing to read "Paul J. Carl".

Air Pollution Control Officer
July 8, 2014

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Title V Permit Revisions/Changes

Revision No.	Issue Date	Public Notice Date	Type	Attachment No./Page No.	Description
Initial	07/08/2014	05/24/2014	Initial	Entire Permit	Initial Issuance

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors</i> , published by U.S. EPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
CO _{2e}	- Carbon dioxide equivalent
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallon
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
HCl	- Hydrogen chloride
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mm Hg	- Millimeters of mercury column height
MM	- Million
NAICS	- North American Industry Classification System
NO _x	- Nitrogen oxides
PM	- Particulate Matter
PM ₁₀	- Particulate Matter less than 10 microns
PM _{2.5}	- Particulate Matter less than 2.5 microns
ppm	- Parts per million
PSD	- Prevention of Significant Deterioration
psia	- Pounds per square inch absolute
QA	- Quality Assurance
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO ₂	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

Title V of the Clean Air Act Amendments of 1990 (the Act) required EPA to create an operating permit program for implementation by state or local air permitting authorities. The purposes of this program are: (1) to require an affected company to assume full responsibility for demonstrating compliance with applicable regulations; (2) to capture all of the regulatory information pertaining to an affected company in a single document; and (3) to make permits more consistent with each other.

A company is subject to the Title V program if it meets any of several criteria related to the nature or amount of its emissions. The Title V operating permit specifies what the affected company is, how it may operate, what its applicable regulations are, how it will demonstrate compliance, and what is required if compliance is not achieved. In Jefferson County, Kentucky, the Louisville Metro Air Pollution Control District (LMAPCD or APCD or District) is responsible for issuing Title V permits to affected companies and enforcing local regulations and delegated federal and state regulations. EPA may enforce federal regulations but not "District Only Enforceable Regulations."

Title V offers the public an opportunity to review and comment on a company's draft permit. It is intended to help the public understand the company's compliance responsibility under the Clean Air Act. Additionally, the Title V process provides a mechanism to incorporate new applicable requirements. Such requirements are available to the public for review and comment before they are adopted.

Title V Permit General Conditions define requirements that are generally applicable to all Title V companies under the jurisdiction of LMAPCD. This avoids repeating these requirements in every section of the company's Title V permit. Company-specific conditions augment the General Conditions as necessary; these appear in the sections of the permit addressing individual emission units or emission points.

The General Conditions include references to regulatory requirements that may not currently apply to the company, but which provide guidance for potential changes at the company or in the regulations during the life of the permit. Such requirements may become applicable if the company makes certain modifications or a new applicable requirement is adopted.

When the applicability of a section or subpart of a regulation is unclear, a clarifying citation will be made in the company's Title V permit at the emission unit/point level. Comments may also be added at the emission unit/point level to give further clarification or explanation.

The owner or operator's Title V permit may include a current table of "insignificant activities." Insignificant activities are defined in District Regulation 2.16 section 1.23, as of the date the permit was proposed for review by U.S. EPA, Region 4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A to District Regulation 1.02, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A to District Regulation 1.02, shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State, and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. [Regulation 2.16, sections 4.1.3, 4.1.13.1, and 4.1.13.7]
2. **Compliance Certification** - The owner or operator shall certify, annually, or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification (Form 9400-O) directly to the EPA and to the District, as set forth in Regulation 2.16, section 4.3.5.4, at the following addresses:

*US EPA - Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960*

*Air Pollution Control District
Room 205
850 Barret Ave
Louisville, KY 40204-1745*

This certification must be postmarked by 15 April of the year following the year for which the certification is being submitted, or other such due date as required by another applicable regulation.

3. **Compliance Schedule** - The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. A schedule of compliance shall be supplemental to, and shall not condone noncompliance with, the applicable requirements on which it is based. For each schedule of compliance, the owner or operator shall submit certified progress reports at least semi-annually, or at a more frequent period if specified in an applicable requirement or by the District in accordance with Regulation 2.16 section 4.3.4. The progress reports shall contain:
 - a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when activities, milestones, or compliance were achieved.
 - b. An explanation of why dates in the schedule of compliance were not or will not be met, and preventive or corrective measures adopted.
4. **Duty to Supplement or Correct Application** - If the owner or operator fails to submit relevant facts or has submitted incorrect information in the permit application, they shall,

upon discovery of the occurrence, promptly submit the supplementary facts or corrected information in accordance with Regulation 2.16, section 3.4.

5. **Emergency Provision**

- a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations if the conditions in Regulation 2.16 are met. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An emergency occurred and that the owner or operator can identify the cause of the emergency;
 - ii. The permitted facility was at the time being properly operated;
 - iii. During the period of the emergency the owner or operator expeditiously took all reasonable steps, consistent with safe operating practices, to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and
 - iv. The owner or operator submitted notice meeting the requirements of Regulation 1.07 of the time when emissions limitations were exceeded because of the emergency. This notice must fulfill the requirement of this condition, and must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- b. In an enforcement proceeding, the owner or operator seeking to establish the occurrence of an emergency has the burden of proof.
- c. This condition is in addition to any emergency or upset provision contained in an applicable requirement. [Regulation 2.16, sections 4.7.1 through 4.7.4]

6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08. Failure to pay the emission fees when due shall constitute a violation of District Regulations. Such failure is subject to penalties and an increase in the fee of an additional 5% per month up to a maximum of 25% of the original amount due. In addition, failure to pay emissions fees within 60 days of the due date shall automatically suspend this permit to operate until the fee is paid or a schedule for payment acceptable to the District has been established. [Regulation 2.08, section 1.8]

7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

8. **Enforceability Requirements** - Except for the conditions that are specifically designated as "District-Only Enforceable Conditions", all terms and conditions of this permit, including any provisions designed to limit a source's potential to emit, are enforceable by EPA and citizens as specified under the Act. [Regulation 2.16, sections 4.2.1 and 4.2.2]

9. **Enforcement Action Defense**

- a. It shall not be a defense for the owner or operator in an enforcement action that it would have been necessary for the owner or operator to halt or reduce the

permitted activity in order to maintain compliance with the conditions of this permit.

- b. The owner or operator's failure to halt or reduce activity may be a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operation. [Regulation 2.16, sections 4.1.13.2 and 4.1.13.3]
10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.
 11. **Information Requests** - The owner or operator shall furnish to the District, within a reasonable time, information requested in writing by the District, to determine whether cause exists for revising, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The owner or operator shall also furnish, upon request, copies of records required to be kept by this permit. [Regulation 2.16, section 4.1.13.6]

If information is submitted to the District under a claim of confidentiality, the source shall submit a copy of the confidential information directly to EPA at the address shown in General Condition 35.b. [Regulation 2.07, section 10.2]
 12. **Insignificant Activities** - The owner or operator shall:
 - a. Notify the District in a timely manner of any proposed change to an insignificant activity that would require a permit revision. [Regulation 2.16, section 5]
 - b. Submit a current list of insignificant activities by April 15 of each year with the annual compliance certification, including an identification of the additions and removals of insignificant activities that occurred during the preceding year. [Regulation 2.16, section 4.3.5.3.6]
 13. **Inspection and Entry** - Upon presentation of credentials and other documents as required by law, the owner or operator shall allow the District or an authorized representative to perform the following during reasonable hours: [Regulation 2.16, section 4.3.2]
 - a. Enter the premises to inspect any emissions-related activity or records required in this permit.
 - b. Have access to and copy records required by this permit.
 - c. Inspect facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required by this permit.
 - d. Sample or monitor substances or parameters to assure compliance with this permit or any applicable requirements.
 14. **Monitoring and Related Record Keeping and Reporting Requirement** - The owner or operator shall comply with the requirements of Regulation 2.16, section 4.1.9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month. The owner or operator shall submit all required monitoring reports at least once every six months,

unless more frequent reporting is required by an applicable requirement. The reporting period shall be 1 January through 30 June and 1 July through 31 December of each calendar year. All reports shall be sent to the District at the address shown in General Condition 2 of these General Conditions and must be postmarked by the 60th day following the end of each reporting period, unless specified elsewhere in this permit. If surrogate operating parameters are monitored and recorded in lieu of emission monitoring, then an exceedance of multiple parameters may be deemed a single violation by the District for enforcement purposes. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All semi-annual compliance reports shall include the statement "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the signature and title of a responsible official of the company.

The semi-annual compliance reports are due on or before the following dates of each calendar year:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year (February 29 for Leap Years)

If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

15. **Off-permit Documents** - Any applicable requirements, including emission limitations, control technology requirements, or work practice standards, contained in an off-permit document cannot be changed without undergoing the permit revision procedures in Regulation 2.16, section 5. [Regulation 2.16, section 4.1.5]
16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.
17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.
18. **Permit Application Submittal** - The owner or operator shall submit a timely and complete application for permit renewal or significant revision. If the owner or operator submits a timely and complete application then the owner or operator's failure to have a permit is not a violation until the District takes formal action on this permit application. This protection shall cease to apply if, subsequent to completeness determination, the owner or operator fails to submit, by the deadline specified in writing by the District, additional information required to process the application as required by Regulation 2.16, sections 3 and 5.2.
19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.

20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16, sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.
21. **Permit Revisions** - No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. [Regulation 2.16, section 4.1.16]
22. **Permit Revision Procedures (Minor)** - Except as provided in 40 CFR Part 72, the Acid Rain Program, this permit may be revised in accordance with Regulation 2.16, section 5.5.
23. **Permit Revision Procedures (Significant)** - A source seeking to make a significant permit revision shall meet all the Title V requirements for permit applications, issuance and Permit renewal, in accordance with Regulation 2.16, section 5.7, and all other applicable District Regulations.
24. **Permit Termination and Revocation by the District** - The District may terminate this permit only upon written request of the owner or operator. The District may revoke a permit for cause, in accordance with Regulation 2.16, section 5.11.1 through 5.11.6. For purposes of section 5.11.1, substantial or unresolved noncompliance includes, but is not limited to:
 - a. Knowingly operating process or air pollution control equipment in a manner not allowed by an applicable requirement or that results in excess emissions of a regulated air pollutant that would endanger the public or the environment;
 - b. Failure or neglect to furnish information, analyses, plans, or specifications required by the District;
 - c. Knowingly making any false statement in any permit application;
 - d. Noncompliance with Regulation 1.07, section 4.2; or
 - e. Noncompliance with KRS Chapter 77.
25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.
26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.
27. **Property Rights** - This permit shall not convey property rights of any sort or grant exclusive privileges in accordance with Regulation 2.16, section 4.1.13.5.
28. **Public Participation** - Except for modifications qualifying for administrative permit amendments or minor permit revision procedures, all permit proceedings shall meet the requirements of Regulations 2.07, section 1; and 2.16, sections 5.1.1.2 and 5.5.4.
29. **Reopening For Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16 section 5.9.
30. **Reopening for Cause by EPA** - This permit may be revised, revoked and reissued or terminated for cause by EPA in accordance with Regulation 2.16 section 5.10.

- 31. **Risk Management Plan (112(r))** - For each process subject to section 112(r) of the Act, the owner or operator shall comply with 40 CFR Part 68 and Regulation 5.15.
- 32. **Severability Clause** - The conditions of this permit are severable. Therefore, if any condition of this permit, or the application of any condition of this permit to any specific circumstance, is determined to be invalid, the application of the condition in question to other circumstances, as well as the remainder of this permit's conditions, shall not be affected. [Regulation 2.16, section 4.1.12]
- 33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.
- 34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.
- 35. **Submittal of Reports, Data, Notifications, and Applications**
 - a. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit as set forth in Regulation 2.16 sections 3.1, 3.3, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.12 shall be submitted to:

*Air Pollution Control District
Room #205
850 Barret Ave
Louisville, KY 40204-1745*
 - b. Documents that are specifically required to be submitted to EPA, as set forth in Regulation 2.16 sections 3.3 and 5.8.5 shall be mailed to EPA at:

*US EPA - Region IV
APTMD - 12th floor
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104*
- 36. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance with Emission Standards and Maintenance Requirements
1.06	Source Self-Monitoring, Emissions Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning

Regulation	Title
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.07	Public Notification for Title V, PSD, and Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.16	Title V Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
6.01	General Provisions (Standards of Performance for Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (Standards of Performance for New Affected Facilities)
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors in the Ambient Air
2.08	Fees
5.00	Definitions (Standards for Toxic Air Contaminants and Hazardous Air Pollutants)
5.01	General Provisions (Standards for Toxic Air Contaminants and Hazardous Air Pollutants)
5.14	Hazardous Air Pollutants and Source Categories
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants

37. **Stratospheric Ozone Protection Requirements** - Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance

(listed in 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts A, B, and F. Those requirements include the following restrictions:

- a. Any facility having any refrigeration equipment that normally contains fifty (50) pounds of refrigerant or more must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added, according to 40 CFR 82.166;
- b. No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided in 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved according to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;
- c. No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or II substance in 40 CFR 82, Subpart A, Appendices A and B, except in compliance with 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;
- d. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined in 40 CFR 82.152) for service, maintenance, or repair unless the person has been properly trained and certified according to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance according to 40 CFR 82.158 and unless the person observes the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- e. No person may dispose of appliances (except small appliances, as defined in 40 CFR 82.152) without using equipment certified for that type of appliance according to 40 CFR 82.158 and without observing the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- f. No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82 Subpart F;
- g. If the permittee manufactures, transforms, imports, or exports, a Class I or II substance (listed in 40 CFR Part 82, Subpart A, Appendices A and B), the permittee is subject to all requirements as specified in 40 CFR 82 Subpart A, Production and Consumption Controls. [Regulation 2.16, section 4.1.5]

Emission Unit U-BLR:**U-BLR Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
1.05	Compliance with Emission Standards and Maintenance Requirements	1, 2, 3, 4 and 5
2.04	Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emission Offset Requirements)	1 through 10
2.05	Prevention of Significant Deterioration of Air Quality	1 and 2
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants	1, 2, 4.1, 4.117, 5 and 6
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1 through 5
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards	1, 2, 3.1, 3.10, 3.11, 3.96, 4 and 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1 through 5; and 8
40 CFR Part 60 Subpart A	General Provisions	60.1 through 60.19
40 CFR Part 60 Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	60.43b(g), 60.43b(h)(3), 60.46b(d), 60.46b(d)(7), 60.48b(a), 60.48b(e), 60.49b(a), 60.49b(a)(3), 60.49b(b), 60.49b(f) and 60.49b(h)(1)
40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	60.48c(a), 60.48c(a)(1), 60.48c(g)(2), and 60.48c(g)(3)
40 CFR Part 63 Subpart A	General Provisions	63.1 through 63.16

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
40 CFR Part 63 JJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	63.11201(b), 63.11205(a), 63.11214(c), 63.11223(a), 63.11223(b), 63.11223(c), 63.11225(a), 63.11225(b), and 63.11225(c)

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions (Standards for Toxic Air Contaminants and Hazardous Air Pollutants)	1 and 2
5.01	General Provisions (Standards for Toxic Air Contaminants and Hazardous Air Pollutants)	1 and 2
5.14	Hazardous Air Pollutants and Source Categories	1, 2 and 5
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.23	Categories of Toxic Air Contaminants	1 through 6

U-BLR Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E-BLR-#4BLR	No. 4 Boiler Babcock & Wilcox, equipped with an oxygen trim system, as defined in 40 CFR 63.11237 (Wood Residue/Biomass Only) [190 MMBtu/Hr]	2.05, 6.42, 7.06, 40 CFR Part 60 Subparts A and Db and 40 CFR Part 63 Subparts A and JJJJJ	C-BLR-#4BLRMLC and C-BLR-#4BLRESP	S-BLR-#4BLR
E-BLR-#5BLR	No. 5 Boiler Erie City (Natural Gas Only) [174 MMBtu/Hr]	2.05, 6.42, 7.06	N/A	S-BLR-#5BLR

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E-BLR-#8BLR	No. 8 Boiler TBD with Low NO _x Burners and Flue Gas Recirculation (FGD) (Natural Gas Only) [99 MMBtu/Hr]	2.05, 6.42, 7.06 and 40 CFR Part 60 Subparts A and Dc	N/A	S-BLR-#8BLR
E-BLR-#9BLR	No. 9 Boiler TBD with Low NO _x Burners and Flue Gas Recirculation (FGD) (Natural Gas Only) [99 MMBtu/Hr]	2.05, 6.42, 7.06 and 40 CFR Part 60 Subparts A and Dc	N/A	S-BLR-#9BLR
E-BLR-#10BLR	No. 10 Boiler TBD with Low NO _x Burners and Flue Gas Recirculation (FGD) (Natural Gas Only) [Not to Exceed 99 MMBtu/Hr]	2.05, 6.42, 7.06 and 40 CFR Part 60 Subparts A and Dc	N/A	S-BLR-#10BLR

U-BLR Control Devices:

ID	Description	Stack ID
C-BLR-#4BLRMLC	Multiclone (Vented to C-BLR-#4BLRESP)	S-BLR-#4BLR
C-BLR-#4BLRESP	Electrostatic Precipitator (ESP)	

U-BLR Specific Conditions**S1. Standards** (Regulation 2.16, section 4.1.1)**a. CO**

The owner or operator shall not allow or cause CO emissions from Boilers #4, #5, #8, #9, and #10 to equal or exceed 249.4 tons during any consecutive 12-month period and 49.9 tons during any calendar month. (Regulation 2.05)(See Comments 1 and 4)

b. NO_x

i. The owner or operator shall comply with the NO_x RACT Plan – Amendment 2 that was adopted by Board Order on May 21, 2014. (Regulation 6.42, section 4.3) (See Comment 3)

ii. The owner or operator shall not allow or cause the oxides of nitrogen (NO_x, expressed as NO₂) emissions from Boiler #4 to exceed 0.50 pound per million Btu of heat input as specified in the NO_x RACT Plan – Amendment 2. (Regulation 6.42, section 4.3) (See Comment 3)

iii. The owner or operator shall not allow or cause the oxides of nitrogen (NO_x, expressed as NO₂) emissions from Boilers #5, #8, #9 and #10 to exceed 0.20 pound per million Btu of heat input per each Boiler as specified in the NO_x RACT Plan – Amendment 2. (Regulation 6.42, section 4.3) (See Comment 3)

c. SO₂

i. 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. (Regulation 7.06, section 5.1) (See Comments 2 and 5)

ii. For each Boiler #5, #8, #9, and #10, 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. (Regulation 7.06, section 5.1) (See Comments 2 and 6)

d. PM/PM₁₀/PM_{2.5}

i. 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))

- ii. For each Boiler #4, #5, #8, #9, and #10, 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)
 - iii. The owner or operator shall not allow or cause the PM₁₀ emissions from Boilers #4, #5, #8, #9, and #10 to equal or exceed 37.8 tons during any consecutive 12-month period and 7.6 tons during any calendar month. (Regulation 2.05) (See Comments 1 and 4)
 - iv. The owner or operator shall not allow or cause the PM_{2.5} emissions from Boilers #4, #5, #8, #9, and #10 to equal or exceed 18.3 tons during any consecutive 12-month period and 3.7 tons during any calendar month. (Regulation 2.04) (See Comments 1 and 4)
 - v. The owner or operator shall operate and maintain the multiclone and electrostatic precipitator (ESP) at all times during normal operation of Boiler #4, as recommended by the manufacturer. (Regulation 2.04, 2.05, Regulation 7.06, and 40 CFR 60 Part Subpart Db) (See Comments 1 and 3)
- e. **Opacity**
- i. For Boiler #4, the owner or operator shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. This standard applies at all times, except during periods of startup, shutdown or malfunction. (40 CFR 60.43b(f) and (g))
 - ii. For Boilers #4, #5, #8, #9, and #10, 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) (See Comment 7)
 - 1) For indirect heat exchangers with a heat input capacity of less than 250 million BTU/Hr, a maximum of 40% opacity shall be permissible for not more than two consecutive minutes in any 60 consecutive minutes;
 - 2) For indirect heat exchangers with heat input capacity of less than 250 million BTU/Hr, a maximum of 40% opacity shall be permissible for not more than six consecutive minutes in any 60 consecutive minutes during cleaning the fire box or blowing soot; or

- 3) For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.
 - iii. For Boilers #4, #5, #8, #9, and #10, the opacity standards set forth in these regulations shall apply at all times except during periods of start-up, shutdown, malfunction, and as otherwise provided in the applicable standard. (Regulation 1.05, section 2.2)
 - iv. For Boilers #4, #5, #8, #9, and #10, at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. (Regulation 1.05, section 5)
- f. **GHG**
- i. The owner or operator shall not allow or cause the CO₂e emissions from Boilers #4, #5, #8, #9, and #10 to equal or exceed 230,375 tons during any consecutive 12-month period. (Regulation 2.05) (See Comments 1 and 4)
 - ii. Pursuant to 40 CFR 52.21(b)(49)(ii)(a), prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions from the combustion of biodegradable organic material. If EPA makes a different determination after July 21, 2014, that new determination will take precedence. (Regulation 2.05) (See Comment 19)
- g. **HAP**
- i. 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 and 2.0 tons during any calendar month. (Regulation 2.03) (See Comment 11)
 - ii. 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 and 5.0 tons during any calendar month. (Regulation 2.03) (See Comment 11)
 - iii. At all times the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any

further efforts to reduce emissions if levels required by this standard (40 CFR Part 63 Subpart JJJJJ) have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the District that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. (40 CFR 63.11205(a)) (See Comment 11)

- iv. For Boiler #4, which is subject to the work practice standard or the management practices of a tune-up, the owner or operator shall conduct a performance tune-up of the boiler according to 40 CFR 63.11223(b) biennially to demonstrate continuous compliance. (Table 2 to 40 CFR Part 63 Subpart JJJJJ as referenced by 40 CFR 63.11201(b), and 40 CFR 63.11223(a) and (b)) Boilers with an oxygen trim system that maintain an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in 40 CFR 63.11223(b)(1) through (7). (40 CFR 63.11223(c)) (See Comment 11)

h. TAC

The owner or operator shall not allow any TAC emissions to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.01 and 5.21) (See Comments 9 and 20)

i. Operations

For Boiler #10, authorized by Construction Permit 32409-11-C(R3), effective September 23, 2013 and subsequently re-issued as Construction Permit 32409-11-C(R4), effective March 5, 2014, approval to construct shall become invalid if construction is not commenced within 12 months of receipt of approval from September 23, 2013. (Regulation 2.03, section 6.4) (See Comments 15 and 18)

S2. Monitoring and Record Keeping (Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. CO

- i. For Boiler #4, the owner or operator shall monthly calculate and record the monthly fuel usage, using the following equation, or another approved methodology:

$$U_4 = W \times \left(1 - \left(\frac{\%M}{100} \right) \right) \times \text{HHV}$$

Where:

- U₄ = Wood heat input/month (MMBtu/month)
- W = Amount of wood fed to the boiler (lb/month)
- %M = Moisture content of the wood fed to the boiler (%)
- HHV = Higher heating value of the wood (MMBtu/dry lb)

- ii. For Boiler #4, the owner or operator shall monitor and record the daily amount of wood fed to the boiler.
- iii. For Boiler #4, the owner or operator shall monitor and record the daily moisture content of the wood fed to the boiler, based on a representative sample of the wood fed to the boiler each operating day. Any instruments and/or equipment used for said testing shall be calibrated and maintained in accordance with the manufacturer’s specifications. Calibration records shall also be maintained in accordance with the manufacturer’s specifications. If the manufacturer does not recommend calibrations, the owner or operator shall maintain a record stating that calibrations are not recommended.
- iv. For Boiler #4, the owner or operator shall determine the higher heating value of the wood fed to the boiler, based on a monthly analysis of a representative sample of the wood fed to the boiler each operating day.
- v. For Boilers #5, #8, #9, and #10, the owner or operator shall monitor and record the monthly amount of natural gas fired.
- vi. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month CO emissions, using the following equation, or another approved methodology:

$$E_{\text{month}} = (EF_4 \times U_4) + (EF_5 \times U_5) + (EF_8 \times U_8) + (EF_9 \times U_9) + (EF_{10} \times U_{10})$$

Where:

- E_{month} = CO emissions/month
- EF = Emission factor (AP-42 emission factor, unless a performance test has been completed)
- U₄ = Wood heat input/month (MMBtu/month)
- U₅, U₈, U₉, U₁₀ = Natural gas fired/month (standard cubic feet/month)

b. **NO_x**

- i. See Specific Conditions S2.a.i. through S2.a.v

- ii. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month NO_x emissions, using the following equation, or another approved methodology:

$$E_{\text{month}} = (EF_4 \times U_4) + (EF_5 \times U_5) + (EF_8 \times U_8) + (EF_9 \times U_9) + (EF_{10} \times U_{10})$$

Where:

E_{month} = NO_x emissions/month
 EF = Emission factor (AP-42 emission factor, unless a performance test has been completed)
 U_4 = Wood heat input/month (MMBtu/month)
 U_5, U_8, U_9, U_{10} = Natural gas fired/month (standard cubic feet/month)

- iii. The owner or operator shall comply with the monitoring and recordkeeping requirements contained in the NO_x RACT Plan – Amendment 2 that was adopted by Board Order on May 21, 2014. (Regulation 6.42, section 4.3)

c. **SO₂**

- i. For Boilers #8, #9, and #10, the owner or operator shall record and maintain records of the amount of natural gas combusted during each calendar month. (40 CFR 60.48c(g)(2))
- ii. As an alternative to meeting the requirements of 40 CFR 60.48c(g)(2) for Boilers #8, #9, and #10, the owner or operator may record and maintain records of the total amount of each steam generating unit fuel delivered to the property during each calendar month. (40 CFR 60.48c(g)(3))

d. **PM/PM₁₀/PM_{2.5}**

- i. See Specific Conditions S2.a.i. through S2.a.v.
- ii. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month emissions of PM₁₀ and PM_{2.5}, using the following equation, or another approved methodology:

$$E_{\text{month}} = [EF_4 \times U_4 \times (1 - CE)] + (EF_5 \times U_5) + (EF_8 \times U_8) + (EF_9 \times U_9) + (EF_{10} \times U_{10})$$

Where:

E_{month}	=	Emissions/month
EF	=	Emission factor (ESP manufacture guarantee or AP-42 emission factor, if uncontrolled, unless a performance test has been completed)
U_4	=	Wood heat input/month (MMBtu/month)
U_5, U_8, U_9, U_{10}	=	Natural gas fired/month (standard cubic feet/month)
CE	=	Control efficiency (80% for the Multiclone and 96% for the ESP $((1-0.80)*(1-0.96))$ unless a performance test has been completed)

- iii. The owner or operator shall perform a monthly visual inspection of the structural and mechanical integrity of the multiclone and the ESP for signs of damage, air leakage, corrosion, or other equipment defects, and repair and/or replace defective components as needed. The owner or operator shall maintain monthly records of the results.
- iv. For any period of time when Boiler #4 was operating and a control device was not operating, the owner or operator shall maintain the following records:
 - 1) The date, start and stop time;
 - 2) The plant-wide consecutive 12-month PM/PM₁₀/PM_{2.5} emissions, using the equation in Specific Condition S2.d.ii., where the emissions from the time period(s) and fuel usage rate(s) in which the process was operated and the control device was not operated are calculated using a zero control efficiency;
 - 3) The appropriate emission standard for PM/PM₁₀/PM_{2.5};
 - 4) The fuel usage; and
 - 5) Summary information on the cause or reason for each event, corrective action taken to minimize the extent of each event, and measures implemented to prevent reoccurrence.

e. **Opacity**

- i. For Boiler #4, the owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. (40 CFR 60.7(b))

- ii. For Boiler #4, the owner or operator shall install, certify, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. (40 CFR 60.48b(a))
- iii. For Boiler #4, the owner or operator shall maintain records of the opacity. (40 CFR 60.49b(f))
- iv. For Boiler #4, the procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring system. (40 CFR 60.48b(e))
- v. Compliance with opacity standards shall be determined by conducting observations in accordance with the reference method as defined in Regulation 1.02. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative, but not conclusive, evidence of the actual opacity of an emission. The owner or operator shall meet the burden of proving that the instrument used at the time of the alleged violation meets performance specifications as required by the District, has been properly maintained and calibrated, and that the resulting data have not been tampered with in any way. (Regulation 1.05, section 2.1)
- vi. For Boilers #5, #8, #9, and #10, there are neither monitoring nor record keeping requirements for Opacity. (See Comment 7)

f. **GHG**

The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month CO₂e emissions, using the following equation, or another approved methodology:

$$E_{\text{month}} = (EF_4 \times U_4) + (EF_5 \times U_5) + (EF_8 \times U_8) + (EF_9 \times U_9) + (EF_{10} \times U_{10})$$

Where:

- E_{month} = Emissions/month (tons)
- EF = CO₂e emission factor, expressed in terms of CO₂e
- U₄ = Wood heat input/month (MMBtu/month)
- U₅, U₈, U₉, U₁₀ = Natural gas fired/month (standard cubic feet/month)

g. **HAP**

- i. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month *plant-wide* emissions of each individual HAP.
- ii. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month *plant-wide* total HAP emissions.
- iii. For Boiler #4, the owner or operator shall maintain the records specified in 40 CFR 63.11225(c)(1), (2), (4) and (5). (40 CFR 63.11225(c) as referenced by 40 CFR 63.11223(a))

h. **TAC**

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.
- ii. If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

i. **Operations**

For Boiler #4, see Specific Condition S2.d.i.

S3. **Reporting** (Regulation 2.16, section 4.1.9.3)

The owner or operator shall submit semi-annual compliance reports that include the information in this section. Duplicative reporting is not required. All reports shall include emission unit ID numbers, and/or emission point ID numbers, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviations from permit requirements. (See Comment 14)

a. **CO**

The owner or operator shall report the monthly and consecutive 12-month CO emissions for each month in the reporting period.

b. **NO_x**

- i. The owner or operator shall report the monthly and consecutive 12-month NO_x emissions for each month in the reporting period.

- ii. The owner or operator shall comply with the reporting requirements contained in the NO_x RACT Plan – Amendment 2 that was adopted by Board Order on May 21, 2014. (Regulation 6.42, section 4.3)

c. **SO₂**

For Boilers #8, #9, and #10, the owner or operator shall submit notification of the date of construction or reconstruction and actual startup, as provided by 40 CFR 60.7. This notification shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. (40 CFR 60.48c(a) and (a)(1))

d. **PM/PM₁₀/PM_{2.5}**

- i. The owner or operator shall report the monthly and consecutive 12-month PM₁₀ and PM_{2.5} emissions for each month in the reporting period.
- ii. For periods of time when Boiler #4 was operating and the multiclone and/or the ESP was not operating, the owner or operator shall report the information recorded in Specific Condition S2.d.iv. or a negative declaration if the control device was operating at all times the process was operating during the reporting period.

e. **Opacity**

- i. For Boiler #4, the owner or operator is required to submit excess emission reports for any excess emissions that occurred during the reporting period. (40 CFR 60.49b(h)(1))
- ii. The owner or operator of a process or process equipment has a general duty to ensure that the emissions from the process or process equipment are in compliance with all applicable emission standards. This includes starting up and shutting down the process or process equipment in a manner that the emissions are in compliance with all applicable emission standards and, consistent with safe operating procedures, stopping input feed to the process or process equipment and shutting down the process or process equipment if excess emissions would likely result from an upset condition. (Regulation 1.07, section 2.1)
- iii. For Boilers #5, #8, #9, and #10, there are no reporting requirements for Opacity. (See Comment 7)

f. **GHG**

The owner or operator shall report the consecutive 12-month GHG emissions, as CO₂e for each month in the reporting period.

g. **HAP**

- i. The owner or operator shall report the monthly and consecutive 12-month *plant-wide* emissions of the highest individual HAP for each month in the reporting period.
- ii. The owner or operator shall report the monthly and consecutive 12-month *plant-wide* emissions of total HAP for each month in the reporting period.
- iii. For Boiler #4, the owner or operator shall submit the notifications specified in 40 CFR 63.11225(a)(1), (2) and (4). (40 CFR 63.11225(a)) (See Comment 11)
- iv. For Boiler #4, which is subject only to a 40 CFR Part 63 Subpart JJJJJ MACT standard requirement to conduct a tune-up every 5 years according to 40 CFR 63.11223(a), (b) and (c), and is not subject to a MACT emission limit or operating limit, the owner or operator must prepare, by March 1, and submit to the District by March 31, a 5-year compliance report as specified in 40 CFR 63.11225(b)(1) and (2). (40 CFR 63.11225(b)) (See Comment 11 and 14)

h. **TAC**

Within 6 months of a change of a raw material as described in Specific Condition S2.h.ii., the owner or operator shall submit the re-evaluated EA demonstration to the District.

S4. **Testing** (Regulation 2.16, section 4.1.9.1)

The owner or operator shall construct all equipment in such a manner that the following testing requirements can be performed.

a. **NO_x**

The owner or operator shall comply with the testing requirements contained in the NO_x RACT Plan – Amendment 2 that was adopted by Board Order on May 21, 2014. (Regulation 6.42, section 4.3)

b. **PM/PM₁₀/PM_{2.5}**

- i. For Boiler #4, the owner or operator shall conduct an initial PM performance test as required under 40 CFR 60.8, and shall conduct subsequent performance tests as requested by the District, using the procedures and reference methods in 40 CFR 60.46b(d). (40 CFR 60.46b(d))

- ii. The owner or operator shall submit a written compliance test plan that includes the EPA test methods that will be used, a test program summary, data quality objectives, the process operating parameters (e.g., fuel usage) that will be monitored during the compliance test, and the control device performance indicators (e.g., voltage) that will be monitored during the compliance test. The compliance test plan shall be furnished to the District at least 30 calendar days prior to the actual date of the compliance test.
 - iii. A pre-test survey and conference shall be arranged at least 20 working days in advance of the projected starting date for the performance test.
 - iv. The owner or operator shall provide the District at least 10 days prior notice of any compliance test to afford the District the opportunity to have an observer present.
 - v. The owner or operator shall furnish the District with a written report of the results of the compliance test within 60 days following the actual date of completion of the compliance test that includes the process operating parameters, the control device performance indicators and the implications of the test results. (40 CFR 60.49b(b))
- c. **Opacity**
- i. For Boiler #4, the owner or operator shall conduct an initial performance test as required under 40 CFR 60.8, and shall conduct subsequent performance tests as requested by the District, using Method 9 of Appendix A of 40 CFR Part 60 for determining the opacity of stack emissions. (40 CFR 60.46b(d)(7))
 - ii. See Specific Condition S4.b.

U-BLR Comments

1. The potential uncontrolled emissions of CO and CO_{2e}, and the potential controlled emissions of PM₁₀ and PM_{2.5} from Boilers #4, #5, #8, #9, and #10 combined resulted in a significant emissions increase and a significant net emissions increase, as defined in District Regulations 2.04, *Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emission Offset Requirements)*, and 2.05, *Prevention of Significant Deterioration for Air Quality*. Therefore, the source was required to accept an emission limit to avoid Nonattainment NSR (New Source Review) for PM_{2.5}, and to also accept an emission limit for each of CO, PM₁₀ and CO_{2e} to avoid PSD/NSR. See Comment 4 for a description of the contemporaneous increases and decreases in actual emissions. Ninety percent of the significant emission rate was added to the contemporaneous decrease to establish the emission limit.

Pollutant	Total Potential Emissions (tpy)	Contemporaneous Decrease (tpy)	Total Potential Net Emissions (tpy)	Significant Emission Rate (tpy)	Emission Limit (tpy)
CO	716.24	159.44	556.80	100	249.4
PM ₁₀	50.20	24.30	25.90	15	37.8
PM _{2.5}	50.20	9.26	40.94	10	18.3
CO _{2e}	298,140	162,875	135,265	75,000	230,375

2. The potential emissions of the following regulated pollutants from Boilers #4, #5, #8, #9, and #10 combined did not result in a significant emissions increase, as defined in District Regulation 2.05, *Prevention of Significant Deterioration for Air Quality*. Therefore, PSD/NSR does not apply and the source is not required to accept an operational or emission limit to avoid PSD/NSR. (See Comment 8)

Pollutant	Total Potential Emissions (tpy)	Significant Emission Rate (tpy)
SO ₂	22.82	40
VOC	27.85	40
Lead	0.04	0.6

3. The potential uncontrolled emissions of NO_x and the potential controlled emissions of PM from Boilers #4, #5, #8, #9, and #10 combined resulted in a significant emissions increase, as defined in District Regulation 2.05, *Prevention of Significant Deterioration for Air Quality*. However, the uncontrolled emissions of NO_x and the potential controlled emissions of PM from Boilers #4, #5, #8, #9 and #10 combined did not result in a significant net emissions increase, as defined in District Regulation 2.05. Therefore, for NO_x, PSD/NSR does not apply and the source is not required to accept an operational or emission limit to avoid PSD/NSR. For PM, the source is required to accept an operational limit to operate the control devices to avoid PSD/NSR. See Comment 4 for a description of the contemporaneous increases and decreases in actual emissions.

Pollutant	Potential Controlled Emissions (tpy)	Contemporaneous Decrease (tpy)	Total Potential Net Emissions (tpy)	Significant Emission Rate (tpy)
NO _x	356.62	471.39	-114.77	40
PM	50.20	68.74	-18.53	25

4. Boilers #1, #6 and #7 have been physically removed from the plant site, not to return. Baseline actual emissions from the shutdown of Boilers #1 and #6 on December 1, 2010 were included in the netting analysis as a contemporaneous decrease. The replacement of the Ash Silo (Construction Permit 358-05-C) is both a contemporaneous increase and a contemporaneous decrease. Note, however, the Ash Silo was subsequently physically removed from the plant site, not to return. This removal of the Ash Silo was completed in early 2012.
5. The District has performed a one-time SO₂ compliance demonstration for Boiler #4, using AP-42 emission factors, and the pounds per million BTU emission standard in District Regulation 7.06 cannot be exceeded. Therefore, there are neither monitoring and record keeping nor reporting, requirements for this boiler with respect to SO₂ emission limits.
6. The District has performed a one-time SO₂ and PM compliance demonstration for Boilers #5, #8, #9, and #10, using AP-42 emission factors, and the pounds per million BTU emission standards in District Regulation 7.06 cannot be exceeded. Therefore, there are neither monitoring and record keeping nor reporting, requirements for these boilers for compliance with Regulation 7.06.
7. The District has determined that using a natural gas-fired boiler will inherently meet the 20% opacity standard. Therefore, the source is not required to perform periodic monitoring to demonstrate compliance with the opacity standard for Boilers #5, #8, #9, and #10.
8. Pollutants emitted from Boilers #4, #5, #8, #9, and #10 but not cited in this permit's Specific Conditions, such as VOC and Lead, have no underlying applicable regulatory standards and therefore have no monitoring and recordkeeping requirements, and also no reporting requirements.
9. The TAC emissions from the combustion of natural gas are considered to be "de minimis emissions" by the District for the purposes of the District-only enforceable STAR Program. These de minimis TAC emissions include all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler. (Regulation 5.21, section 2.7)
10. As defined in 40 CFR 60.41b of 40 CFR Part 60 Subpart Db, *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, the wood-fired Boiler #4 is not considered a municipal-type solid waste fueled steam generating unit. Furthermore, wood means, also per 40 CFR 60.41b, "wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sander dust, wood chips, scraps, slabs, millings, shavings, and processed pellets made

from wood or other forest residues.” Note, wood is also defined in 40 CFR Part 63 Subpart JJJJJ under the definition of “biomass” and also under the definition of “clean cellulosic biomass” per 40 CFR Part 241, *Solid Wastes Used as Fuels or Ingredients in Combustion Units* (Non-Hazardous Secondary Materials RCRA Rule).

With respect to the New Source Performance Standards (NSPS) codified in 40 CFR Part 60, Boiler #4 is subject to Subpart Db; Boilers #8, #9 and #10 are subject to Subpart Dc (*Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*); and Boiler #5 is not subject to any NSPS at this time due to its installation date.

11. The HAP emission limits were taken to avoid applicability of 40 CFR Part 63 Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*. The limits will ensure the source remains a synthetic minor source for HAPs. As a synthetic minor source, or area source, of HAP emissions, the source is, however, subject to the applicable requirements of 40 CFR Part 63 Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. At the time of this permit issuance, the requirements of 40 CFR Part 63 Subpart JJJJJ apply. If Subpart JJJJJ changes, any new requirements under the regulation will apply. Any requirements removed from Subpart JJJJJ will be removed from the permit when the source applies for a permit modification. Only Boiler #4 is subject to 40 CFR Part 63 Subpart JJJJJ. (Per 40 CFR 63.11195(e), gas-fired Boilers #5, 8, 9, and 10 are not subject to any requirements of 40 CFR Part 63 Subpart JJJJJ.)

For the purposes of 40 CFR Part 63 Subpart JJJJJ, Boiler #4 is considered an existing affected boiler (or source) in the biomass subcategory of boilers, and it is not subject to any emission limit (per Table 1 to 40 CFR Part 63 Subpart JJJJJ as referenced by 40 CFR 63.11201(a)). Boiler #4 is, however, subject to the applicable work practice standards, emission reduction measures, and management practices of Table 2 to 40 CFR Part 63 Subpart JJJJJ as referenced by 40 CFR 63.11201(b). These include an initial tune-up, and tune-ups every 5 years thereafter, conducted as specified in 40 CFR 63.11223, and a one-time energy assessment completed according to Table 2. The initial tune-up and the one-time energy assessment each have a final compliance date of no later than March 21, 2014 (40 CFR 63.11196(a)(1) and (3)). The source submitted the Initial Notification required by 40 CFR 63.11225(a)(2) to be submitted no later than January 20, 2014 in a letter dated September 16, 2011. The Notification of Compliance Status required by 40 CFR 63.11225(a)(4) is to be submitted by the source no later than 120 days after the final compliance date of March 21, 2014, or no later than July 19, 2014. Note, per 40 CFR 63.11223, because Boiler #4 has an oxygen trim system that maintains an optimum air-to-fuel ratio and is otherwise subject to a biennial tune-up, a tune-up of the boiler must be conducted every 5 years as specified in 40 CFR 63.11223(b)(1) through (7).

12. Fuel handling and ash handling operations were considered existing processes for the modification project. The Ash Silo was subsequently physically removed from the plant site, not to return. See Comment 4.

13. For Boiler #4, the owner or operator shall determine compliance with the emission standards in Specific Condition S1.d.i. through performance testing in S4.b. (40 CFR 60.46b(b))

14. Compliance reports are due on or before the following dates of each calendar year:

<u>Report Description</u>	<u>Reporting Period</u>	<u>Report Due Date</u>
1st Semiannual Title V (Including NOx RACT Plan Reporting)	January 1 st through June 30 th	August 29 th
2nd Semiannual Title V (Including NOx RACT Plan Reporting)	July 1 st through December 31 st	March 1 st (Feb. 29 th for Leap Year)
1st Semiannual NSPS	January 1 st through June 30 th	July 30 th
2nd Semiannual NSPS	July 1 st through December 31 st	January 30 th
5-Year MACT Compliance Certification Report	January 1 st through December 31 st of Year Following 5-Years	Prepare by March 1 st of Year Following 5-Yrs; Submit by March 31 st

15. Construction Permit 32409-11-C(R5) incorporates a change to 40 CFR Part 63 Subpart JJJJJ which allows boilers that maintain an oxygen trim system to conduct a tune-up every five years instead of on a biennial basis. (78 FR 7506, February 1, 2013) Construction Permit 32409-11-C(R4), issued effective March 5, 2014, corrected missing standards in Construction Permit 32409-11-C(R3). Construction Permit 32409-11-C(R3), issued effective September 23, 2013, allowed for three additional natural gas-fired boilers to be constructed, each not to exceed 99 MMBtu/hour. With this addition, Recast requested to remain under the plant-wide emission limits cited in Construction Permits 32409-11-C(R2) and 32409-11-C(R1). (Construction Permit 32409-11-C(R2) corrected the effective date of Construction Permit 32409-11-C(R1) from February 28, 2013 to February 22, 2013.) Construction Permit 32409-11-C(R1) allowed for the construction of a permanent boiler, not to exceed 99 MMBtu/Hr, to replace the 95 MMBtu/Hr temporary boiler that commenced construction on December 1, 2010 under Construction Permit 93-10-C, which was issued effective August 18, 2010. (Although Construction Permit 93-10-C included the construction of two temporary boilers, the second temporary boiler was not constructed. The temporary boiler has been removed.)

16. Construction Permit 32409-11-C, issued effective June 14, 2011, allowed the source to modify Boiler #4 to combust wood biomass fuel instead of coal. Boiler #5 was removed from emergency service and permitted to combust only natural gas. The baghouse for Boiler #4 was replaced with an electrostatic precipitator (ESP). Start-up commenced October 17, 2012. Operation (of steam production) commenced December 10, 2012. See Comment 10 regarding the applicability of 40 CFR Part 60 New Source Performance Standards (NSPS) to Boilers #4 and #5.

17. Construction Permit 32409-11-C(R4), issued effective March 5, 2014, replaced Construction Permit 32409-11-C(R3). Construction Permit 32409-11-C(R3), issued effective September 23, 2013, replaced Construction Permit 32409-11-C(R2), issued effective February 22, 2013.
18. Pursuant to Regulation 2.03, section 6.5, the District may extend the time for construction following a satisfactory demonstration that an extension is justified.
19. The CO_{2e} emission limit does not include CO₂ emissions from biogenic sources, as temporarily deferred by U.S. EPA until July 21, 2014. With the deferral, any CO₂ emissions from biogenic sources are excluded, while without the deferral, they must be included.
20. Recast is subject to the STAR program requirements in accordance with Regulations 5.01, 5.21, and 5.23. The potential uncontrolled TAC emissions, utilizing AP-42 emission factors for wood residue combustion, result in an R_C of 0.95 and the highest HQ of 0.509 for Acrolein. All other TAC emissions are de minimis.

TAC with De Minimis Emissions	
Acetophenone	Methyl chloride (Chloromethane)
Antimony & Compounds	Methyl chloroform (1,1,1-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 & Compounds	Propionaldehyde
Chrysene	Propylene dichloride (1,2-dichloropropane)
Dibenzo(a,h)anthracene	Selenium & Compounds
Dinitrophenol, 2,4-	Toluene
Ethylbenzene	Trichloroethylene (Trichloroethene)
Indeno(1,2,3,c,d)pyrene	Vinyl chloride
Mercury	o-Xylene
Methyl bromide (Bromomethane)	

TAC with Emissions above De Minimis	
Acetaldehyde	Ethylene dichloride (1,2-Dichloroethane)
Acrolein	Formaldehyde
Arsenic & Compounds	Hydrochloric acid (Hydrogen chloride)
Benzene	Lead Compounds
Benzo(a)pyrene	Manganese & Compounds
Beryllium & Compounds	Naphthalene
Cadmium & Compounds	Nickel & Compounds
Carbon tetrachloride	Pentachlorophenol
Chlorine	Phosphorus
Chloroform	Polycyclic Organic Matter
Chromium, hex. & Compounds	Styrene
Cobalt & Compounds	Tetrachlorodibenzo-p-dioxin, 2,3,7,8-
Copper & Compounds	Trichlorophenol, 2,4,6-

Permit Shield

The owner or operator is hereby granted a permit shield that shall apply as long as the owner or operator demonstrates ongoing compliance with all conditions of this permit. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements of the regulations cited in this permit as of the date of issuance, pursuant to Regulation 2.16, section 4.6.1.

Off-Permit Documents

There are no off permit documents associated with this Title V permit.

Alternative Operating Scenario

The company requested no alternative operating scenario in its Title V application.

Insignificant Activities

Equipment	Quantity	Regulation Basis
Fixed or mobile internal combustion engines and vehicles used for transport of passengers or freight, unless regulated elsewhere. (Forklifts, Vehicles, Fuel-Moving Equipment, etc.)	12	Regulation 1.02, Appendix A, 2.2
Brazing, soldering or welding equipment. (Maintenance Portable Welding Station(s) – EPA White Papers)	7	Regulation 1.02, Appendix A, 3.4
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	2	Regulation 1.02, Appendix A, 3.9.2

Equipment	Quantity	Regulation Basis
Fuel Storage Tank (AST with Submerged Fill) and Portable Diesel Fuel Tote (Less than 250 gals))		
Emergency relief vents, stacks and ventilating systems not otherwise regulated. Includes, but is not limited to, steam, return condensate and natural gas lines.	30	Regulation 1.02, Appendix A, 3.10
Lab exhaust systems (1 On-Site Laboratory)	1	Regulation 1.02, Appendix A, 3.11
Storage vessels for VOCs with a maximum capacity of 250 gallons or less. (Maintenance Materials Miscellaneous Totes and Drums)	25	Regulation 1.02, Appendix A, 3.24
Recast Maintenance Water/Steam Blasting Cleaning	2	EPA White Papers
Recast Boiler Water Chemical Treatment System, Including (but not limited to) Make-Up Water/Process Tanks and Associated Truck Loading/Unloading	1	EPA White Papers
Wood Conveying System for Boiler #4, including truck unloading of wood	N/A	Regulation 1.02, section 1.38.1.1
Ash Handling and Dumpsters Containing Boiler #4 Ash	5	Regulation 1.02, section 1.38.1.1

- 1) Insignificant Activities identified in District Regulation 1.02, section 1.38, may be subject to size or production rate disclosure requirements pursuant to District Regulation 2.16, section 3.5.4.1.4.
- 2) Insignificant Activities identified in District Regulation 1.02, section 1.38.1, shall comply with generally applicable requirements.
- 3) Activities identified in Regulation 1.02, section 1.38.1, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the permit pursuant to District Regulation 2.16, section 4.1.9.4.
- 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) In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential-to-Emit (PTE) as the annual emission for each listed Insignificant Activity.
- 6) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA Region 4.
- 7) The owner or operator shall annually submit an updated list of Insignificant Activities, including an identification of the additions and removals of Insignificant Activities that occurred during the preceding year, with the compliance certification due April 15th.

Attachment A – Draft NO_x RACT Plan - Amendment 2

1. Recast Energy Louisville, LLC (Recast) has achieved a significant NO_x emissions reduction without the installation of additional controls through the use of alternate fuels that result in lower NO_x emissions. No. 4 Boiler has been converted from combusting coal to combusting wood residue/biomass, and No. 5, No. 8, No. 9 and No.10 will only combust natural gas. (No. 5 Boiler previously was permitted to burn fuel oil as a back-up fuel.)
2. The oxides of nitrogen (NO_x, expressed as NO₂) emissions from No. 4 Boiler shall not exceed 0.50 pound per million Btu of heat input.
3. The oxides of nitrogen (NO_x, expressed as NO₂) emissions from No. 5, No. 8, No. 9 and No. 10 Boilers shall not exceed 0.20 pound per million Btu of heat input per each Boiler.
4. Recast shall conduct a biennial performance test for NO_x on each Boiler; No. 4, No. 5, No. 8, No. 9 and No. 10. If any of Boilers No. 8, No. 9 and/or No. 10 are identical, Recast may conduct a biennial performance test for NO_x on only one of these identical boilers as long as the make, model and heat input are the same. The requirements of section 5.1 of APCD Regulation 6.42, *Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides- Emitting Facilities*, have been met by Recast, and subject to the annual performance test schedule reinstatement provision, performance testing may be done on a biennial schedule. Performance testing shall meet the following requirements:
 - A. Emissions concentrations and the mass determinations shall be obtained using Reference Method of Appendix A to 40 CFR Part 60. The following methods shall be used:
 - 1) Method 1 or 1A, which furnishes guidance in site and traverse selection for sampling velocity at traverse points in stationary sources;
 - 2) Method 2, 2A, 2B, 2C, 2D, 2E, 2F, 2G or 2H, which applies to measurements of gas volumetric flow rates;
 - 3) Method 3, 3A, 3B or 3C, which is applicable for determining the concentrations of one or more of the following gases: carbon dioxide, O₂, CO, nitrogen and methane;
 - 4) Method 4, which determines the moisture content in stack gases; and
 - 5) Method 7, 7A, 7B, 7C, 7D or 7E, which provides the analytical method for determining the concentration of NO_x emissions from stationary sources.
 - B. The use of other Reference Methods that are added to 40 CFR Part 60 Appendix A, alternative tests or modifications to the Reference Methods listed in NO_x RACT Plan Element (Element) No. 4.A. may be proposed by Recast as part of the testing plan required by Element No. 4.D. Such methods may be used if approved in writing by the District.

- C. Performance testing shall meet the requirements of APCD Regulation 1.04, *Performance Tests*, that are not addressed in this Element.
 - D. A notification of intent to conduct a performance test shall be submitted to the District at least 25 working days in advance of the projected starting date for the performance test. The notification shall include the proposed test methods to be used.
 - E. If a pre-test conference to discuss the proposed test methods is deemed necessary by the District, a pre-test conference shall be arranged by District personnel.
 - F. At least 10 working days' prior notice of the scheduled starting date for the performance test shall be provided to the District.
 - G. A performance test report shall be submitted to the District within 60 days of the actual date of completion of performance testing. The report shall include the calculations used to determine emissions. The NO_x emission rate shall be expressed in both pounds per hour and pounds per million Btu formats. The raw data shall be retained by Recast for a minimum of 5 years and made available to the District upon request. Selected portions of the raw data used to calculate the emissions shall be included in the report in a format provided by the District.
5. Recast shall comply with the tune-up requirements for No. 4 Boiler in 40 CFR Part 63 Subpart JJJJJ (Area Sources) beginning with the first compliance date of March 21, 2014. (Note, No. 5, No. 8, No. 9 and No. 10 Boilers are not subject to 40 CFR Part 63 Subpart JJJJJ.)
6. Recast shall keep a record identifying all deviations from the requirements of this NO_x RACT Plan and shall submit to the District a written report of all deviations that occurred during the preceding semiannual period. Semiannual periods shall run from January 1 to June 30, and from July 1 to December 31. The report shall contain the following information:
- A. The boiler number;
 - B. The beginning and ending date of the reporting period;
 - C. Identification of all periods during which a deviation occurred;
 - D. A description, including the magnitude, of the deviation;
 - E. If known, the cause of the deviation; and
 - F. A description of all corrective actions taken to abate the deviation.

If no deviation occurred during the semiannual period, the report shall contain a negative declaration. Each report shall be submitted within 60 days following the end of the semiannual period.

7. In lieu of the requirements in the NO_x RACT Plan, Recast may comply with alternative requirements regarding emission limitations, equipment operation, test methods, monitoring and record keeping, or reporting, provided the following conditions are met.
 - A. The alternative requirements are established and incorporated into an operating permit pursuant to a Title V Operating Permit issuance, renewal, or significant permit revision process as established in Regulation 2.16, *Title V Operating Permits*;
 - B. The alternative requirements are consistent with the streamlining procedures and guidelines set forth in Section II.A. of *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, March 5, 1996, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. The overall effect of compliance with alternative requirements shall consider the effect on an intrinsic basis, such as pounds per million Btu;
 - C. The U.S. Environmental Protection Agency (EPA) has not objected to the issuance, renewal or revision of the Title V Operation Permit; and either
 - D. If the public comment period preceded the EPA review period, then the District had transmitted any public comments concerning the alternative requirements to EPA with the proposed permit; or
 - E. If the EPA and public comment periods ran concurrently, then the District had transmitted any public comments concerning the alternative requirements to EPA no later than 5 working days after the end of the public comment period.

The District's determination of approval of any alternative requirements is not binding on EPA. Non-compliance with any alternative requirement established pursuant to the Title V Operating Permit process constitutes a violation of this NO_x RACT Plan.