



ANACORTES PUBLIC WORKS DEPARTMENT

P.O. BOX 547, ANACORTES, WA 98221
FRED BUCKENMEYER, P.L.S., DIRECTOR

PH (360) 293-1919
FAX (360) 293-1938
E-MAIL: fredb@cityofanacortes.org

November 9, 2016

Agata McIntyre
U.S. EPA, Region X
Northwest Clean Air Agency
1600 S. 2nd Street
Mount Vernon, WA 98273

Subject: Addendum to Title V Air Operating Permit Application Submitted March 20, 2014 to Include Requirements in Subpart LLL of 40 CFR Part 62 – Federal Plan Requirements for Sewage Sludge Incineration Units (SSI Federal Plan)

Dear Ms. McIntyre,

A Title V Air Operating Permit (AOP) was submitted to Northwest Clean Air Agency (NWCAA) by the City of Anacortes on March 20, 2014 pursuant to Subpart MMMM of 40 CFR 60. An addendum to the initial application is hereby submitted to incorporate the SSI Federal Plan requirements in Subpart LLL of 40 CFR Part 62 – Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or before October 14, 2010.

Anacortes petitioned EPA for operating parameters, operating limits and averaging periods in accordance the SSI Federal Plan requirements when using an air pollution device other than those specified in the plan. The AOP addendum incorporates the requirements in the SSI Federal Plan and the approved Petition to EPA.

Summary of Information Included in the AOP Addendum

Form 1

Wastewater Treatment Plant Manager updated.

Form 2

Updated to 2014 Source Test results.

Form 7

Updated to include requirements in the SSI Federal Plan and EPA Petition

If you have questions, please don't hesitate to contact me at 360-299-0953.

Sincerely,
City of Anacortes

A handwritten signature in cursive script that reads "Rebecca Fox".

Rebecca Fox
WWTP Manager

Enclosures
Approved EPA Petition
Addendum to Title V AOP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

AUG 5 2016

OFFICE OF
AIR AND WASTE

Ms. Rebecca Fox
WWTP Manager
Anacortes Public Works Department
P.O. Box 547
Anacortes, Washington 98221

Dear Ms. Fox:

This letter is in response to the September 25, 2015 petition from the City of Anacortes Wastewater Treatment Plant (Anacortes) to the U.S. Environmental Protection Agency (EPA), which was supplemented with revised petitions dated March 31, 2016, and June 8, 2016. The petition from Anacortes requests approval for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and monitored continuously thereafter, in accordance with the *Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or Before October 14, 2010*, 40 C.F.R. Part 62, Subpart LLL (SSI Federal Plan).

The EPA approves Anacortes' petition to establish operating parameters, operating limits, and averaging periods during the initial performance test as described below.

Regulatory Background

In accordance with Section 129 of the Clean Air Act (CAA), 42 U.S.C. § 7429, on March 21, 2011, EPA promulgated the *Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units*, 40 C.F.R. Part 60, Subpart MMMM. On April 29, 2016, EPA finalized the *Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or Before October 14, 2010*, 40 C.F.R. Part 62, Subpart LLL.

Under the SSI Federal Plan, owners or operators of a sewage sludge incinerator (SSI) subject to the SSI Federal Plan must meet the emission limits and standards and the operating limits and requirements, as specified in 40 C.F.R. §§ 62.15955 and 62.15960. Owners or operators of a SSI using an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limit emissions in some other manner must petition the EPA for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter, as specified in 40 C.F.R. § 62.15965(b).

In accordance with 40 C.F.R. § 62.15965(b)(2), the petition must include:

- i. Identification of the specific parameters you propose to monitor;
- ii. A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants;

- iii. A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance;
- iv. A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
- v. A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

Factual Background

Anacortes is a 4.5 million gallons per day secondary treatment plant which owns and operates a fluidized bed SSI subject to the SSI Federal Plan. According to 40 C.F.R. §§ 62.15955 and 62.15965, Anacortes' SSI is subject to the emission limits in Table 2 of the SSI Federal Plan. Anacortes' SSI does not utilize a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner. Anacortes conducted a performance test on its fluidized bed SSI on December 17 and 18, 2014, using a venturi scrubber as its sole air pollution control equipment. The results document Anacortes' SSI met the emission limits of all pollutants found in the SSI Federal Plan with the exception of mercury and sulfur dioxide.

Anacortes has submitted a petition to the EPA for approval for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter for its new VenturiPak™ wet scrubber with Sorbent Polymer Composite (SPC) mercury control modules (mercury modules) provided by EnviroCare International Inc.

According to its petition, the VenturiPak™ wet scrubber contains W.L. Gore-developed SPC material to provide predictable and consistent elemental and oxidized mercury removal from flue gas streams. The SPC material is arranged into mercury modules and is installed above the Micromist™ venturi stage. Anacortes has petitioned to use three (3) mercury modules to meet the mercury and sulfur dioxide emission limits based on its site specific operations. Vendor data provided in the petition specifies that the mercury modules exhibit high control efficiencies until the mercury content in the SPC material is well beyond 5 percent by weight, equivalent to 1.75 pounds of mercury per mercury module. Per the manufacturer and the inventor of the SPC material, mercury modules have a design maximum working temperature of 180° F. This is a manufacturer-defined temperature based on the proprietary catalyst and chemistry of the SPC material. Specifically, the manufacturer states: "we have observed that the mercury removal efficiency gradually begins to decline at temperatures above 180° F – we tested up to 220° F where efficiency was markedly lower." Anacortes states in its petition that it will establish the upper temperature limit for the mercury module stage based on the maximum temperature obtained in the initial compliance test plus 50° F to account for the scrubbing liquor daily and seasonal temperature variation.

Since the EnviroCare VenturiPak™ wet scrubber with mercury modules is a new technology for Anacortes, it submitted performance test results from another wastewater treatment plant (WWTP) and technical papers from 3 other WWTPs to demonstrate the capabilities of this technology. All 4 WWTPs had existing fluidized bed SSIs that used the VenturiPak™ wet scrubber with mercury modules. The performance test conducted in the winter of 2015/2016 at the Southerly WWTP documented that the facility passed the performance test and was in compliance with all 9 pollutants identified in the SSI

Federal Plan. The technical papers from the City of Edmonds WWTP in Edmonds, Washington; the Metropolitan Sewerage District of Buncombe County in Asheville, North Carolina; and the Prince William County Service Authority in Woodbridge, Virginia documented that the VenturiPak™ wet scrubber with mercury modules was capable of achieving continuous compliance with the mercury limit identified in the SSI Federal Plan.

Anacortes' petition specifies that mercury control efficiency of the mercury modules will be based on representative sampling of the SPC material from each mercury module. The SPC material sampling and testing will be performed every 6 months, according to vendor recommendations. The testing frequency of the SPC material will be adjusted based on performance testing and to ensure continuous compliance with the SSI Federal Plan. For the first 2 years, Anacortes will test SPC material from all 3 mercury modules to determine when a mercury module change-out is required to maintain compliance. The mercury module rotation schedule will be based on the testing results of the SPC material in the bottom (furthest upstream) mercury module. If the mercury content of the SPC material in the bottom mercury module is less than 5 percent by weight, the mercury modules will be kept in their original order with no replacement. If the mercury content of the SPC material in the bottom mercury module is at or more than 5 percent by weight, Anacortes will remove the module that is furthest upstream, shift the top and middle mercury modules down and install a new mercury module at the top (furthest downstream). Anacortes will record the rotation in its 'SPC Module Tracking Form' included in its petition (Attachment A).

Anacortes typically operates its SSI 5 to 7 hours each day, 7 days per week. The SSI is left in warm standby when not in operation. The air pollution control equipment is in operation at all times when the fluidizing air blower is on. Anacortes' SSI does not have a bypass stack. Hot startup generally takes less than 5 minutes and is characterized by starting the fluidizing air blower followed by starting the sludge feed pump. Diesel fuel is added to the incinerator when the British thermal unit value of the sludge is too low to maintain or raise the bed temperature after startup. Diesel usage varies greatly depending on the volatile content and moisture in the sewage sludge being fed into the SSI. Diesel is monitored as gallons used per day and most often Anacortes uses 5 to 30 gallons of diesel per day. Anacortes uses ultra-low sulfur diesel with no more than 15 parts per million (ppm) sulfur content. At the end of the day, the SSI is returned to a warm standby status by shutting off the sludge feed pump, then heating the SSI with diesel fuel (if necessary) to increase the bed temperature to a value that will result in a bed temperature high enough to restart the SSI the following day. After the bed temperature is sufficient, the fuel is shut off; then, after the off-gas oxygen is up to 20 percent to ensure sludge combustion is completed, the fluidizing air blower is shut off. This process, of shutting off the sludge feed pump and the fluidizing air blower, takes between 5 to 30 minutes.

Anacortes has indicated in its petition that it intends to conduct the initial performance test in late December 2016 to demonstrate compliance with the SSI Federal Plan.

i. Identification of the specific parameters Anacortes proposes to monitor

Anacortes has identified the following specific parameters it proposes to monitor, in accordance with 40 C.F.R. § 62.15965(b)(2)(i), alongside the corresponding proposed monitoring parameters and related averaging periods for all 9 pollutants identified in the SSI Federal Plan:

Operating Parameters and Monitoring Frequency for Anacortes' Fluidized Bed SSI Using VenturiPak™
Wet Scrubber with Mercury Modules

#	Parameter	Frequency	Threshold	Data Collection Minimum
1	Sludge Feed Rate	Continuous	Maximum (Permitted Limit) Note: operate at 85% of permitted capacity during the performance test per 40 C.F.R. § 62.16015(a)(11)	1 hour
2	Fluidized Bed Exhaust Gas Temperature	Continuous	Minimum	15 min.
3	Pressure Drop Across Mercury Module	Continuous	Maximum	15 min.
4	Pressure Drop Across Venturi	Continuous	Minimum	15 min.
5	Mercury Module Outlet Gas Temperature	Continuous	Maximum	15 min.
6	pH of Scrubbing Liquor from Drain of the Venturi Stage	Continuous	Minimum	15 min.
7	Flow Rate of Plant Effluent at Each Injection Point	Continuous	Minimum	15 min.
8	SPC Material Testing	Initially, every 6 months beginning 12 months after SPC material replaced. Testing frequency to be adjusted based on results from first 2 years of operation.	A maximum mercury content of the SPC material of 5% by weight, or 1.75 pounds of mercury per mercury module.	
9	Emission Testing for All Pollutants	Annual performance testing (Between 11 and 13 calendar months following the date of the previous performance test)	Emission limits	

9a	Biannual† Emission Testing Requirements	Every 2 years, the annual performance test shall be conducted when the mercury module is within 90 days of its expiration	Emission limits	
10	Sludge Metals Testing	1 composite sample during each performance test run	Compliance with emission limits demonstrated using performance testing (40 C.F.R. § 62.16000(a))	30 min.
† Anacortes shall sync the annual performance test so that the mercury module closest to the inlet is within 90 days of expiration, based on the life term of the mercury module. Anacortes has stated in its petition that it anticipates a 2-year life term of the mercury module; thus, this testing requirement is anticipated to apply biannually, but is subject to change based on the actual life term of the mercury modules.				

ii. *A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants*

Anacortes has discussed the relationship between the specific parameters it proposes to monitor and emissions of regulated pollutants; identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants in accordance with 40 C.F.R. § 62.15965(b)(2)(ii):

1. Sludge Feed Rate: A maximum throughput. The sludge feed rate is proportional to the emissions rate of all 9 regulated pollutants;
2. Fluidized Bed Furnace Exhaust Gas Temperature: A minimum temperature. The furnace exhaust gas temperature is an indicator of the effective thermal destruction of carbon monoxide and dioxins/furans;
3. Pressure Drop Across Mercury Modules: A maximum pressure drop. The pressure drop across the mercury modules is an indicator of gas flow rate, which impacts contact time within the acid gas absorbing sections of the control device as well as within the mercury modules. Longer contact times generally result in higher pollutant removal efficiency;
4. Pressure Drop Across Venturi: A minimum pressure drop. The pressure drop across the venturi stage is an indicator of particulate matter removal efficiency. Venturi-based control devices generally achieve higher particulate matter removal efficiency at higher pressure drop. Pressure drop is used to demonstrate compliance for particulate matter as well as the metals it contains, such as lead and cadmium;
5. Mercury Module Outlet Gas Temperature: A maximum temperature. The mercury module outlet gas temperature will comply with performance requirements when the inlet temperature is below the temperature threshold. The maximum temperature will be established during the performance test based on actual operation, plus 50° F to account for seasonal variability;
6. pH of Scrubbing Liquor from Drain of the Venturi Scrubber: A minimum pH. The pH of

scrubbing liquor from drain of the venturi scrubber correlates to the acid pollutant level (i.e., sulfur dioxide and hydrogen chloride) in the exhaust gas;

7. Flow Rate of Plant Effluent at Each Injection Point: A minimum flow rate. The flow rate of plant effluent at each injection point is related to removal efficiency of particulate matter, associated pollutants and acid gas;
8. SPC Material Testing: A maximum mercury content of the SPC material of 5 percent by weight, or 1.75 pounds of mercury per mercury module. SPC material testing provides direct measurement of media adsorption capacity. Once the sampled SPC material is equal to or exceeds 5 percent by weight of mercury content, that mercury module will be replaced with a new mercury module. The new mercury module will be placed on top (closest to the outlet) and the other 2 mercury modules will shift down (toward the inlet);
9. Emission Testing for All Pollutants: Will provide direct measurement of emissions of all 9 regulated pollutants;
 - a. Biannual Emission Testing Requirements: Anacortes shall sync the annual performance test so that the mercury module closest to the inlet is within 90 days of expiration, based on the life term of the mercury module. Anacortes has stated in its petition that it anticipates a 2-year life term of the mercury module; thus, this testing requirement is anticipated to apply biannually, but is subject to change based on the actual life term of the mercury modules. This increases confidence that the mercury emission limits are being met continuously; and
10. Sludge Metals Testing: Metals in the sludge correlate to metals (i.e., cadmium, lead, and mercury) in the exhaust gas flow stream.

iii. A discussion of how Anacortes will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance

Anacortes has discussed how it will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance, in accordance with 40 C.F.R. § 62.15965(b)(iii):

1. Sludge Feed Rate: A maximum throughput based on operating at a minimum of 85 percent of its permitted limit of 975 pounds per hour, calculated as a rolling average of 1 hour of sludge feed rate data;
2. Fluidized Bed Furnace Exhaust Gas Temperature: A minimum temperature established during the performance test which would be used as the lower limit for a calculated rolling average of 15 minute average temperature values;
3. Pressure Drop Across Mercury Modules: A maximum pressure drop established during the performance test which would be used as the upper limit for a calculated rolling average of 15 minute average pressure drop values;
4. Pressure Drop Across Venturi: A minimum pressure drop established during the performance

test which would be used as the lower limit for a calculated rolling average of 15 minute average pressure drop values;

5. Mercury Module Outlet Gas Temperature: A maximum temperature established during the performance test which would be used as the upper limit for a calculated rolling average of 15 minute average temperature values. To account for seasonal variability the maximum temperature established during the initial performance test will allow for + 50° F;
6. pH of Scrubbing Liquor from Drain of the Venturi Scrubber: A minimum pH established during the performance test which would be used as the lower limit for a calculated rolling average of 15 minute average pH data;
7. Flow Rate of Plant Effluent at Each Injection Point: A minimum flow rate established during the performance test which would be used as the lower limit for a calculated rolling average of 15 minute average flow rate data;
8. SPC Material Testing: The SPC material sampling will be performed every 6 months to determine the mercury content of the coupon sample. For the first 2 years, two SPC material sheets from each of the 3 mercury modules will be sampled, taking photographs before and after the sampling. The sampling location will be recorded and testing frequency adjusted after the first 2 years according to performance test and sampling results;
9. Emission Testing for All Pollutants: Will be completed on an annual basis (i.e., between 11 and 13 calendar months following the date of the previous performance test);
 - a. Biannual Emission Testing Requirements: Anacortes shall sync the annual performance test so that the mercury module closest to the inlet is within 90 days of expiration, based on the life term of the mercury module. Anacortes has stated in its petition that it anticipates a 2-year life term of the mercury module; thus, this testing requirement is anticipated to apply biannually, but is subject to change based on the actual life term of the mercury modules; and
10. Sludge Metals Testing: One (1) composite sample will be taken during each performance test run.

iv. A discussion identifying the methods Anacortes will use to measure and the instruments Anacortes will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments

Anacortes has identified the methods it will use to measure and the instruments it will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments, in accordance with 40 C.F.R. § 62.15965(b)(iv):

Temperature: Temperature of the mercury module inlet is continuously measured, monitored and controlled by the incinerator PLC then sent to the plant SCADA system where it is recorded and displayed. A 'Type K' thermocouple and transmitter will be used, ThermX thermocouple and Endress & Hauser transmitter, or equivalent. Accuracy is $\pm 2^{\circ}$ F.

Differential Pressure: The differential pressure across the venturi and mercury module will be continuously measured, monitored and controlled by the incinerator PLC then sent to the plant SCADA system where will be recorded and displayed. The transmitter will be Endress & Hauser Model Deltabar PMD 75. Accuracy is ± 0.1 percent of span.

Water Flow Rate: Magnetic flow meters will be installed on the scrubbing liquor piping at the quench stage and tray irrigation (sub-cooling) stage to monitor the flow rate. Endress & Hauser flow measurement system Promag 50 will be used. Accuracy is ± 0.2 percent of span. Water flow will be monitored by the PLC and recorded by the SCADA system.

Scrubbing Liquor Drain pH: An immersion pH probe and transmitter will be installed in the drain pipe trap from the venturi stage. The trap will ensure the pH probe is always submerged and water gets constantly replaced for representative sampling. The pH analyzer will be Endress & Hauser pH sensor Tophit and the analyzer model Liquiline CM442. Accuracy is ± 0.1 . pH will be monitored by the PLC and recorded by the SCADA system.

v. *A discussion identifying the frequency and methods for recalibrating the instruments Anacortes will use for monitoring these parameters*

Anacortes has identified the frequency and methods for recalibrating the instruments it will use for monitoring these parameters, in accordance with 40 C.F.R. § 62.15965(2)(v):

Thermocouple: Re-calibrate once a year. Recalibration will be performed using a temperature transmitter.

Differential Pressure: Re-calibrate once a year, following the manufacturer's calibration procedures. The pressure transmitters will be inspected monthly and cleaned as needed.

Water Flow Meter: No calibration is required. If an issue is identified, the flow meter will be sent to the factory for calibration or repair.

pH Analyzer: Calibrate once a month, onsite. Method of recalibration shall follow the manufacturer's instruction.

Determination

Anacortes fulfilled all requirements found at 40 C.F.R. § 62.15965, which require sources using an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limit emissions in some other manner; to petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter for its new VenturiPak™ wet scrubber with mercury modules. Additionally, Anacortes has presented information to indicate that the petition submitted in support of 40 C.F.R. § 62.15965 will ensure Anacortes's SSI will comply with emission limits found in 40 C.F.R. § 62.15955 at all times the unit is operating and during periods of malfunction.

The EPA hereby approves Anacortes petition to establish operating parameters, operating limits, and averaging periods during the initial performance test for its fluidized bed SSI using a new VenturiPak™ wet scrubber with mercury modules. Anacortes must comply with the operating parameters, operating limits, and averaging periods, contained herein and as further described in its petition. As a reminder, in accordance with 40 C.F.R. § 62.15965, neither submittal of its application nor the Administrator's failure to approve or disapprove the application relieves Anacortes of the responsibility to comply with any provision of the SSI Federal Plan. If you have any questions regarding this approval, please contact Katie Owens of my staff at owens.katharine@epa.gov or (206) 553-1023.

Sincerely,

A handwritten signature in cursive script that reads "Tim Hamlin".

Tim Hamlin
Director

Enclosure

cc: Ms. Crystal Rau
Air Quality Scientist
NWCAA

SPC Module Tracking Form

EnviroCare International

Date of Installation Or Module Movement: _____

Scrubber Name/Tag Number: _____

Technician Name: _____

Layer 4 (Empty)

#1: _____

Layer 3 (Top)

#1: _____

Layer 2 (Middle)

#1: _____

Layer 1 (Bottom)

#1: _____



Air Operating Permit Application

Form 1: General Information and Certification

1. Company Name: City of Anacortes
2. Plant or Facility Name: Anacortes Wastewater Treatment Plant
3. Existing Air Operating Permit Number: None, this is the facility's first AOP application
4. Unified Business Identification Number (UBI#): 291000003
5. Facility Address: 500 T Avenue; Anacortes, WA
6. County: Skagit
7. Mailing Address: (if different) P.O. Box 547; Anacortes, WA 98221-0547
8. Owner: City of Anacortes
9. Parent Company: (Same as Owner)
10. Parent Company Address (if different than above): (See Mailing Address)
11. Plant or Facility site manager / contact: Rebecca Fox
12. Title: Wastewater Plant Manager
13. Telephone: 360-299-0953
14. Claim of Confidentiality:
Some of the records and information contained in this application are ☐/are not ☒ (check one) unique to the applicant and/or are likely to adversely affect the competitive position of the applicant if released to the public or a competitor. If a claim of confidentiality is made for this application, provide a separate application for general distribution that is devoid of confidential information.
15. Provide the following:
 - a) For applicable requirements with which the source is in compliance, provide a statement that the source will continue to comply with such requirements;
The plant will continue to comply with all listed applicable requirements.
 - b) For applicable requirements that become effective during the permit term, provide a statement that the source will meet such requirements on a timely basis;
The plant will comply with the requirements of 40 CFR 60 Subpart MMMM after EPA, Ecology or NWCAA finalize the requirements for existing sources.



Air Operating Permit Application

Form 2: Emissions Units Form

Facility Name: Anacorte Wastewater Treatment Plant

Confidentiality Claim? Yes ☐ No ☒ Process #: _____

Emissions Point Identifier	Emission Point Description (including existing air pollution control equipment)	Emissions and Emissions Units			Compliance Assurance Monitoring	
		Annual Potential Emissions (for all regulated air pollutants)	Have Potential Emissions Changed Since Submittal of Most Recent AOP Application?	Actual Emissions for Calendar Year	Annual Potential Emissions without regard to Control Device	CAM needed? (yes or no)
01	Fluidized Bed Sewage Sludge Incinerator		Not applicable because this is the first AOP application	2014 Emissions lb/hr	Not applicable because Anacortes is not a major source as defined by 40 CFR part 64, 70, or 71.	
			CO	0.12		
			NOx	0.52		
			PM	0.15 lb/ton @ 7% O ₂		
			SO ₂	0.79		
			Beryllium	1.4 E-07		
			Mercury	5.1 E-04		
			HCl	0.23 ppmvd @ 7% O ₂		



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Anacortes Wastewater Treatment Plant

Confidentiality Claim? Yes ☐ No ☒ Process #: 01

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
S1 Final Compliance Date	40 CFR 62.15875, Table 1 40 CFR 62 Subpart LLL		Submit final control plan and achieve final compliance by March 21, 2016	Final control Plan submitted March 18, 2016 Final Compliance see MR&R S3
S2 Notification of Achievement of Initial Compliance	40 CFR 62.15885		Provide notification of achievement of compliance	Include in notification: Notification that final control plan has been submitted and final compliance has been achieved; Items required to be submitted with the final control plan and final compliance; and Signature of the owner or operator of the SSI unit.
S3 Compliance Date not Met	40 CFR 62.15895		Submit notification to the Administrator postmarked within 10 business days after the compliance date of failure to achieve final compliance. Continue to submit reports each subsequent calendar month until final compliance is met.	Submit initial and monthly notification of failure to achieve final compliance by the compliance date until final compliance is met. See MR&R R2

T1 Operator Training	40 CFR 62.15920	12	Operator Training The SSI unit cannot be operated unless a fully trained and qualified SSI unit operator is accessible, either at the facility or can be at the facility within 1 hour. Training and qualification must be obtained through state-approved program or by completing an incinerator operator training course that includes, at a minimum (1) Training on the 10 required subjects \$62.15920(c)(1) (2) An examination designed and administered by the state-approved program or instructor administering the required subjects in §62.15920 (c)(1) • (3) Written material covering the training course topics that may serve as reference material following completion of the course.	Conduct an initial training course meeting requirements in §62.15920 (c)(1) through (c)(3).
T2 Operator Training Deadline	40 CFR 62.15925	15	<u>When must the operator training course be completed?</u> The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section: (a) The final compliance date; (b) Six months after your SSI unit startup; and (c) Six months after an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.	Training in conjunction with the final compliance date. A training course will be held prior to installation of the improved APCD. Employees assuming responsibility for operating or supervising the operation of the SSI unit will participate in a training course according to MR&R T1.

T3 Obtaining Operator Training Qualification	40 CFR 62.15930		How do I obtain my operator qualification? (a) You must obtain operator qualification by completing a training course that satisfies the criteria under §62.15920(b). (b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination.	Completing a training course MR&R T1 Qualification is valid from the date the training course is completed and the operator successfully passes the examination.
T4 Maintaining Operator Qualification	40 CFR 62.15935		Maintaining Operator Qualification Complete an annual review or refresher course covering, at a minimum, the five required topics (§62.15935 (a) through (e))	Ensure all Incinerator operators participate in an annual refresher training course covering the 5 required topics in §62.15935 (a) through (e)
T5 Renewing Lapsed Operator Qualification	40 CFR 62.15940		How do I renew my lapsed operator qualification? • Lapse of less than 3 years, complete standard annual refresher course • Lapse of 3 years or more, repeat the initial qualification requirements	Lapse of less than 3 years follow MR&R T1 Lapse of 3 years or more follow MR&R T4
T6 Qualified Operator Not Available for More than 8 Hours, Less than 2 Weeks	40 CFR 62.15945 (a)		A qualified operator is not accessible for more than 8 hours: May operate SSI for less than 2 weeks by other plant personnel familiar with the operation of the SSI unit and who have completed a review of the information specified in §62.15950 within the past 12 months. Include the deviation period in the annual report.	Ensure available plant personnel gain familiarity with required information, see MR&R T8. Ensure a qualified operator is accessible as soon as possible. Include the deviation period in the annual report, MR&R R4.

T7 Qualified Operator Not Available for More than 2 Weeks	40 CFR 62.15945 (b)		A qualified operator is not accessible for 2 weeks or more Notify the Administrator of this deviation in writing within 10 days. Submit status report to the Administrator every 4 weeks beginning 4 weeks after notifying the Administrator of the deviation. Must request approval from the Administrator to continue operation of the SSI unit.	Submit deviation and status reports as required, MR&R R6. Ensure a qualified operator is accessible as soon as possible.
T8 Training Documentation	40 CFR 62.15950		Maintain documentation of operator training procedures at the plant. Review the training information (subjects in MR&R T1) with each qualified operator: Initially by November 16, 2016 or before operator assumes responsibility for operation of the SSI; Subsequently annual reviews no more than 12 months from previous review	Maintain documentation of operator training (MR&R T1) procedures at the plant. Review the training information (subjects in MR&R T1) with each qualified operator: Initially by November 16, 2016 or before operator assumes responsibility for operation of the SSI; Subsequently annual reviews no more than 12 months from previous review
T9 Operator Certification	WAC 173-300, RCW 70.95D	State Only	It is unlawful to operate a solid waste incineration facility without a certified operator in responsible charge on-site during all hours of operation	Operator Certification Complete training and examination according to WAC §173-300-090 Submit application for incinerator certification according to WAC §173-300-080 Renew certificate according to WAC §173-300-110
E1 Emission Limits	40 CFR 62.15955, Table 2 of 40 CFR 62 Subpart LLL		Emission limits and standards specified in Table 2 apply at all times the unit is operating and during periods of malfunction effective by the final compliance date specified in §62.15875	MR&R E3 through E12

O1 Operating Limits	40 CFR 62.15960			Meet operating limits established in §62.15965 or §62.15985 for the parameters listed in Table 4 or established through §62.15965. Limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time)	Meet the operating limits for the parameters listed in Table 4 or established through §62.15965. Monitor operating limits at all times that sewage sludge is in the combustion chamber using PLC programming and control and CEMDAS to collect and reduce data.
O2 Operating Limits Combustion Chamber Temperature	40 CFR 62.15960 (a)			Meet site-specific operating limit for minimum operating temperature of the combustion chamber established in §62.15985	Set combustion chamber minimum operating temperature during performance test. Monitor and meet operating limit at all times. MR&R O13
O3 Operating Limits Air Pollution Control Device	40 CFR 62.15960 (b) & (h)			Meet operating limits or requirements established as required in §62.15965 and §62.15985 to comply with emission limits in Table 2	Meet operating limits established and set by §62.15965 (MR&R O8) and §62.15985 (MR&R O9). Set Operating limits during MR&R xx 15965 & 85 meet limits, monitor system, maintenance, etc.
O4 Operating Limits Ash Handling System	40 CFR 62.15960 (d)			Meet the operating requirements in site-specific fugitive emission monitoring plan, submitted as specified in §62.15995(d) to ensure that your ash handling system will meet the emission standard for fugitive emissions from ash handling;	Refer to monitoring plan MR&R MP6
O5 Meet Operating Limits by Final Compliance Date	40 CFR 62.15960 (e)			Meet the operating limits and by the final compliance date specified in §62.15875	Sending monthly updates, anticipate final compliance before March 21, 2017 See MR&R S3

O6 Operating Limits Sludge Feed Rate and Moisture Content	40 CFR 62.15960 (f)		Monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator	Sewage sludge feed rate is continuously monitored and used to calculate a daily average feed rate for operating hours during each 24-hour period (midnight to midnight). At least one grab sample of the sewage sludge fed to the incinerator is taken daily, multiple samples taken in a day are averaged. Records of daily average feed rate and moisture content are kept according to §62.16025, MR&R R1
O7 New Operating Limits	40 CFR 62.15960 (g)		Meet any new operating limits and requirements, re-established according to §62.16005(d)	Meet new operating limits whenever operating limits are re-established according to §62.16005(d), MR&R C9
O8 Petition Administrator for Operating Parameters, Limits and Averaging Periods	40 CFR 62.15965		<u>Establishing operating limits to comply with the emission limits using some manner other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner.</u> Establish applicable operating limits according to §62.15985. Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.	Applicable operating limits will be established according to §62.15985, MR&R O9 through O13. Petition to the Administrator submitted September 25, 2015, received approval from the Administrator August 5, 2016 (Anacortes' Petition to EPA). See MR&R Pet1 through Pet10.
Pet1 Sludge Feed Rate	Anacortes' Petition to EPA – Parameter #1, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		Sludge Feed Rate	Sludge Feed Rate Frequency: Continuous Threshold: Maximum (Permitted Limit) Data Collection Minimum: 1 hour

Pet2 Fluidized Bed Exhaust Gas Temperature	Anacortes' Petition to EPA – Parameter #2, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	Fluidized Bed Exhaust Gas Temperature	Fluidized Bed Exhaust Gas Temperature Frequency: Continuous Threshold: Minimum Data Collection Minimum: 15 minutes Averaging Period: 12-hour block MR&R O13
Pet3 Pressure Drop Across Mercury Module	Anacortes' Petition to EPA – Parameter #3, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	Pressure Drop Across Mercury Module	Pressure Drop Across Mercury Module Frequency: Continuous Threshold: Maximum Data Collection Minimum: 15 minutes
Pet4 Pressure Drop Across Venturi	Anacortes' Petition to EPA – Parameter #4, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	Pressure Drop Across Venturi	Pressure Drop Across Venturi Frequency: Continuous Threshold: Minimum Data Collection Minimum: 15 minutes Averaging Period: 12-hour block MR&R O10
Pet5 Mercury (Hg) Module Outlet Gas Temperature	Anacortes' Petition to EPA – Parameter #5, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	Mercury (Hg) Module Outlet Gas Temperature	Mercury (Hg) Module Outlet Gas Frequency: Continuous Threshold: Maximum Data Collection Minimum: 15 minutes
Pet6 pH of Scrubbing Liquor from Drain of the Venturi Stage	Anacortes' Petition to EPA – Parameter #6, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	pH of Scrubbing Liquor from Drain of the Venturi Stage	pH of Scrubbing Liquor from Drain of the Venturi Stage Frequency: Continuous Threshold: Minimum Data Collection Minimum: 15 minutes Averaging Period: 3-hour block MR&R O12
Pet7 Flow Rate of Plant Effluent at Each Injection Point	Anacortes' Petition to EPA – Parameter #7, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL	Sludge Feed Rate Flow Rate of Plant Effluent at Each Injection Point	Flow Rate of Plant Effluent at Each Injection Point Frequency: Continuous Threshold: Minimum Data Collection Minimum: 15 minutes Averaging Period: 12-hour block MR&R O11

Pet8 SPC Material Testing	Anacortes' Petition to EPA – Parameter #8, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		SPC Material Testing	SPC Material Testing Frequency: Initially, every 6 months beginning 12 months after SPC material replaced. Testing frequency to be adjusted based on results from first 2 years of operation. Threshold: A maximum mercury content of the SPC material of 5% by weight, or 1.75 pounds of mercury per mercury module.
Pet9 Emission Testing for All Pollutants	Anacortes' Petition to EPA – Parameter #9, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		Emission Testing for All Pollutants	Emission Testing for All Pollutants Frequency: Annual performance testing (Between 11 and 13 calendar months following the date of the previous performance test). Threshold: Emission limits
Pet9a Biannual Emission Testing Requirements	Anacortes' Petition to EPA – Parameter #9, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		Biannual Emission Testing Requirements	Biannual Emission Testing Requirements Frequency: Every 2 years, the performance test shall be conducted when the mercury module is within 90 days of its expiration. Threshold: Emission limits
Pet10 Sludge Metals Testing	Anacortes' Petition to EPA – Parameter #10, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		Sludge Metals Testing	Sludge Metals Testing Frequency: 1 composite sample during each performance test run Threshold: Compliance with emission limits demonstrated using performance testing (§62.16000(a)) Data Collection Minimum: 30 minutes

E2 Emissions Limits, Emissions Standards and Operating Limits	40 CFR 62.15970		Emission limits and standards apply at all times and during periods of malfunction. Operating limits apply at all times that sewage sludge is in the combustion chamber (i.e., until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). For determining compliance with the CO concentration limit using CO CEMS, the correction to 7-percent oxygen does not apply during periods of startup or shutdown (SUSD). Use the measured CO concentration without correcting for oxygen concentration in averaging with other CO concentrations (corrected to 7-percent O₂) to determine the 24-hour average value.	Monitor operating parameters at all times sewage sludge is in the combustion chamber. Use CO measured during startup and shutdown averaged with CO corrected during operation for 24-hour block average value.
C1 Initial and Continuous Compliance using a Performance Test	40 CFR 62.15980 (a), 40 CFR 62.16000 (a)		Demonstrate initial and continuous compliance with Table 2 emission limits and standards with performance test required in §60.8. Use performance test methods, averaging methods, and minimum sampling volumes or durations specified in Table 2 and according to the testing, monitoring, and calibration requirements in §62.16015(a).	Perform initial compliance test following installation and startup of improved APCD, no later than March 20, 2017. Perform annual performance tests unless MR&R C2 applies. Follow test requirements in Table 2 and §62.16015(a), MR&R P1

C2 Performance Testing Frequency for Continuous Compliance	40 CFR 62.16000 (a)	Conduct an annual performance test between 11 and 13 following previous test. May conduct a repeat performance test at any time to establish new operating limit values. Administrator may request a repeat performance test at any time. Repeat performance test within 60 days of a process change. Less frequent performance testing for a given pollutant may occur if test shows pollutant is at or below 75% of the emission limit for 2 consecutive years and there are no changes in the operation of the APCD that could increase emissions. May skip test for next 2 years, must run test during the third year, no more than 37 months after previous performance test.	Annual performance testing unless threshold for reduced testing is met then test every 3 years for qualifying pollutants.
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C3 Initial and Continuous Compliance using a CEMS	40 CFR 62.15980 (b), 40 CFR 62.16000 (b)	<u>Demonstrate initial and continuous compliance using a continuous emissions monitoring system (CEMS).</u> Follow requirements in §62.16015(b) Use measured CO during SUSD, §62.15970, to determine 24-hour block average value. Measure emissions according to §60.13 to calculate 1-hour arithmetic averages, corrected to 7-percent oxygen. Demonstrate initial compliance using a 24-hour block average of 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7. Complete initial CEMS performance evaluation by the final compliance date. Follow monitoring plan for initial and periodic CEMS performance evaluations. Conduct performance evaluation using the procedures and acceptance criteria in §62.15995(a)(3).	The existing CEMS will be used for CO compliance. CEMDAS will collect and reduce CO data into 1-hr and 24-hr block averages. See MR&R E2 for CO averaging. Follow CEMS QA/QC manual for CEMS performance evaluations, See also MR&R P2 & MP3
C4 Initial Compliance Report	40 CFR 62.15980 (d)		See MR&R R3
C5 Continuous Compliance Dioxins/Furans Toxic Equivalency Determination	40 CFR 62.16000 (e)		Performance test report includes dioxins/furans reported on a toxic equivalency basis according to §62.16000 (e)

C6 Continuous Compliance - Petition for Alternative Monitoring Parameters	40 CFR 62.16000 (f)			After initial request, may subsequently petition Administrator for alternative monitoring parameters.	Petition Administrator for alternative monitoring parameters as needed.
O9 Establish Operating Limits	40 CFR 62.15985			Establish operating limits during initial performance test required in §62.15980 Meet requirements in §62.16005(d) to confirm or re-establish operating limits Follow data measurement and recording frequencies and data averaging times in Table 4 or established in §62.15965 Follow testing, monitoring and calibration requirements in §§62.16015 and 62.16020 or established in §62.15965	Initial performance test, see MR&R C1. Confirm, re-establish operating limits, see MR&R C9. Establish operating limits for parameters identified in MR&R O8 and Table 4. Follow MR&R P1 and P5 for testing, monitoring and calibration requirements.
O10 Establish Operating Limits Wet Scrubber Minimum Pressure Drop	40 CFR 62.15985(b), Anacortes' Petition to EPA			Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead and cadmium emission limits in Table 2, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead and cadmium emission limits.	Venturi Scrubber pressure operating limit: Minimum pressure drop across Venturi Scrubber Equal to the lowest 4-hour average pressure drop across venturi scrubber measured during the most recent performance test demonstrating compliance with the PM, Pb and Cd emission limits.
O11 Establish Operating Limits Minimum Scrubber Liquid Flow	40 CFR 62.15985(c), Anacortes' Petition to EPA			Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.	Plant effluent flow rate at each injection point: Minimum scrubber liquid flow rate at each scrubber injection point, equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

O12 Establish Operating Limits Minimum Scrubber liquid pH	40 CFR 62.15985(d), Anacortes' Petition to EPA		Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide (SO ₂) or hydrogen chloride (HCl) emission limits in Table 2, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the SO ₂ and HCl emission limits.	pH of scrubbing liquor from drain of Venturi stage: Minimum scrubber liquid pH equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the SO ₂ and HCl emission limits.
O13 Establish Operating Limits Minimum Combustion Chamber Temperature	40 CFR 62.15985(e), Anacortes' Petition to EPA		Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits.	Fluidized bed exhaust gas temperature: Minimum combustion chamber operating temperature, equal to the lowest 4-hour average combustion chamber operating temperature measured during the most recent performance test demonstrating compliance with all applicable emission limits.
APCD1 Air Pollution Control Device Inspection	40 CFR 62.15990, 40 CFR 62.16015		Conduct air pollution control device (APCD) inspection §62.16015 (c) within 60 days after installation of control device. Complete all necessary repairs within 10 operating days unless you obtain written approval from the Administrator establishing a date whereby all SSI unit repairs must be completed.	Perform APCD inspection within 60 days after installation. Perform all repairs within 10 days.
MP1 Site-Specific Monitoring Plan	40 CFR 62.15995		Develop and submit site-specific monitoring plan.	Develop and submit site-specific monitoring plan.

MP2 Monitoring Plan for CMS	40 CFR 62.15995 (a)		Monitoring plan elements for continuous monitoring system (CMS): Physical location of Probe or interface. Performance and equipment specifications for the interface system and data collection and reduction system. Performance evaluation procedures and acceptance criteria for all CMS.	Prepare site-specific monitoring plan addressing required elements. Use CEMDAS to collect and reduce CMS data.
MP3 Monitoring Plan for CEMS	40 CFR 62.15995 (a)(3)(i), 40 CFR 60.13, 40 CFR 60 Appendix B, 40 CFR 60 Appendix F		Monitoring plan elements for continuous emissions monitoring system (CEMS): CEMS monitoring requirements §60.13. CEMS performance specs 40 CFR 60 Appendix B. CEMS calibration procedures 40 CFR 60 Appendix F. Discussion of CEMS out-of-control periods.	CEMS requirements are included in the CEMS QA/QC Manual.
MP4 Monitoring Plan - for CPMS	40 CFR 62.15995 (a)(3)(ii)		Monitoring plan elements for continuous parameter monitoring system (CPMS): Flow, pressure, pH, temperature – sensor location, tolerance/sensitivity, disturbances, performance checks, calibrations, performance evaluations according to §62.15995 (a)(3)(ii).	Monitoring plan will include required elements for flow, pressure, pH and temperature performance checks and evaluations, calibrations and maintenance.
MP5 Monitoring Plan - Initial Performance Evaluation	40 CFR 62.15995 (c)		Initial performance evaluation for CMS within 60 days of installation.	Perform initial performance evaluation for CMS within 60 days of installation, no later than March 20, 2017. See MR&R C1.
MP6 Monitoring Plan Ash Handling System	40 CFR 62.15995 (d)		Monitoring plan for ash handling system.	Monitoring plan will specify ash handling system operating procedures to ensure fugitive emissions limits are met.
MP6 Monitoring Plan Alternate Monitoring Parameters	40 CFR 62.15995 (e)		Submit application to Administrator for alternate monitoring requirements.	A petition will be submitted if alternate monitoring requirements are deemed necessary.

MP7 Monitoring Plan - Timelines	40 CFR 62.15995 (f) through (h)		Submit monitoring plans for CMS, CEMS, CPMS at least 60 days before initial performance test and at least 60 days before initial compliance test for ash handling system. Update and resubmit monitoring plan when changes to monitoring procedures or process occur.	Submit monitoring plan 60 days before initial performance test, update plan as needed.
C7 Demonstrate Continuous Compliance	40 CFR 62.16005 (a), 40 CFR 62.16020, 40 CFR 62.15965, Table 4 of 40 CFR 62 Subpart LLL		Continuously monitor operating parameters.	CEMDAS continuously records data, see MR&R C3. Monitor parameters identified in Anacortes' Petition to EPA, MR&R O8. See MR&R P5
C8 Continuous Compliance – Operation Outside Allowable Range	40 CFR 62.16005 (b) 40 CFR 62.16030 (d)		Operation outside allowable range except during a performance test to determine compliance is a deviation. Submit deviation report.	Operate within allowable ranges. Submit deviation reports as required. See MR&R R5
C9 Continuous Compliance – Annual Report	40 CFR 62.16005 (c) 40 CFR 62.16030 (c)		Submit an annual compliance report.	Submit an annual compliance report. See MR&R R4
C9 Continuous Compliance – Confirm or Re- establish Operating Limits	40 CFR 62.16005 (d) 40 CFR 62.16000 (a) or (b)(4)		Confirm or re-establish operating parameters	Operating limits are based on operating data recorded during any performance test or performance evaluation. Conduct a repeat performance test to establish new operating limit values. See MR&R C1 & C2

P1 Performance Testing	40 CFR 62.16015 (a)	Performance testing – 3 test runs under normal conditions as specified in §60.8 Excess emissions during SUSD or malfunctions are deviations. Sludge – representative of normal conditions, log quantity and moisture content Follow Table 2 requirements. Follow 40 CFR 60 Appendix A and A-2 requirements for sampling requirements and gas composition requirements. Correct pollutant concentrations to 7% oxygen Provide 30 day prior notice to the Administrator, at least 7 days notice for a change in schedule. Provide adequate testing facilities, §62.16015(a)(8). Administrator must approve averaging 2 runs if one is lost. Operate at 85% maximum capacity during each test run.	Conduct performance testing to meet specified requirements. Meet performance testing requirements as specified in §62.16015 (a): 3 test runs. Sludge representative of normal operating conditions. Use Table 2 Methods. Meet test criteria in specified Methods. Provide 30 days notice to the Administrator. Provide adequate testing facilities. Administrator must approve averaging 2 runs if one is lost. Run test with SSI at 85% of maximum capacity.
P2 Performance Testing – Continuous Monitoring	40 CFR 62.16015 (b)	Using CMS to demonstrate compliance with emission limits in Table 2 – Notify Administrator one month before starting or stopping use of CEMS Install, operate, calibrate and maintain instrument according to §60.13, 40 CFR 60 Appendix B & F and 40 CFR 60 Performance Spec 4B Use instrument span 2 times the applicable limit. Out-of-control period, complete repairs and resume operation of CEMS as expeditiously as possible.	Use CEMS for CO compliance. Run CEMS according to §60.13, 40 CFR 60 Appendix B and 40 CFR 60 Performance Spec 4B. Follow CEMS QA/QC manual. Span CO instrument at 2X emission limit. See MR&R MP3.

P3 Performance Testing – Relative Accuracy Test	40 CFR 62.16015 (b)(4)		During each relative accuracy test of the CEMS, emission data for CO and oxygen must be collected concurrently by the CEMS and the specified test method for CO. Testing must be done at representative operating conditions.	Monitor CO and oxygen concurrently during relative accuracy test using CEMS and Method 10, 10A for 10B in 40 CFR 60 Appendix A-4 for CO and Methods 3A or 3B in 40 CFR 60 Appendix A-2 for oxygen
P4 Performance Testing – CEMS Operation and Data Collection	40 CFR 62.16015 (b)(5)		Collect CEMS data at all times SSI unit is operating at intervals in §60.13 except during CEMS malfunctions, repairs or QA/QC activities. Data collected during malfunctions, repairs, QA/QC or out-of-control periods should not be used in calculations, use all other data. Periods of malfunctions, repairs, QA/QC or out-of-control are deviations, include in deviation report.	Note: Waiting for reply from EPA regarding whether QA/QC must be reported as a deviation. See Federal Plan Comments and Responses for discussion. CEMDAS collects data at all times during operation, excluding periods of malfunctions, repairs, QA/QC or out-of-control periods from calculations. Deviation reports will include malfunctions, repairs, QA/QC or out-of-control periods as required. See MR&R R5.
P4 Performance Testing – APCD Inspections	40 CFR 62.16015 (c)		Inspect APCD for proper operation, observe equipment is maintained in good operating condition, develop monitoring plan§62.15995	Perform APCD inspections according to monitoring plan. See MR&R MP1

P5 CPMS Monitoring and Calibration	40 CFR 62.16020		Monitoring and calibration general requirements for flow, pressure, pH and temperature Collect CPMS data at all times SSI unit is operating at intervals in §60.13 except during CPMS malfunctions, repairs or QA/QC activities. Data collected during malfunctions, repairs, QA/QC or out-of-control periods should not be used in calculations, use all other data. Periods of malfunctions, repairs, QA/QC or out-of-control are deviations, include in deviation report. Record results of each inspection, calibration and validation check. Operate CPMS according to monitoring plan.	Collect data for flow, pressure, pH and temperature at all times SSI is in operation. CEMDAS collects CEMS and CPMS data at all times during operation, excluding periods of malfunctions, repairs, QA/QC or out-of-control periods from calculations. Deviation reports will include malfunctions, repairs, QA/QC or out-of-control periods as required. See MR&R R5
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R1 Recordkeeping	40 CFR 62.16025		All Records, keep paper or computer-readable records available on site for 5 years. Include calendar date on all records. Records include: Final Control Plan and Final Compliance. Operator Training. APCD Inspections. Performance Test Results. Continuous Monitoring Data Notice to Administrator of starting or stopping use of CEMS. Deviation Reports. Equipment specifications and operation and maintenance requirements. Inspections, calibrations and validation checks of monitoring devices. Monitoring plan and performance evaluations for continuous monitoring systems. Less frequent testing – annual records documenting 2 consecutive years emissions were at or below 75% of applicable limit. Malfunction – keep record of information submitted in annual report.	Keep all required records for at least 5 years. Keep annual records documenting less frequent testing threshold attainment a minimum of 5 years or longer if status continues to apply.
R2 Final Control Plan and Final Compliance Report	40 CFR 62.16030 (a), Table 6 of 40 CFR 62 Subpart LLL		Submit notification of achievement of submitting the final control plan no later than 10 days after the final compliance date. If final compliance is not achieved by the compliance date, submit notification to the Administrator within 10 days after the final compliance date. §62.15895	Final control plan submitted March 18, 2016. An updated plan will be submitted to describe the devices for air pollution control and process changes being used to comply with the emission limits. See MR&R S2. See MR&R S3 for compliance date not met.

R3 Initial Compliance Report	40 CFR 62.16030 (b), Table 6 of 40 CFR 62 Subpart LLL		Submit initial compliance report no later than 60 days following the initial performance test.	Submit initial compliance report with required information no later than 60 days following the initial performance test.
R4 Annual Compliance Report	40 CFR 62.16030 (c), Table 6 of 40 CFR 62 Subpart LLL		Submit annual compliance report no later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report.	Submit annual compliance report with required information no more than 12 months following the previous report.
R5 Deviation Reports	40 CFR 62.16030 (d), Table 6 of 40 CFR 62 Subpart LLL		Submit deviation reports by August 1 for data collected during the first half of the calendar year; by February 1 for data collected during the second half of the calendar year.	Submit deviation reports by August 1 st and February 1 st as applicable when deviation occur.
R6 Deviation Report for Qualified Operator Not Available for More than 2 Weeks	40 CFR 62.16030 (e), Table 6 of 40 CFR 62 Subpart LLL		Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more) within 10 days of deviation, continued notification of status every 4 weeks. Notification within 5 days of resumed operation following shut down (due to qualified operator deviation and as specified in §62.15945(b)(2)(i))	MR&R T6. Submit notification within 10 days of deviation.
R7 Notification of a Force Majeure	40 CFR 62.16030 (f), Table 6 of 40 CFR 62 Subpart LLL		Notification of a force majeure that may cause or caused a delay in conducting a performance test beyond the regulatory deadline.	Provide notification of a force majeure as soon as practicable according to §62.16030(f).
R8 Other Notifications and Required Reports	40 CFR 62.16030 (g), Table 6 of 40 CFR 62 Subpart LLL		1 month notice to Administrator of intent to start/stop use of a CMS. 30 days notice of intent to conduct a performance test. 7 days prior notice of intent to reschedule a performance test.	Provide proper notification to start/stop using a CMS, conduct a performance test or reschedule a performance test.

R9 Report Submission	40 CFR 62.16030 (h), Table 6 of 40 CFR 62 Subpart LLL		Submit performance tests and evaluations within 60 days of completing test using EPA's ERT (electronic reporting tool) if supported for test method otherwise submit report to Administrator at address listed in §60.4. Seek approval from the Administrator to change the semiannual or annual reporting dates.	Submit performance tests and evaluations within 60 days of completing test using EPA's ERT if supported, otherwise to the Administrator.
E3 Particulate Matter (PM)	Table 2 of 40 CFR 62 Subpart LLL 40 CFR 62.15955, 40 CFR 62.15980	2	Emission Limit for Particulate Matter (PM) 18 milligrams per dry standard cubic meter at 7% oxygen	Performance test (Method 5 at 40 CFR part 60, appendix A-3; Method 26A or Method 29 at 40 CFR 60, appendix A-8)
E4 Hydrogen Chloride (HCl)	Table 2 of 40 CFR 62 Subpart LLL	3	Emission Limit for Hydrogen Chloride (HCl) 0.51 ppmvd at 7% oxygen	Performance test (Method 26 or 26A at 40 CFR 60, appendix A-8)
E5 Carbon Monoxide (CO)	Table 2 of 40 CFR 62 Subpart LLL	4	Emission Limit for Carbon Monoxide (CO) 64 ppmvd at 7% oxygen	Continuous Emission Monitoring System, Quality Assurance Requirements 40 CFR 60, Appendix F
E6 Dioxins/furans	Table 2 of 40 CFR 62 Subpart LLL	5	Emission Limit for Dioxins/furans 1.2 nanograms per dry standard cubic meter (total mass basis); or 0.10 nanograms per dry standard cubic meter (toxic equivalency basis at 7% oxygen	Performance test (Method 23 at 40 CFR 60, appendix A-7)
E7 Mercury (Hg)	Table 2 of 40 CFR 62 Subpart LLL	6	Emission Limit for Mercury (Hg) 0.037 milligrams per dry standard cubic meter at 7% oxygen	Performance test (Method 29 at 40 CFR 60, appendix A-8; Method 30B at 40 CFR 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008, Incorporated by reference, see §60.17).
E8 Oxides of Nitrogen (NOx)	Table 2 of 40 CFR 62 Subpart LLL	7	Emission Limit for Oxides of Nitrogen (NOx) 150 ppmvd at 7% oxygen	Performance test (Method 7 or 7E at 40 CFR 60, appendix A-4)
E9 Sulfur Dioxide (SO2)	Table 2 of 40 CFR 62 Subpart LLL	8	Emission Limit for Sulfur Dioxide (SO2) 15 ppmvd at 7% oxygen	Performance test (Method 6 or 6C at 40 CFR 40, appendix A-4; or ANSI/ASME PTC-19.10-1981, Incorporated by reference, see §60.17

E10 Cadmium (Cd)	Table 2 of 40 CFR 62 Subpart LLL	9	Emission Limit for Cadmium (Cd) 0.0016 milligrams per dry standard cubic meter at 7% oxygen	Performance test (Method 29 at 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish
E11 Lead (Pb)	Table 2 of 40 CFR 62 Subpart LLL	10	Emission Limit for Lead (Pb) 0.0074 milligrams per dry standard cubic meter at 7% oxygen	Performance test (Method 29 at 40 CFR 60, appendix A-8. Use GFAAS or ICP/MS for the analytical finish
E12 Fugitive Emissions from Ash Handling System	Table 2 of 40 CFR 62 Subpart LLL	11	Emission Limit for Fugitive emissions from ash handling Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period	Visible emission test (Method 22 at 40 CFR part 60, appendix A-7)