Thurston County
Permitting System Policies & Procedures

Number: ONST.17.POL.606

Title: EFFLUENT SAMPLING REQUIREMENTS AS A CONDITION OF OPERATIONAL CERTIFICATES

Related: ONST.13.POL.808
ONST.08.POL.830
ONST.13.POL.605

Approved: _____
Environmental Health Director
Date: November 16, 2017

Cancels: ONST.08.POL.606

RCW/Code:

This policy applies to OSS that require effluent monitoring due to Operational Certificate and/or manufacturer requirements. See ONST.13.POL.808 for systems that must have operational certificates, ONST.13.POL.605 for systems that require a service contract with a County-certified monitoring specialist, and ONST.08.POL.830 for contract requirements.

1. **Thurston County certified monitoring specialists must collect all samples.**

2. **Ecology certified laboratories must analyze all samples.**

3. **OSS designed to meet treatment standards or effluent quality requirements must be sampled:**

   A. Systems with a disinfection component designed to meet treatment standard A or B (or Treatment Standard I or II for those pre-dating July 1, 2007 rules)
   B. Systems with a component designed to meet treatment standard E to treat high strength waste
   C. Systems with a component designed to meet treatment standard N for total nitrogen
   D. Systems where effluent sampling is required as a condition of the original permit approval and/or operational certificate such as a system where sampling is required to demonstrate that the waste strength meets the definition of residential waste.

4. **The OSS owner shall ensure that the OSS is sampled as directed on the OPC and the information is submitted to the Department in accordance with the schedule below:**

   A. **Effluent Disinfection**: When a system has a disinfection unit, fecal coliform bacteria sampling is required.

      1. The Certified Monitoring Specialist shall sample each quarter, and the results submitted to the Department by:
         - First Quarter due April 15th
         - Second Quarter due July 15th
         - Third Quarter due October 15th
         - Fourth Quarter due January 15th

2. The effluent shall meet the following conditions:
   - <200 cfu/100ml for Treatment Standard A or I
   - <1000 cfu/100ml for Treatment Standard B
   - <800 fu/100ml for Treatment Standard II

B. **High Strength Waste:** When the system is designed to treat high-strength waste, sampling for total suspended solids (TSS), carbonaceous biochemical oxygen demand ($CBOD_5$) or biochemical oxygen demand (BOD_5), and oil and grease (O&G) is required.

1. Effluent sampling from the discharge end of the pretreatment unit shall be done annually, or according to the Operational Certificate or according to the original permit approval if no Operational certificate exists.

2. The effluent shall meet treatment level E levels as follows:
   - TSS: ≤ 80 mg/L
   - $CBOD_5$: ≤ 125 mg/L OR BOD_5: ≤ 150 mg/L
   - O&G: ≤ 20 mg/L

C. **Nitrogen Reduction:** When the OSS is designed to meet Treatment standard N, total nitrogen (TN) sampling is required

1. The CMS shall sample effluent from the discharge end of the nitrogen-reduction component annually, or as specified in the Operational Certificate or original permit approval.

2. The effluent shall meet the following conditions:
   - TN: ≤ 20 mg/L

D. **Residential Waste Strength Confirmation:** When sampling is required to demonstrate that the system discharges residential strength sewage, sampling for total suspended solids (TSS), biochemical oxygen demand (BOD_5, and oil and grease (O&G) is required.

1. The CMS shall sample septic tank effluent annually, or according to the Operational Certificate, or according to the original permit approval if no Operational Certificate exists.

2. The septic tank effluent shall meet following conditions
   - TSS: <= 100 mg/L
   - BOD_5: <+= 220 mg/L
   - O&G: = 30 mg/L

4. <u>Follow-up monitoring is required when sampling identifies treatment problems:</u>

A. **Fecal Coliform:** When quarterly fecal coliform bacteria sampling finds two or more of the last four quarterly sample results exceed the treatment standard by at least double (200%) the OSS owner and professionals shall:

1. Conduct follow-up system troubleshooting

2. Submit written report of actions taken or proposed to bring the system performance back within design parameters

3. Re-evaluate system performance with next quarterly sample

B. **For all other parameters:** When a sample result is above the required treatment or effluent limit by more than 25%, the OSS owner and professional shall:

1. Sample effluent to confirm results

2. Trouble shoot system if confirmation sample results exceed limit by more than 25%

3. Submit written report of actions that have been taken or are proposed to bring the system performance back within the required limits.

4. Take corrective actions and resample system within 3 months of initial sampling.

5. Re-sample to evaluate system performance after corrective actions. For Nitrogen Reduction systems, sample both the influent and effluent.

    a. Systems that reduce Total Nitrogen concentration by at least 50% will be considered to be performing as designed.

C. **Troubleshooting:** Certified monitoring specialists and owners should consider these factors when troubleshooting performance problems:

1. Wastewater volume and water usage in the residence or facility.

2. Influent wastewater strength and characteristics; sample for TSS, pH, and BOD_5 if needed to confirm

3. Integrity and function of each component in the on-site sewage system

4. Wastewater volume and water usage in the residence or facility.

5. Integrity and function of each component in the on-site sewage system

6. Atypical circumstances or uses that could influence system performance, such as medications or medical equipment usage, water softener discharge, surface drainage, etc.

References:

WAC 246-272A
EPA Manual/625/R-00/008
WDOH Issue Paper, “Septic Tank Effluent Values” 2/1/04
Article IV, Thurston County Sanitary Code, 2/14/12