SWCAA
Southwest Clean Air Agency

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Vancouver, WA 98682
(360) 574-3058
www.swcleanair.org

January 14, 2020

Mr. Travis Capson
Clark County Public Works
15100 NW McCann Road
Vancouver, Washington 98685

Subject: Final Approval for Phase 5B Package 1 (Odor Control Improvements)

Dear Mr. Capson:

A final determination to issue Air Discharge Permit 20-3379 has been completed for Air Discharge Permit Application CL-3105 pursuant to Section 400-110(4) of the General Regulations for Air Pollution Sources of the Southwest Clean Air Agency (SWCAA). Public notice for Air Discharge Permit Application CL-3105 was published on SWCAA's internet website October 18, 2019. 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 Air Discharge Permit 20-3379 and the associated Technical Support Document are available for public review in the permit section of SWCAA's internet website (http://www.swcleanair.org/permits/adpfinal.asp). Original copies are enclosed for your files.

This Air Discharge Permit may be appealed directly to the Pollution Control Hearings Board (PCHB) at P.O. Box 40903, Olympia, Washington 98504-0903 within 30 days of receipt as provided in RCW 43.21B.

If you have any comments, or desire additional information, please contact me or Clint Lamoreaux at (360) 574-3058, extension 131.

Sincerely,

Uri Papish
Executive Director

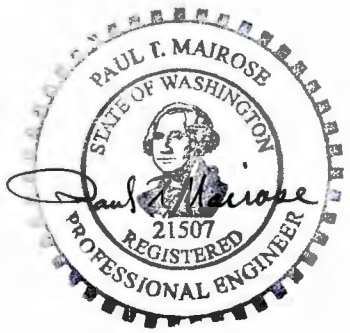
UP: cl
Enclosures

SOUTHWEST CLEAN AIR AGENCY

AIR DISCHARGE PERMIT
SWCAA 20-3379

Issued: January 14, 2020

Facility Name:	Salmon Creek Wastewater Management System
Physical Location:	Main Plant at 15100 NW McCann Road Vancouver, Washington 98685
SWCAA ID:	1834



REVIEWED BY: _____
Paul T. Mairose, Chief Engineer

APPROVED BY: _____
Uri Papish, Executive Director

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1. Equipment/Activity Identification

ID No.	Generating Equipment/Activity	# of Units	Control Measure/Equipment	# of Units
1	4.226 MMBtu/hr Boiler	1	Low-NO_X burners	1
2	5.231 MMBtu/hr Boiler	1	Low-NO_X burners	1
3	Fulton Pulse Boiler	1	None	0
4	Old Digester Waste Gas Incinerator	1	Low-NO_X design	N/A
5	New Digester Waste Gas Burner	1	Low-NO_X design	N/A
6	Caterpillar Emergency Generator Engine	1	Ultra-low sulfur diesel	N/A
7	36th Avenue Pump Station Generator Engine	1	Ultra-low sulfur diesel	N/A
8	Cat Emergency Generator Engine #1	1	Tier 2 engine design, ultra-low sulfur diesel	N/A
9	Flow Augmentation Pump Engine #1	1	Tier 3 engine design, ultra-low sulfur diesel	N/A
10	Flow Augmentation Pump Engine #2	1	Tier 3 engine design, ultra-low sulfur diesel	N/A
11	117th Street Pump Station Emergency Generator Engine	1	Tier 2 engine design, ultra-low sulfur diesel	N/A
12	117th Street Pump Station Ventilation	1	Carbon adsorber system, liquid sulfide control system	1
13	36th Avenue Pump Station Ventilation	1	Biofilter	1
14	Sludge Blend Tank	1	Biotrickling filter	1
15	Preliminary / Primary Treatment (headworks, primary clarifiers, primary effluent / RAS mixing box, force main vent)	1	Biotrickling Filters	2
16	Solids Handling (thickened waste activated sludge wet well fan, belt filter presses, filtrate wet well, hopper vent, biosolids conveyor)	1	Carbon Adsorbers	2
17	Fugitive Emissions (Including six aeration basins, four secondary clarifiers, UV filtration, and effluent pump station)	1	None	0

2. Permit Terms and Conditions

The following tables detail the specific terms and conditions of this permit. In addition to the requirements listed below, equipment at this facility may be subject to additional federal, state, and local regulations. The permit term or requirement number is identified in the left hand column. The permit term or requirement is contained in

the middle column. The emission unit, equipment, or activity (by identification No.) to which the permit term or condition applies is identified in the right hand column.

Air Discharge Permit 07-2726 and the approval for Small Unit Notification SUN-055 are superseded in their entirety by this Air Discharge Permit.

Emission Limits

No.	Emission Limits	Equipment/ Activity
1.	Facilitywide emissions of sulfur dioxide must not exceed 8.94 tons per year.	Facilitywide
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 / 0.70 tons per year Carbon monoxide / 50 ppmvd @ 3% O_2 / 0.71 tons per year Sulfur dioxide / 0.50 lb/MMBtu / 8.90 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 for this Air Discharge Permit.	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 / 0.83 tons per year Carbon monoxide / 50 ppmvd @ 3% O_2 / 0.85 tons per year Sulfur dioxide / 0.50 lb/MMBtu / 8.90 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 for this Air Discharge Permit.	2
4.	Emissions from the old digester waste gas incinerator must not exceed any of the following: Pollutant / Emission Concentration (1-hour average) / Annual Emissions Nitrogen oxides / 0.06 lb/MMBtu / 1.07 tons per year Carbon monoxide / 0.30 lb/MMBtu / 5.35 tons per year Sulfur dioxide / 0.50 lb/MMBtu / 8.90 tons per year 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 Technical Support Document for this Air Discharge Permit.	4

<table>
<tr><th>No.</th><th>Emission Limits</th><th>Equipment/ Activity</th></tr>
<tr><td>5.</td><td>Emissions from the new 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>1.07 tons per year</td></tr>
<tr><td>Carbon monoxide</td><td>0.30 lb/MMBtu</td><td>5.35 tons per year</td></tr>
<tr><td>Sulfur dioxide</td><td>0.50 lb/MMBtu</td><td>8.90 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 Technical Support Document for this Air Discharge Permit.</td><td>5</td></tr>
<tr><td>6.</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 Technical Support Document for this Permit). Hydrogen sulfide emissions from the 117th Street Pump Station must be calculated using the emission factors cited in Section 6 of the Technical Support Document for this Permit 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>12, 15, 16, 17</td></tr>
<tr><td>7.</td><td>Emissions from Flow Augmentation Pump Engine #1 must not exceed any of the following:

<table>
<tr><th>Pollutant</th><th>Annual Emissions</th></tr>
<tr><td>Nitrogen oxides</td><td>712 pounds per year</td></tr>
<tr><td>Carbon monoxide</td><td>130 pounds per year</td></tr>
</table>

Annual emissions must be calculated using the emission factors presented in the Technical Support Document for this Air Discharge Permit unless unit specific source test data is collected.</td><td>9</td></tr>
</table>

No.	Emission Limits	Equipment/ Activity
8.	Emissions from Flow Augmentation Pump Engine #2 must not exceed any of the following: Pollutant — Annual Emissions Nitrogen oxides — 712 pounds per year Carbon monoxide — 130 pounds per year Annual emissions must be calculated using the emission factors presented in the Technical Support Document for this Air Discharge Permit unless unit specific source test data is collected.	10
9.	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).	1 – 5, 12 – 17
10.	Visible emissions from the 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.	8 - 11
11.	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.	Facilitywide

Operating Limits and Requirements

No.	Operating Limits and Requirements	Equipment/ Activity
12.	The equipment specified in ADP Application CL-3105 and this Permit must be maintained and operated in total and continuous conformity with the emission levels identified in this Permit. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this Permit, including directing the facility to cease operations until corrective action can be completed.	Facilitywide
13.	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.	Facilitywide
14.	All digester gas must be burned. No digester gas may be released to the ambient air.	Facilitywide
15.	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.	Facilitywide

No.	Operating Limits and Requirements	Equipment/ Activity
16.	The 4.226 MMBtu/hr Boiler, the 5.231 MMBtu/hr Boiler, the Old Digester Waste Gas Incinerator, and the New Digester Waste Gas Burner must fire only digester gas and/or natural gas.	1, 2, 4, 5
17.	The Old Digester Waste Gas Incinerator exhaust temperature must be maintained at 1,323 degrees Fahrenheit or greater (1 hour average).	4
18.	The temperature of the New Digester Waste Gas Burner must be maintained at 1,400 degrees Fahrenheit or greater (1-hour average) unless compliance with all applicable emission limitations can be maintained at a lower temperature as demonstrated by a source test.	5
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.	6 - 11
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.	6 - 11
21.	Operation of the emergency generator engines must be limited to testing, maintenance, and as necessary to provide emergency power or pumping.	6 - 11
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.	12 - 16

Monitoring and Recordkeeping Requirements

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
23.	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.	12 - 16

No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity
24.	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.	Facilitywide
25.	The following information must be collected, recorded at the intervals specified below, and readily retrievable on-site for inspection: (a) The temperature of the Old Digester Waste Gas Incinerator and the New 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, the New Digester Waste Gas Burner, and the Old Digester Waste Gas Incinerator 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.	Facilitywide
26.	Each record required by this Permit must include the date and the name of the person making the record entry.	Facilitywide
27.	All records required by this Permit must be maintained in a readily retrievable format for a minimum of three years.	Facilitywide

Emission Monitoring and Testing Requirements

No.	Emission Monitoring and Testing Requirements	Equipment/ Activity
28.	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.	12, 15, 16
29.	The hydrogen sulfide content of the digester gas must be measured monthly with a colorimetric detector tube or other method approved by SWCAA. If the results of six consecutive monthly samples indicate that hydrogen sulfide concentrations in the digester gas do not exceed 1,500 ppmv, then the sampling frequency may be reduced to once every three calendar months. If any subsequent sample indicates that the hydrogen sulfide concentration in the digester gas exceeds 1,500 ppmv, then the sampling frequency must return to once per month until six consecutive monthly hydrogen sulfide samples again indicate that hydrogen sulfide concentrations in the digester gas do not exceed 1,500 ppmv.	Facilitywide
30.	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
31.	Source emissions testing of the Old Digester Waste Gas Incinerator must be performed in accordance with the requirements in Appendix A of this Permit at least once every 60 calendar months, or 10,000,000 cubic feet of digester gas combusted, whichever is least frequent. For the purposes of this requirement the February 2002 source test shall serve as the initial source test.	4
32.	Source emissions testing of the New Digester Waste Gas Burner must be conducted no later than the end of October 2023 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.	5
33.	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

No.	Reporting Requirements	Equipment/ Activity
34.	The permittee must notify SWCAA in writing within ten (10) days after completing initial installation of new equipment. This will allow proper inspections and observations to be conducted for the new equipment.	15, 16
35.	Excess emissions must be reported to SWCAA as follows: (a) As soon as possible, but no later than 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 48 hours after discovery for emissions which the permittee wishes to claim as unavoidable pursuant to SWCAA 400-107; and (c) No later than 30 days after the end of the month of discovery for all other excess emissions.	Facilitywide
36.	Deviations from permit conditions must be reported no later than 30 days after the end of the month during which the deviation is discovered.	Facilitywide
37.	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; (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; and (d) All air quality complaints shall be reported to SWCAA within three days of receipt. Complaint reports shall include the date and time of the complaint, the name of the complainant, and the nature of the complaint.	Facilitywide
38.	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, the New Digester Waste Gas Burner and the Old Digester Waste Gas Incinerator; (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).	Facilitywide

3. General Provisions

No.	General Provisions
A.	The equipment specified in this Permit must be maintained and operated in total and continuous conformity with the conditions identified in this Permit. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this Permit, including directing the facility to cease operations until corrective action can be completed.
B.	For the purpose of ensuring compliance with this Permit, 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 Permit and applicable regulations and to perform or require such tests as may be deemed necessary.
C.	The provisions, terms and conditions of this Permit shall be deemed to bind the permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the permittee.
D.	The requirements of this Permit shall survive any transfer of ownership of the source or any portion thereof.
E.	This Permit must be posted conspicuously at or be readily available near the source.
F.	Approval to construct, install, or modify specific pollution generating equipment becomes invalid if construction or installation is not commenced within eighteen months after the date of issuance of this Permit, if construction or installation is discontinued for a period of eighteen months or more, or if construction or installation is not completed within a reasonable time.
G.	This Permit does not supersede requirements of other Agencies with jurisdiction and further, this Permit does not relieve the permittee of any requirements of any other governmental Agency. In addition to this Permit, the permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
H.	Compliance with the terms of this Permit does not relieve the permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Orders, RCW 70.94, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
I.	If any provision of this Permit is held to be invalid, all unaffected provisions of the Permit shall remain in effect and be enforceable.
J.	No change in this Permit shall 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.
K.	The Southwest Clean Air Agency may, in accordance with RCW 70.94 impose such conditions as are reasonably necessary to assure the maintenance of compliance with the terms of this Permit, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.

Appendix A
Emission Testing Requirements
New Digester Waste Gas Burner and Old Digester Waste Gas Incinerator

1. Introduction:

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

2. Testing Requirements:

a. Source emissions testing of the New Digester Waste Gas Burner and the Old Digester Waste Gas Incinerator must be conduced in accordance wit 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. The use of an alternative test schedule must be pre-approved by SWCAA in writing.

Source	Next Test Due	Subsequent Test Frequency
New Digester Waste Gas Burner	October 31, 2023	Every 5 years
Old Digester Waste Gas Incinerator	60 days after burning 10,000,000 cubic feet of digester gas beginning March 2002.	Every 5 years or 60 days after 10,000,000 cubic feet of digester gas combusted since the last source emissions test, whichever is less frequent.

b. Special Considerations – New Digester Waste Gas Burner. The new 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.

Appendix A
Emission Testing Requirements
New Digester Waste Gas Burner and Old Digester Waste Gas Incinerator

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

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.

Appendix A
Emission Testing Requirements
New Digester Waste Gas Burner and Old Digester Waste Gas Incinerator

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 single hard copy of the report and an electronic copy (e.g. portable document format) of the report must be submitted. 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 New Digester Waste Gas Burner and Old Digester Waste Gas Incinerator 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.
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.

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. 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.

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.

c. 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.

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

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.

b. 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.