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

Title V Operating Permit

Permit No.: O-1333-19-V **Plant ID**: 1333

Effective Date: 12/11/2019 **Expiration Date**: 12/31/2024

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:

Source: Recast Energy Louisville, LLC
4014 Bells Lane
Louisville, KY 40211

Owner: Recast Energy Louisville, LLC
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 months and no later than six months prior to the expiration date.

Application No.: See **Application and Related Documents** table.

Administratively Complete Date: 01/25/2019

Public Notice Date: 10/26/2019

Proposed Permit Date: 10/26/2019

Permit writer: Shannon Hosey

Air Pollution Control Officer
12/11/2019

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Permit Revisions and Changes

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
27652-14-TV	05/24/2014	07/08/2014	Initial	Initial Issuance
O-1333-19-V	10/26/2019	12/11/2019	Renewal	Title V Renewal

Application and Related Documents

Document Number	Date	Description
DM 96412	01/25/2019	Title V Renewal Application
Handle 3214	6/12/2019	Updated Insignificant Activities

Abbreviations and Acronyms

AP-42 - AP-42, *Compilation of Air Pollutant Emission Factors*, published by U.S.EPA
APCD - Louisville Metro Air Pollution Control District
BAC - Benchmark Ambient Concentration
BACT - Best Available Control Technology
Btu - British thermal unit
CEMS - Continuous Emission Monitoring System
CFR - Code of Federal Regulations
CO - Carbon monoxide
District - Louisville Metro Air Pollution Control District
EA - Environmental Acceptability
gal - U.S. fluid gallons
GHG - Greenhouse Gas
HAP - Hazardous Air Pollutant
Hg - Mercury
hr - Hour
in. - Inches
lbs - Pounds
l - Liter
LMAPCD - Louisville Metro Air Pollution Control District
mmHg - Millimeters of mercury column height
MM - Million
(M)SDS - (Material) Safety Data Sheet
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
RACT - Reasonably Available Control Technology
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) 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 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 shall comply with generally applicable requirements as required by Regulation 2.16,section 4.1.9.4.

General Conditions

G1. **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]

G2. **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
701 W. Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

The owner or operator shall submit the Compliance Certification on or before April 15 of each year, or other such due date as required by another applicable regulation.

G3. **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.

G4. **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.

G5. **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]

G6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 1.3. Failure to pay the emissions 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 1.2.5]

G7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

G8. **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]

G9. **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]

G10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.

G11. **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 G35.b. [Regulation 2.07, section 10.2]

G12. **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]

G13. **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.

G14. **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 paragraph 2 of these General Conditions and must be submitted 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:

Reporting Period	Report Due Date
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

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.

G15. **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]

G16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.

G17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.

G18. **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.

G19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.

G20. **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.

G21. **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]

G22. **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.

G23. **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.

G24. **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.

G25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.

G26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.

G27. **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.

G28. **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.

G29. **Reopening for Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16,section 5.9.

G30. **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.

G31. **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.

G32. **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]

G33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.

G34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.

G35. **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
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

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

G36. **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 Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring, Emission 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
1.14	Control of Fugitive Particulate Emissions
1.18	Rule Effectiveness
1.19	Administrative Hearings
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
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)
2.05	Prevention of Significant Deterioration
2.06	Permit Requirements – Other Sources
2.07	Public Notification for Title V, PSD, and Other 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
3.01	Ambient Air Quality Standards
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.04	Particulate and Sulfur Dioxide Reduction Requirements
4.05	Hydrocarbon and Nitrogen Oxides Reduction Requirements
4.06	Carbon Monoxide Reduction Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
2.16	Title V Operating Permits
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for 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
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

G37. **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 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 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]

Plantwide STAR Requirements

Applicable Regulations

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
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 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Plantwide Specific Conditions

S1. Standards
[Regulation 2.16, section 4.1.1]

a. TAC

i. 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]

ii. For any conditions outside the environmental acceptability analysis, including if a new TAC is introduced or the content of a TAC in a raw material increases above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions at the time of the change. Prior approval by the District is not required for a change pursuant to Regulation 5.21, section 4.22.3 if the requirements of 4.23.1 through 4.23.4 are met. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze.
[Regulation 5.21, Section 4]

iii. If the TAC does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values. The form, located in Attachment B, may be used for determining BAC and *de minimis* values. [Regulation 5.20, Sections 3 and 4]

S2. Monitoring and Record Keeping
[Regulation 2.16, section 4.1.9.1 and 4.1.9.2]

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

a. TAC

i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to, SDS, 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 above *de minimis*, the owner or operator shall verify and document the environmental acceptability of the revised emissions, at the time of the change.

S3. Reporting

[Regulation 2.16, section 4.1.1]

The owner or operator shall report the following information, as required by General Condition G14:

a. TAC

Any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration.

Comments for Plantwide Requirements

1. The facility submitted the TAC Environmental Acceptability (EA) Demonstration to the District on June 2, 2014. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. Based on SCREEN3 air modeling, the maximum off-site HQ for all process/process equipment is less than 1.0 and the maximum off-site R_C is less than 3.8 for the plantwide cumulative risk, the source has demonstrated compliance with the EA Goals for each TAC.

TAC	Modeled Concentrations	BAC_C	BAC_{NC}	R_C	HQ
Acetaldehyde	2.06E-03	0.45	9	0.0046	0.0002
Acrolein	9.92E-03	--	0.02	--	0.4960
Arsenic & Cmpd	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	0.02	0.0182	0.0005
Carbon tetrachloride	1.12E-04	0.17	0.1	0.0007	0.0001
Chlorine	1.96E-03	--	0.2	--	0.0006
Chloroform	6.94E-05	0.043	300	0.0016	6.53E-06
Chromium, hex.	8.68E-06	0.000083	0.008	0.1046	0.0087
Cobalt & Cmpd	3.55E-04	--	0.2	--	4.34E-05
Copper & Cmpd	2.67E-03	--	2	--	0.0002
Ethylene dichloride (1,2-dichloroethane)	7.19E-05	0.038	400	0.0019	6.68E-06
Formaldehyde	1.09E-02	0.077	9	0.1416	7.99E-06
Hydrogen chloride	4.71E-02	--	20	--	0.0005
Lead & Cmpd	1.19E-04	0.08	--	0.0015	--
Manganese & Cmpd	3.97E-03	--	0.05	--	0.0794
Naphthalene	2.41E-04	0.029	3	0.0083	0.0001
Nickel & Cmpd	7.94E-05	0.0038	0.05	0.0209	0.0016
Pentachlorophenol	1.26E-07	0.196	17.5	6.43E-07	7.20E-09

Phosphorus	6.70E-05	--	0.07	--	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
			Sum	**0.9221**	**0.5930**
			EA Goal	**3.8**	

TACs 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	

2. 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)

Emission Unit BLR: Boilers

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
6.42	Reasonably Available Control Technology Requirements for Major Volatile Organic Compound- and Nitrogen Oxides-Emitting Facilities	1 through 5
7.06	Standards of Performance for New Indirect Heat Exchangers	1, 2, 3, 4, 5, 8
40 CFR 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 60 Subpart Dc	Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units	60.48c(a), 60.48c(a)(1), 60.48c(g)(1), and 60.48c(g)(3)
40 CFR 63 Subpart JJJJJJ	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	1, 2
5.01	General Provisions	1 through 2

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
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 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E-BLR-#4BLR	No. 4 Boiler, with an oxygen trim system, Babcock & Wilcox (Wood Residue/ Biomass Only) [190 MMBtu/Hr]	1980	2.05, 6.42, 7.06, 40 CFR Part 60 Db and 40 CFR Part 63 Subpart JJJJJJ	C-BLR-#4BLRMLC and C-BLR-#4BLRESP	S-BLR-#4BLR
E-BLR-#8BLR	No. 8 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr]	2014	2.05, 6.42, 7.06 and 40 CFR Part 60 Subpart Dc	NA	S-BLR-#8BLR
E-BLR-#9BLR	No. 9 Boiler Erie City with Low NO_X Burners and Flue Gas Recirculation (Natural Gas Only) [99 MMBtu/Hr]	2014	2.05, 6.42, 7.06 and 40 CFR Part 60 Subpart Dc	NA	S-BLR-#9BLR

Control Devices

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

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, #8, and #9 to equal or exceed 249.4 tons during any consecutive 12-month period and 49.9 tons during any calendar month.[1] [Regulation 2.05]

b. GHG

i. The owner or operator shall not allow or cause the CO_2e emissions from Boilers #4, #8 and #9 to equal or exceed 230,375 tons during any consecutive 12-month period.[1,2] [Regulation 2.05]

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.[3] [Regulation 2.05]

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[1] Boilers #1, #6 and #7 have been physically removed from the plant site, not to return and #10 was never installed. Boiler #5 has been permanently decommissioned/disconnected but has not physically been removed. 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.

[2] The potential uncontrolled emissions of CO and CO_2e, and the potential controlled emissions of PM_{10} 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, PM_{10} and CO_2e to avoid PSD/NSR. See footnote 1 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	759.44	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

[3] The CO_2e emission limit does not include CO_2 emissions from biogenic sources. At the time of establishment of this limit, U.S. EPA had temporarily excluded CO2 emissions from biogenic sources, deferred until July 21, 2014. A policy statement from EPA was released on 4/23/2018 on EPA's Treatment of Biogenic CO_2, stating that EPA will treat biogenic CO_2 emissions from biomass combustion from managed forests at stationary sources for energy production as carbon neutral.

c. 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.[4] [Regulation 2.03]

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.[4] [Regulation 2.03]

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 JJJJJJ) 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.[4] [40 CFR 63.11205(a)]

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

[4] 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 JJJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. Only Boiler #4 is subject to 40 CFR Part 63 Subpart JJJJJJ. (Per 40 CFR 63.11195(e), gas-fired Boilers #8 and #9 are not subject to any requirements of 40 CFR Part 63 Subpart JJJJJJ.)

For the purposes of 40 CFR Part 63 Subpart JJJJJJ, 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 JJJJJJ 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 JJJJJJ 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).

Part 63 Subpart JJJJJJ 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).[4] [40 CFR 63.11223(c)]

d. 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]

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.[5] [Regulation 6.42, section 4.3]

iii. The owner or operator shall not allow or cause the oxides of nitrogen (NO_X, expressed as NO_2) emissions from Boilers #8, and #9 to exceed 0.20 pound per million Btu of heat input per each Boiler as specified in the NO_X RACT Plan – Amendment 2.[5] [Regulation 6.42, section 4.3]

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, #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:[6] [Regulation 7.06, section 4.2]

(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; [Regulation 7.06, section 4.2.1]

(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

[5] A stack test was performed November 15th and 16th, 2017. For Boiler #4, the average NO_X emission rate was 0.243 lb/MMBtu, which is within the permitted limit of 0.50 lb/MMBtu actual heat input. For Boiler #8, the average NO_X emission rate was 0.047 lb/MMBtu, which is within the permitted limit of 0.20 lb/MMBtu actual heat input.

[6] The District has determined that using a natural gas-fired boiler should inherently meet the 20% opacity standard.

during cleaning the fire box or blowing soot; [Regulation 7.06, section 4.2.2]

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. [Regulation 7.06, section 4.2.3]

iii. For Boilers #4, #8, and #9, 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, #8, and #9, 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. $PM/PM_{10}/PM_{2.5}$

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, #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]

iii. 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.[7] [Regulation 2.05]

[7] Boilers #1, #6 and #7 have been physically removed from the plant site, not to return, and #10 was never installed. Boiler #5 has been permanently decommissioned/disconnected but has not physically been removed. 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.

iv. The owner or operator shall not allow or cause the $PM_{2.5}$ 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.[7] [Regulation 2.04]

v. The owner or operator shall operate and maintain the multiclone (C-BLR-#4BLRMLC) and electrostatic precipitator (ESP) (C-BLR-#4BLRESP) 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]

g. SO_2

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.[8] [Regulation 7.06, section 5.1]

ii. 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]

h. TAC

See Plantwide STAR Standards Requirements.

S2. Monitoring and Record Keeping

[Regulation 2.16, section 4.1.9.1 and 4.1.9.2]

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

a. CO

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:

$$E_{month} = (EF_4 \times U_4) + (EF_8 \times U_8) + (EF_9 \times U_9)$$

Where:

E_{month} = CO emissions/month

[8] The District has performed a one-time SO_2 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.

[9] The District has performed a one-time SO_2 and PM compliance demonstration for Boilers #8 and #9, using AP-42 emission factors, and the pounds per million BTU emission standards in District Regulation 7.06 cannot be exceeded.

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

b. GHG

The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month CO_{2e} emissions, using the following equation, or another approved methodology:

$$E_{month} = (EF_4 \times U_4) + (EF_8 \times U_8) + (EF_9 \times U_9)$$

Where:

E_{month} = Emissions/month (tons)
EF = CO_2e emission factor, expressed in terms of CO_2e
U_4 = Wood heat input/month (MMBtu/month)
U_8, U_9 = Natural gas fired/month (standard cubic feet/month)

c. HAP

i. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month plantwide 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 plantwide 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).

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted. [40 CFR 63.11225(c)(1)]

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in §63.11225(c)(2)(i) through (vi). [40 CFR 63.11225(c)(2)]

(a) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. [40 CFR 63.11225(c)(2)(i)]

(b) For each boiler required to conduct an energy assessment, you must keep a copy of the energy assessment report. [40 CFR 63.11225(c)(2)(iii)]

(c) For each boiler subject to an emission limit in Table 1 to this subpart, you must keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used. [40 CFR 63.11225(c)(2)(iv)]

(3) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. [40 CFR 63.11225(c)(4)]

(4) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [40 CFR 63.11225(c)(5)]

d. NO_x

i. See Unit Operations Monitoring and Record Keeping requirements.

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:

$$E_{month} = (EF_4 \times U_4) + (EF_8 \times U_8) + (EF_9 \times U_9)$$

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_8, U_9 = Natural gas fired/month (standard cubic feet/month)

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 #8 and #9, there are neither monitoring nor record keeping requirements for Opacity.[10]

f. $PM/PM_{10}/PM_{2.5}$

i. See Unit Operations Monitoring and Record Keeping requirements.

ii. The owner or operator shall maintain monthly records including calculations that show the calendar month and rolling 12-month emissions of PM_{10} and $PM_{2.5}$, using the following equation, or another approved methodology:

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

Where:

E_{month} = 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_8, U_9 = Natural gas fired/month (standard cubic feet/month)

[10] The District has determined that using a natural gas-fired boiler should inherently meet the 20% opacity standard.

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 $PM/PM_{10}/PM_{2.5}$ emissions, using the equation above, 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 $PM/PM_{10}/PM_{2.5}$;

(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.

g. SO_2

i. For Boilers #8 and #9, 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)(1)]

ii. As an alternative to meeting the requirements of 40 CFR 60.48c(g)(2) for Boilers #8 and #9, 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)]

h. TAC

See Plantwide STAR Monitoring and Record Keeping Requirements.

i. Unit Operations

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:

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

Where:

U_4	=	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 #8 and #9, the owner or operator shall monitor and record the monthly amount of natural gas fired.

S3. Reporting

[Regulation 2.16, section 4.1.1]

The owner or operator shall report the following information, as required by General Condition G14:

a. CO

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

b. GHG

The owner or operator shall report the consecutive 12-month GHG emissions, as CO_2e for each month in the reporting period.

c. HAP

i. The owner or operator shall report the monthly and consecutive 12-month plantwide 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 plantwide 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)]

iv. For Boiler #4, which is subject only to a 40 CFR Part 63 Subpart JJJJJJ 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 a 5-year compliance report, by March 1, and submit to the District by March 31, as specified in 40 CFR 63.11225(b)(1) and (2).[11] [40 CFR 63.11225(b)]

d. 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]

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]

[11] The most recent tune-up on E-BLR-#4BLR was completed on November 14, 2017 and a 5-year compliance report was submitted on March 26, 2019.

iii. For Boilers #8 and #9, there are no reporting requirements for Opacity.[12]

f. $PM/PM_{10}/PM_{2.5}$

i. The owner or operator shall report the monthly and consecutive 12-month PM10 and PM2.5 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 following information:

(1) The date, start and stop time;

(2) The plant-wide consecutive 12-month $PM/PM_{10}/PM_{2.5}$ emissions, 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 $PM/PM_{10}/PM_{2.5}$;

(4) The fuel usage;

(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; or

(6) A negative declaration if the control device was operating at all times the process was operating during the reporting period.

g. SO_2

There are no compliance reporting requirements for SO_2.

h. TAC

See Plantwide STAR Reporting Requirements.

S4. Testing
[Regulation 2.16, section 4.3.1]

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.[13] [Regulation 6.42, section 4.3]

[12] 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 #8 and #9.

[13] A stack test was performed November 15th and 16th, 2017. For Boiler #4, the average NO_X emission rate was 0.243 lb/MMBtu, which is within the permitted limit of 0.50 lb/MMBtu actual heat input. For Boiler #8, the

BLR Comments

1. 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 JJJJJJ 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.

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

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

average NO_X emission rate was 0.047 lb/MMBtu, which is within the permitted limit of 0.20 lb/MMBtu actual heat input.

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	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) unit.

Attachment A – 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. 8 and No. 9 will only combust natural gas.

2. The oxides of nitrogen (NO_X, expressed as NO_2) 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 NO_2) emissions from No. 8 and No. 9 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. 8, and No. 9. If Boilers No. 8 and No. 9 are identical, Recast may conduct a biennial performance test for NOx 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 reinstitution provision, performance testing may be done on a biennial schedule. Performance testing shall meet the following requirements:[14]

   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

[14] A stack test was performed November 15th and 16th, 2017. For Boiler #4, the average NO_X emission rate was 0.243 lb/MMBtu, which is within the permitted limit of 0.50 lb/MMBtu actual heat input. For Boiler #8, the average NO_X emission rate was 0.047 lb/MMBtu, which is within the permitted limit of 0.20 lb/MMBtu actual heat input.

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 JJJJJJ (Area Sources) beginning with the first compliance date of March 21, 2014. (Note, No. 8 and No. 9 Boilers are not subject to 40 CFR Part 63 Subpart JJJJJJ.)

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.

Attachment B – Determination of Benchmark Ambient Concentration (BAC)

Category _____ Number _____

Compound name _____ CAS No. _____

Molecular weight _____

BAC_C = _____ µg/m³, annual BAC_{NC} = _____ µg/m³, _____ (avg period)

de minimis _____ lb/hr; _____ lb/_____; _____ lb/year

I. Carcinogen Risk - BAC_C (annual averaging period) Carcinogen ☐ YES ☐ NO

1. ☐ IRIS 10^{-6} risk = _____ µg/m³ URE = _____ $(µg/m^3)^{-1}$ Date _____
2. ☐ Cal 10^{-6} risk = _____ µg/m³ IUR = _____ $(µg/m^3)^{-1}$ Date _____
3. ☐ Mich 10^{-6} risk = _____ µg/m³ Date _____
4. ☐ NTP Part A ☐ YES ☐ NO Part B ☐ YES ☐ NO
5. ☐ IARC Group 1 ☐ YES ☐ NO Group 2A ☐ YES ☐ NO Group 2B ☐ YES ☐ NO
6. ☐ ATSDR
7. ☐ Sec. 3.3.4 Method # _____ 10^{-6} risk = _____ µg/m³ Date _____
8. ☐ Default 0.0004 µg/m³

II. Chronic Noncancer Risk - BAC_{NC} (averaging period as specified)

1. ☐ IRIS RfC = _____ µg/m³, annual Date _____
2. ☐ Cal REL = _____ µg/m³, annual Date _____
3. ☐ IRIS [1] RfD = _____ µg/kg/day × (70/20) = _____ µg/m³, annual Date _____
4. ☐ Mich ITSL = _____ µg/m³, _____ averaging period Date _____
5. ☐ TLV NIOSH = _____ µg/m³ × 0.01 = _____ µg/m³, 8-hour Date _____
6. ☐ RTECS [1] _____ = _____ µg/m³, annual Date _____
   (describe calculation from Reg 5.20, sections 4.6 - 4.10)
7. ☐ Default 0.004 µg/m³

[1] To use data based upon an oral route of exposure, the District must make an affirmative determination that data are not available to indicate that oral-route to inhalation-route extrapolation is inappropriate.

III. *De minimis calculations*

1. ☐ Carcinogen BAC_C _____ µg/m³ × 0.54 = _____ lb/hour
   BAC_C _____ µg/m³ × 480 = _____ lb/year

2. ☐ Chronic Noncancer Risk _____ (averaging period)
   BAC_{NC} _____ µg/m³ × F factor = _____ lb/(avg period)

BAC averaging period	F factor for avg period			
	Annual	24 hour	8 hour	1 hour
Annual	480			0.54
24 hours		0.12		0.05
8 hours			0.02	0.02
1 hour				0.001

[Regulation 5.22, table 1]

Prepared by _____ Date _____