SWCAA
Southwest Clean Air Agency

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May 22, 2024

Matt Jenkins
Salmon Creek Wastewater Treatment Plant
15100 NW McCann Road
Vancouver, WA 98685

RE: Final Air Discharge Permit for Phase 5B Package 2 (Secondary Treatment Process Improvements)

Dear Mr. Jenkins:

A final determination to issue Air Discharge Permit (ADP) 24-3644 has been completed for ADP application CL-3207 pursuant to Section 400-110(4) of the General Regulations for Air Pollution Sources of the Southwest Clean Air Agency (SWCAA). Public notice for ADP application CL-3207 was published in the permit section of SWCAA's website on August 10, 2022. SWCAA did not receive a request for a public comment period in response to the public notice and has concluded that significant public interest does not exist for this determination. Therefore, a public comment period will not be provided for this permitting action. Electronic copies of ADP 24-3644 and the associated Technical Support Document are available for public review in the "Recent Air Discharge Permits" section under the "Air Permits" link on SWCAA's website (*http://www.swcleanair.gov*). Original copies are enclosed for your files.

ADP 24-3644 may be appealed directly to the Pollution Control Hearings Board (PCHB) within thirty (30) days of receipt as provided in Revised Code of Washington (RCW) 43.21B.

If you have any questions or comments, or desire additional information, please contact me or Vannessa McClelland at (360) 574-3058, extension 129.

Sincerely,

Uri Papish
Executive Director

UP:vm

Enclosure: Technical Support Document and Air Discharge Permit 24-3644

SWCAA
Southwest Clean Air Agency

AIR DISCHARGE PERMIT
24-3644

Issued: May 22, 2024

Salmon Creek Wastewater Management System
15100 NW McCann Road, Vancouver, Washington 98685

SWCAA ID – 1834

CLINTON HILAIRE LAMOREAUX
STATE OF WASHINGTON
37640
REGISTERED
PROFESSIONAL ENGINEER

REVIEWED BY: _____
Clinton Lamoreaux, Chief Engineer

APPROVED BY: _____
Uri Papish, Executive Director

TABLE OF CONTENTS

1. Equipment/Activity Identification

ID No.	Equipment/Activity	Control Equipment/Measure
1	4.226 MMBtu/hr Boiler	Low-NO_X burners, micro-aeration
2	5.231 MMBtu/hr Boiler	Low-NO_X burners, micro-aeration
3	Fulton Pulse Boiler	None
4	Digester Waste Gas Burner	Low-NO_X burners, micro-aeration
5	Caterpillar Emergency Generator Engine	Ultra-low-sulfur diesel
6	36th Avenue Pump Station Generator Engine	Ultra-low-sulfur diesel
7	Cat Emergency Generator Engine #1	Tier 2 engine design, ultra-low-sulfur diesel
8	Flow Augmentation Pump Engine #1	Tier 2 engine design, ultra-low-sulfur diesel
9	Flow Augmentation Pump Engine #2	Tier 2 engine design, ultra-low-sulfur diesel
10	117th Street Pump Station Emergency Generator Engine	Tier 2 engine design, ultra-low-sulfur diesel
11	117th Street Pump Station Ventilation	Carbon adsorber system, liquid sulfide control system
12	36th Avenue Pump Station Ventilation	Biofilter
13	Sludge Blend Tank	Biotrickling filter
14	Preliminary / Primary Treatment (headworks, primary clarifiers, primary effluent / RAS mixing box, force main vent)	Two biotrickling filters
15	Solids Handling (thickened waste activated sludge wet well fan, belt filter presses, filtrate wet well, hopper vent, biosolids conveyor)	Two carbon adsorbers
16	Fugitive Emissions (Including six aeration basins, four secondary clarifiers, UV filtration, and effluent pump station)	None

2. Permit Requirements

The following tables detail the specific requirements of this Air Discharge Permit (ADP). In addition to the requirements listed below, equipment at this facility may be subject to other federal, state, and local regulations. The requirement number is identified in the left-hand column. The text of the requirement is contained in the middle column. The emission unit, equipment, or activity to which the requirement applies is listed in the right-hand column.

ADP 24-3644 supersedes ADP 20-3379 in its entirety.

Emission Limits

Req. No.	Emission Limits	Equipment/ Activity ID No.
1.	Facility-wide emissions of sulfur dioxide must not exceed 3.19 tons per year.	Facility-wide
2.	Emissions from the 4.226 MMBtu/hr Boiler must not exceed any of the following: Pollutant | Emission Concentration (1-hour average, each) | Annual Emissions Nitrogen oxides | 30 ppmvd @ 3% O_2 | 0.72 tons per year Carbon monoxide | 50 ppmvd @ 3% O_2 | 0.73 tons per year Sulfur dioxide | 0.17 lb/MMBtu | 2.05 tons per year Annual emissions must be calculated using the most recent source emissions test results and the amount of each fuel burned. If source emission testing has not been conducted for a specific fuel, annual emissions for that fuel must be calculated using the emission factors presented in the Technical Support Document (TSD) for this ADP. If available, a properly maintained (adequate QA/QC) online H_2S analyzer may be used for SO_2 determination using a mass balance calculation.	1
3.	Emissions from the 5.231 MMBtu/hr Boiler must not exceed any of the following: Pollutant | Emission Concentration (1-hour average, each) | Annual Emissions Nitrogen oxides | 30 ppmvd @ 3% O_2 | 0.90 tons per year Carbon monoxide | 50 ppmvd @ 3% O_2 | 0.91 tons per year Sulfur dioxide | 0.17 lb/MMBtu | 2.54 tons per year Annual emissions must be calculated using the most recent source emissions test results and the amount of each fuel burned. If source emission testing has not been conducted for a specific fuel, annual emissions for that fuel must be calculated using the emission factors presented in the TSD for this ADP. If available, a properly maintained (adequate QA/QC) online H_2S analyzer may be used for SO_2 determination using a mass balance calculation.	2

<table>
<tr><th>Req. No.</th><th>Emission Limits</th><th>Equipment/ Activity ID No.</th></tr>
<tr><td>4.</td><td>Emissions from the Digester Waste Gas Burner must not exceed any of the following:

<table>
<tr><th>Pollutant</th><th>Emission Concentration (1-hour average)</th><th>Annual Emissions</th></tr>
<tr><td>Nitrogen oxides</td><td>0.06 lb/MMBtu</td><td>1.71 tons per year</td></tr>
<tr><td>Carbon monoxide</td><td>0.30 lb/MMBtu</td><td>8.54 tons per year</td></tr>
<tr><td>Sulfur dioxide</td><td>0.17 lb/MMBtu</td><td>3.16 tons per year</td></tr>
</table>

Annual emissions must be calculated using the most recent source emissions test results and the amount of gas burned. If source emission testing has not been conducted, annual emissions must be calculated using the emission factors presented in the TSD for this ADP.

If available, a properly maintained (adequate QA/QC) online H_2S analyzer may be used for SO_2 determination using a mass balance calculation.</td><td>4</td></tr>
<tr><td>5.</td><td>Emissions of hydrogen sulfide must not exceed the following:

<table>
<tr><th>Source</th><th>Emission Concentration (1-hour average)</th><th>Annual Emissions</th></tr>
<tr><td>Fugitive Emissions</td><td>N/A</td><td>146 pounds</td></tr>
<tr><td>Preliminary/Primary Treatment (Biotrickling Filter System)</td><td>0.5 ppmv or 99% control</td><td>518 pounds</td></tr>
<tr><td>Solids Handling (Carbon Adsorption System)</td><td>0.1 ppmv or 99% control</td><td>74 pounds</td></tr>
<tr><td>117th Street Pump Station Ventilation</td><td>0.15 ppmv</td><td>34 pounds</td></tr>
</table>

Hydrogen sulfide emissions volatilized from wastewater must be calculated using the Bay Area Sewage Toxics Emissions (BASTE) program. If a new BASTE model run is not conducted for a specific calendar year, the emission factor from the most current BASTE model run must be utilized (which may be the emission factor cited in Section 6 of the TSD for this ADP). Hydrogen sulfide emissions from the 117th Street Pump Station must be calculated using the emission factors cited in Section 6 of the TSD for this ADP unless more recent source emission sampling data has been collected. Hydrogen sulfide emissions from Preliminary/Primary Treatment and Solids Handling must be calculated using the most recent sampling results.</td><td>11, 14, 15, 16</td></tr>
<tr><td>6.</td><td>Visible emissions from all points of discharge except the diesel engines must not exceed zero percent opacity for more than 3 minutes in any one-hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400).</td><td>1 – 4, 11 – 16</td></tr>
</table>

Req. No.	Emission Limits	Equipment/ Activity ID No.
7.	Visible emissions from Cat Emergency Generator Engine #1, the 117th Street Pump Station Emergency Generator Engine, Flow Augmentation Pump Engine #1, and Flow Augmentation pump Engine #2 must not exceed five percent opacity for more than 3 minutes in any one-hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400) except during startup. For the purposes of this requirement, the startup period ends when the earlier of the following operating events occurs: (a) The engine has reached normal operating temperature; or (b) The engine has been operating for 15 minutes.	7 - 10

Operating Limits and Requirements

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
8.	Reasonable precautions must be taken at all times to prevent and minimize fugitive emissions from plant operations.	Facility-wide
9.	Operations which cause or contribute to odors which unreasonably interfere with any other property owner's use and enjoyment of their property must use recognized good practice and procedures to reduce these odors to a reasonable minimum.	Facility-wide
10.	Emission units and activities identified in this ADP must be maintained and operated in total and continuous conformity with the conditions identified in this ADP. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this ADP, including directing the facility to cease operations until corrective action can be completed.	Facility-wide
11.	Each pollution control device must be operated whenever the processing equipment served by that air pollution control device is in operation. Control devices must be operated and maintained in accordance with the manufacturer's specifications. Furthermore, air pollution control devices must be operated in a manner that minimizes emissions.	Facility-wide
12.	Exhaust from all emission units must be discharged vertically. If the emission unit is within a structure, the exhaust must be discharged vertically above the structure in which the unit is housed. Any rain cap or device that interferes with vertical dispersion is prohibited. The only exception to this are the stacks of the two carbon adsorbers on the solids handling, which are allowed to be horizontal.	Facility-wide, except 15
13.	All digester gas must be burned. No digester gas may be released to the ambient air.	Facility-wide

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
14.	A continuous emissions monitoring system must be maintained operational to measure hydrogen sulfide emissions at the digester gas common header. Emissions of hydrogen sulfide from the micro-aeration system on the digester gas common header shall not exceed 600 ppm one-hour average or 400 ppm annual average. A one-hour average is based on a clock hour and an annual average is based on a 12-month rolling average.	1, 2, 4
15.	A spare mix pump, motor, and variable-frequency drive (VFD) must be on hand for the digester mixing equipment.	1, 2, 4
16.	All odor or other air quality complaints received by the permittee or SWCAA must be investigated by the Permittee no later than one workday after receipt. The permittee must investigate the validity of each complaint, the cause of any emissions that may have prompted the complaint, and promptly initiate corrective action, if necessary, in response to the complaint. All complaint investigations must be documented, and the documentation maintained in a readily retrievable format for a minimum of three years.	Facility-wide
17.	The 4.226 MMBtu/hr Boiler, the 5.231 MMBtu/hr Boiler, and the Digester Waste Gas Burner must fire only digester gas and/or natural gas.	1, 2, 4
18.	The temperature of the Digester Waste Gas Burner must be maintained at 1,400 degrees Fahrenheit or greater (one-hour average) unless compliance with all applicable emission limitations can be maintained at a lower temperature as demonstrated by a source test.	4
19.	The diesel-fired engines must only be fired on #2 diesel or better. The sulfur content of the fuel fired in the generator engines must not exceed 0.0015% by weight. The permittee must maintain a fuel certification from the fuel supplier or equivalent documentation as a means of demonstrating compliance with this requirement.	5 - 10
20.	Operation of the emergency service engines for maintenance checks and readiness testing must not exceed 100 hours per year each. Emergency operation of the emergency service engines is not limited. A nonresettable time totalizer must be installed and used to measure the number of hours each engine operates.	5 - 10
21.	Operation of the emergency generator engines must be limited to testing, maintenance, and as necessary to provide emergency power or pumping.	5 - 10
22.	The 117th Street Pump Station Odor Control Unit, 36th Avenue Pump station biofilter, Sludge Blend Tank biotrickling filter, Preliminary/Primary Treatment biotrickling filters, and Solids Handling carbon adsorbers must be operated properly and maintained in working order. All equipment malfunctions or improper operations of the above equipment must be corrected promptly after identification.	11 - 15

Monitoring and Recordkeeping Requirements

Req. No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity ID No.
23.	With the exception of data logged by a computerized data acquisition system, each record required by this ADP must include the date and the name of the person making the record entry, at minimum. If a control device or process is not operating, a record must be made to that effect.	Facility-wide
24.	All records required by this ADP must be kept for a minimum period of no less than three (3) years and must be maintained in a form readily available for inspection by SWCAA representatives.	Facility-wide
25.	Excess emissions and upset conditions must be recorded for each occurrence.	Facility-wide
26.	The 117th Street Pump Station Odor Control Unit, 36th Avenue Pump station biofilter, Sludge Blend Tank biotrickling filter, Preliminary/Primary Treatment biotrickling filters, Solids Handling carbon adsorbers and chemical injection system must be inspected weekly for signs of equipment malfunctions or improper operation. The differential pressure across each system must be recorded during each inspection. For the purposes of this requirement, improper operation or equipment malfunction is presumed if the unit is emitting excessive odor. All equipment malfunctions or improper operations must be corrected promptly.	11 - 15
27.	The permittee must walk the facility fence line of the wastewater treatment plant monthly to evaluate odors originating from the wastewater treatment plant. If odors from the wastewater treatment plant are identified at the fence line, the permittee must investigate the cause of the odor, and determine if all relevant odor control equipment and wastewater processing equipment is operating properly. The permittee must promptly institute corrective action if necessary to correct improperly operating equipment. The results of each odor evaluation and necessary corrective action must be recorded.	Facility-wide

Req. No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity ID No.
28.	The following information must be collected, recorded at the intervals specified below, and readily retrievable on-site for inspection: (a) The temperature of the Digester Waste Gas Burner must be recorded continuously when in operation. For the purposes of this Permit, "recorded continuously" means that the temperature must be recorded at least once every 15 minutes of operation with a minimum data availability of 95% on an annual basis; (b) Maintenance activities that may affect emissions must be recorded for each occurrence; (c) Upset conditions that cause excess emissions must be recorded for each occurrence; (d) The quantity of natural gas and digester gas consumed by each boiler and the Digester Waste Gas Burner must be determined and recorded monthly; (e) The number of hours each diesel-fired engine is operated must be recorded for each calendar year; (f) Diesel fuel sulfur content must be documented for each diesel fuel delivery; (g) The results of boiler performance monitoring and digester waste gas incinerator/burner source test activities must be recorded for each occurrence; (h) The results of weekly inspections of the Sludge Blend Tank biotrickling filter and 36th Avenue Pump Station biofilter, Preliminary/Primary Treatment biotrickling filters, Solids Handling carbon adsorbers, and chemical injection systems must be recorded for each occurrence; (i) The results of the monthly wastewater treatment plant fence line walks must be recorded for each occurrence; (j) The results of hydrogen sulfide monitoring of the exhaust from the 117th Street Pump Station Odor Control Unit, Preliminary/Primary Treatment biotrickling filters, and Solids Handling carbon adsorbers must be recorded for each occurrence; (k) The permittee must maintain a record of each air quality complaint received and the results of the permittee's investigation of each complaint; and (l) Corrective action in response to a permit deviation or odor problem must be recorded for each occurrence.	Facility-wide
29.	The micro-aeration gas injection flow rate must be monitored and recorded daily. If the airflow goes below 140 scfh, a record shall be made discussing the cause of the drop in airflow, response, and correction.	1, 2, 4

Emission Monitoring and Testing Requirements

Req. No.	Emission Monitoring and Testing Requirements	Equipment/ Activity ID No.
30.	The hydrogen sulfide content of the exhaust from the 117th Street Pump Station Odor Control Unit, the Preliminary/Primary Treatment biotrickling filters, and the Solids Handling carbon adsorbers must be measured each calendar month using a colorimetric detector tube or other method per-approved by SWCAA. If an emission concentration greater than 0.5 ppmv is measured at the exhaust of the Preliminary/Primary Treatment biotrickling filters, the inlet concentration must also be measured to demonstrate compliance with the alternative 99% reduction requirement. If an emission concentration greater than 0.1 ppmv is measured at the exhaust of the Solids Handing carbon adsorbers, the inlet concentration must also be measured to demonstrate compliance with the alternative 99% reduction requirement.	11, 14, 15
31.	The hydrogen sulfide content of the digester gas must be continuously measured with an online monitor. If the online monitor is out of service, then the hydrogen sulfur content of the digester gas must be measured monthly with a colorimetric detector tube or other method approved by SWCAA.	Facility-wide
32.	Source emissions testing of the 5.231 MMBtu/hr Boiler must be conducted no later than the end of December 2029 and no later than the end of December every 10 years thereafter. Tests conducted more than three months before the required due date will not satisfy the periodic source emission testing requirement without prior approval from SWCAA. All required testing must be conducted in accordance with Appendix B of this Permit.	2
33.	Source emissions testing of the Digester Waste Gas Burner must be conducted no later than the end of October 2028 and no later than the end of October every 5 years thereafter. Tests conducted more than three months before the required due date will not satisfy the periodic source emission testing requirement without prior approval from SWCAA. All required testing must be conducted in accordance with Appendix A of this Permit.	4
34.	Performance monitoring of the 4.226 MMBtu/hr Boiler and the 5.231 MMBtu/hr Boiler must be conducted at least once each year, no later than the end of December, as described in Appendix C of this Permit.	1, 2

Reporting Requirements

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
35.	Upset conditions must be reported to SWCAA as soon as possible after discovery. Outside of normal business hours, upset conditions may be reported by email or leaving a telephone message with SWCAA.	Facility-wide

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
36.	Excess emissions must be reported to SWCAA as follows: (a) As soon as possible, but no later than twelve (12) hours after discovery for emissions that represent a potential threat to human health or safety; (b) As soon as possible, but no later than forty-eight (48) hours after discovery for emissions which the Permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and (c) No later than thirty (30) calendar days after the end of the month of discovery for all other excess emissions.	Facility-wide
37.	Deviations from permit conditions must be reported no later than 30 days after the end of the month during which the deviation is discovered.	Facility-wide
38.	All air quality related complaints received by the Permittee must be reported to SWCAA within three (3) calendar days of receipt. Complaint reports must include the date and time of the complaint, the name and contact information (if available) for the complainant, the nature of the complaint, and any actions taken by the Permittee to address the complaint.	Facility-wide
39.	The following records must be reported to SWCAA as indicated below: (a) The results of source emissions testing conducted in accordance with Appendices A and B must be reported to SWCAA within 45 days of test completion; (b) The results of performance monitoring conducted in accordance with Appendix C must be reported to SWCAA within 15 days of test completion; and (c) The result of initial performance testing of the Preliminary/Primary Treatment biotrickling filters and the Solids Handling carbon adsorbers must be submitted within 15 days of report receipt by the permittee.	Facility-wide
40.	The following emission-related information must be reported to SWCAA by March 15th for the previous calendar year: (a) The quantity of natural gas and digester gas consumed by each boiler and the Digester Waste Gas Burner; (b) The number of hours each diesel engine is operated; (c) The total amount of wastewater treated; (d) The results of hydrogen sulfide monitoring of the 117th Street Pump Station Odor Control Unit, Preliminary/Primary Treatment biotrickling filters, Solids Handling carbon adsorbers, and digester gas; and (e) Air emissions of criteria air pollutants, volatile organic compounds, toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).	Facility-wide

3. General Provisions

Req. No.	General Provisions
A.	For the purpose of ensuring compliance with this ADP, duly authorized representatives of the Southwest Clean Air Agency must be permitted access to the Permittee's premises and the facilities being constructed, owned, operated and/or maintained by the Permittee for the purpose of inspecting said facilities. These inspections are required to determine the status of compliance with this ADP and applicable regulations and to perform or require such tests as may be deemed necessary.
B.	The provisions, terms, and conditions of this ADP bind the Permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the Permittee.
C.	The requirements of this ADP survive any transfer of ownership of the source or any portion thereof.
D.	This ADP must be posted conspicuously at or be readily available near the source.
E.	This ADP will be invalidated, in whole or in part, if construction or installation of any new or modified equipment has not commenced within eighteen (18) months from date of issuance, if construction is discontinued for a period of eighteen (18) months or more without prior SWCAA approval, or if construction is not completed within a reasonable time
F.	This ADP does not supersede requirements of other Agencies with jurisdiction and further, this ADP does not relieve the Permittee of any requirements of any other governmental Agency. In addition to this ADP, the Permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
G.	Compliance with the terms of this ADP does not relieve the Permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Orders, RCW 70A.15, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
H.	If any provision of this ADP is held to be invalid, all unaffected provisions of the ADP will remain in effect and be enforceable.
I.	No change in this ADP will be made or be effective except as may be specifically set forth by written order of the Southwest Clean Air Agency upon written application by the Permittee for the relief sought.
J.	The Southwest Clean Air Agency may, in accordance with RCW 70A.15, impose such conditions as are reasonably necessary to assure the maintenance of compliance with the terms of this ADP, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.

Appendix A
Emission Testing Requirements
Digester Waste Gas Burner

1. Introduction:

a. The purpose of these testing requirements is to quantify emissions from the Digester Waste Gas Burner and to demonstrate compliance with the requirements of this Air Discharge Permit.

2. Testing Requirements:

a. Source emissions testing of the Digester Waste Gas Burner must be conducted in accordance with the schedule in the following table. Subsequent source tests must be conducted no later than the end of the calendar month identified in the "Next Test Due" column every 5 years except as noted in the table. Tests conducted more than three months before the required due date will not satisfy the periodic testing requirement without prior approval from SWCAA.

Source	Next Test Due	Subsequent Test Frequency
Digester Waste Gas Burner	October 31, 2028	Every 5 years

b. Special Considerations – Digester Waste Gas Burner. The Digester Waste Gas Burner exhaust stack must be sized to provide a sampling location meeting the requirements of EPA Method 1. The sampling location shall be at least two stack diameters upstream and at least one-half stack diameter downstream from any flow disturbance such as a bend, expansion or contraction in the stack, or from a visible flame.

The number of traverse points must be determined using EPA Method 1 and following the procedure provided for determining the number of traverse points for a particulate matter emissions test. If continuous sampling is conducted, the mass emission rate of each pollutant sampled must be determined for each section of stack area represented by one of the traverse points located according to Method 1. For example, if 24 traverse points are required by Method 1, then the stack gas flow rate, pollutant concentrations, and emission rates must be determined for each of the 24 areas represented by the 24 traverse points. Total mass emissions must be determined by summing the mass emission rates for all representative areas. Grab samples may only be collected if the sample is integrated over all traverse points in proportion to the stack gas flow rate measured at that point.

Three sampling runs must be conducted at the outlet of the relevant digester waste gas incinerator/burner using the methods and test durations specified below.

Constituent	Test Method or Equivalent[1]	Minimum Test Duration
Stack gas flow rate, temperature	EPA Methods 1 and 2	N/A
O_2, CO_2 content	EPA Method 3A	60 minutes
Stack gas moisture content	EPA Method 4	60 minutes
Sulfur dioxide	EPA Method 6C or 8	60 minutes
Nitrogen oxides	EPA Method 7E	60 minutes
Opacity	SWCAA Method 9	20 minutes[2]
Carbon monoxide	EPA Method 10	60 minutes
Total volatile organic compounds[3]	EPA Method 18/25A	60 minute integrated sample

Appendix A
Emission Testing Requirements
Digester Waste Gas Burner

Concurrent with the outlet sampling, three 60-minute integrated samples of digester gas must be collected at the inlet of the digester waste gas incinerator/burner and analyzed for total volatile organic compounds, methane, carbon dioxide, and gross calorific value. This data must be utilized to calculate a fuel factor using the procedures of EPA Method 19. The fuel factor must be used to calculate emission rates of nitrogen oxides, carbon monoxide, sulfur dioxide, and volatile organic compounds in units of lb/MMBtu and lb/MMscf.

[1] The use of an alternate or equivalent test method must be pre-approved by SWCAA in writing.
[2] A single 60-minute opacity test may be performed.
[3] Reported as propane.

3. Source Operation:

a. All relevant process parameters must be recorded during testing and reported with the final test report including:
   (1) Flowrate of digester gas to the unit;
   (2) Flowrate of natural gas to the unit (if any);
   (3) Burner or incinerator temperature as measured by the appropriate thermocouple; and
   (4) Burner or incinerator damper position (if applicable).

b. Source operations during the emissions test must be representative of the maximum level of normal operation.

4. Reporting Requirements:

The results of all required testing must be submitted to SWCAA within 45 days of test completion. Unless otherwise directed by SWCAA, a final test report must be submitted in an approved electronic format. The report must include:

a. Description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations.
b. Time and date of the test and identification and qualifications of the personnel involved.
c. Summary of results, reported in units and averaging periods consistent with the application emissions standard or unit. NO_X, CO, SO_2, and VOC emissions must be reported in units of ppmvd, lb/hr, lb/MMBtu, and lb/MMscf. The Digester Waste Gas Burner destruction removal efficiency (DRE) must be reported as % DRE.
d. Summary of control system or equipment operating conditions.
e. Summary of production related parameters.
f. A description of the test methods or procedures used, including all field data, quality assurance/quality control procedures and documentation.

Appendix A
Emission Testing Requirements
Digester Waste Gas Burner

4. Reporting Requirements: (con't)

g. A description of the analytical procedures used, including all laboratory data, quality assurance/quality control procedures and documentation.
h. Copies of field data and example calculations.
i. Chain of custody information.
j. Calibration documentation.
k. Discussion of any abnormalities associated with the results.
l. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

5. Changes to Testing Requirements

The source test must be conducted as specified in the sections above. The Permittee may submit a written request to SWCAA for approval of minor modifications to the requirements above or the testing schedule. Upon review of the request and in accordance with EPA delegation, SWCAA will inform the Permittee in writing of any approved modifications.

Appendix B
Emission Testing Requirements
5.231 MMBtu/hr Boiler

1. Introduction:

a. The purpose of this testing is to quantify emissions of nitrogen oxides and carbon monoxide from the 5.231 MMBtu/hr Boiler in order to assure compliance with the emission limitations established in this Air Discharge Permit.

2. Testing Requirements:

a. Source emissions testing of the 5.231 MMBtu/hr Boiler must be conducted no later than the end of December 2029 and no later than the end of December every 10 years thereafter. Tests conducted more than three months before the required due date will not satisfy the periodic source emission testing requirement without prior approval from SWCAA.

Unless otherwise specified, testing for each constituent must consist of a minimum of three sampling runs of the duration specified below.

Constituent	Test Method or Equivalent[1]	Minimum Test Duration
Stack gas velocity, flow rate	EPA Methods 1 and 2	N/A
O_2 and CO_2	EPA Methods 3 or 3A	N/A
Moisture	EPA Method 4	60 minutes
Sulfur oxides	EPA Method 6C or 8	60 minutes
Nitrogen oxides	EPA Method 7E	60 minutes
Carbon monoxide	EPA Method 10	60 minutes

[1] The use of an alternate or equivalent test method must be pre-approved by SWCAA in writing.

Unless otherwise approved by SWCAA, source emissions testing must be conducted on the dominant fuel or fuel mix used by the boiler during the past year.

b. A comprehensive test plan must be submitted to SWCAA for review and approval at least 10 business days prior to testing.

c. SWCAA must be notified of the test date at least 5 business days prior to testing.

3. Source Operation:

a. A complete record of production related parameters applicable to the testing, including but not limited to, FGR damper position (if applicable), oxygen setpoint (if applicable), boiler load (MMBtu/hr), fuel type/mixture (relative amounts of natural gas and digester gas), startups, and shutdowns must be kept during emissions testing to correlate operations with emissions and must be recorded in the final report of the test results.

b. Source operations during emissions testing must be representative of maximum intended operating conditions.

Appendix B
Emission Testing Requirements
5.231 MMBtu/hr Boiler

4. Reporting:

The results of all required testing must be submitted to SWCAA within 45 days of test completion. Unless otherwise directed by SWCAA, a final test report must be submitted in an approved electronic format. Each report must include:

a. A description of the source including manufacturer, model number and design capacity of the equipment, and the location of the sample ports or test locations.
b. Time and date of the test and identification and qualifications of the personnel involved.
c. A summary of results, reported in units and averaging periods consistent with the applicable emission standard or limit. NO_X and CO emission concentrations must be corrected to 3% O_2.
d. A summary of control system or equipment operating conditions.
e. A summary of production related parameters.
f. A description of the test methods or procedures used including all field data, quality assurance/quality control procedures and documentation.
g. A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures and documentation.
h. Copies of field data and example calculations.
i. Chain of custody information.
j. Calibration documentation.
k. Discussion of any abnormalities associated with the results.
l. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

5. Changes to Testing Requirements

The source test must be conducted as specified in the sections above. The Permittee may submit a written request to SWCAA for approval of minor modifications to the requirements above or the testing schedule. Upon review of the request and in accordance with EPA delegation, SWCAA will inform the Permittee in writing of any approved modifications.

Appendix C
Performance Monitoring Requirements
4.226 MMBtu/hr Boiler and 5.231 MMBtu/hr Boiler

1. Introduction:

a. The purpose of periodically monitoring the boiler exhausts is to minimize emissions and provide a reasonable assurance that each unit is operating properly.

b. Periodic monitoring may be conducted with an electrochemical cell combustion analyzer, analyzers used for reference method testing, or other analyzers pre-approved by SWCAA.

2. Monitoring Requirements:

a. Monitoring to determine emission concentrations of the following constituents must be conducted annually for each unit, no later than the end of December. Performance monitoring conducted more than three months before the required due date will not satisfy the periodic performance monitoring requirement without prior approval from SWCAA. The use of an alternative test schedule must be pre-approved by SWCAA in writing. Performance monitoring of a specific unit is not required during any year in which source emissions testing of the same unit is performed.

Constituents to be Measured
Carbon Monoxide (CO)
Nitrogen Oxides (NO_X)
Oxygen (O_2)

b. Source operation during monitoring must be representative of maximum intended operating conditions during that year.

c. Alternative monitoring methodologies must be pre-approved by SWCAA.

3. Minimum Quality Assurance/Quality Control Measures:

a. The analyzer(s) response to span (calibration) gas of a known concentration (reference) must be determined before and after testing. No more than 12 hours may elapse between response checks. The test results are invalid if the analyzer zero or span drift exceeds 10% of the span value. The test may not be started until the calibration error (the difference between the reference concentration and the analyzer response) is no more than 10% of the span value.

b. The CO and NO_X span gas concentrations must be no less than 50% and no more than 200% of the emission concentration corresponding to the permitted emission limit. A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO_X cells/analyzer(s) and span the oxygen cell/analyzer.

3. Minimum Quality Assurance/Quality Control Measures (continued):

c. Sampling of each exhaust stack must consist of at least 1 test consisting of at least 5 minutes of data collection following a "ramp-up phase." The ramp-up phase ends when analyzer readings have stabilized (less than 5%/minute change in emission concentration). Emission concentrations must be recorded at least once every 30 seconds during testing. All test data collected following the ramp-up phase(s) must be reported to SWCAA. Alternative testing methods may be utilized provided pre-approval is obtained from SWCAA.

If the test results from any performance monitoring event for a unit indicate that emission concentrations may exceed the permitted emission concentration, the permittee must either perform 60 minutes of additional monitoring to more accurately quantify CO and NO_X emissions, or initiate corrective action. Additional testing or corrective action must be initiated as soon as practical but no later than three days after the potential exceedance is identified. Corrective action includes tuning, maintenance by service personnel, limitation of unit load, or other action taken to maintain compliance with permitted limits. Monitoring of unit emissions must be conducted within three days following completion of any corrective action to confirm that the corrective action has been effective. Corrective action must be pursued until observed emission concentrations no longer exceed the permitted emission concentrations. Initiation of corrective action does not shield the permittee from enforcement actions by SWCAA.

4. Reporting:

a. All monitoring results must be recorded at the facility and reported to SWCAA in writing using a format designated by the Agency. Results must be reported within 15 calendar days of completion. The following information must be included in the report:

(1) Time and date of the emissions evaluation;
(2) Identification of the personnel involved;
(3) Identification of the affected unit;
(4) A summary of results (NO_X, CO, O_2, etc.), reported in units consistent with the applicable emission standard(s) or limit(s);
(5) A summary of equipment operating conditions (e.g., firing rate, fuel flow, stack temperature, etc.);
(6) A description of the evaluation methods or procedures used including all field data, quality assurance/quality control procedures and documentation; and
(7) Analyzer response check and calibration error documentation.

c. Individual data points must be reported as read. Final average monitoring results must be corrected to 3% O_2 in the exhaust gas and adjusted to reflect analyzer response to zero and span gases.

5. Changes to Testing Requirements

The source test must be conducted as specified in the sections above. The Permittee may submit a written request to SWCAA for approval of minor modifications to the requirements above or the testing schedule. Upon review of the request and in accordance with EPA delegation, SWCAA will inform the Permittee in writing of any approved modifications.