Staff Report

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TO: Mayor and City Council

THROUGH: Keith Stahley, City Manager

FROM: Brian D. Martin, PE, Public Works Director

SUBJECT:

Update on the Emerging Issues Regarding Per- and Polyfluoroalkyl Substances (PFAS), also Known as Forever Chemicals

Ward(s): All Wards
Councilor(s): All Councilors
Neighborhood(s): All Neighborhoods
Result Area(s): Good Governance; Natural Environment Stewardship; Safe and Healthy Community; Safe, Reliable and Efficient Infrastructure; Strong and Diverse Economy; Welcoming and Livable Community.

SUMMARY:

To provide information to the City Council on the current state of legislation pertaining to PFAS within drinking water, wastewater, and wastewater solids/biosolids; and provide an update on actions the Public Works Department is taking to address the emerging issues related to PFAS. A more extensive report on the Salem's Water/Wastewater/Stormwater Utility will be presented later this winter.

RECOMMENDATION:

Information only.

FACTS AND FINDINGS:

PFAS are a group of chemicals used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. Fluoropolymer coatings can be in a variety of products. These include clothing, furniture, adhesives, food packaging, heat-resistant non-stick cooking surfaces, and the insulation of electrical wire. Many PFAS, including perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), are a concern because they:

- do not break down in the environment,

- can move through soils and contaminate drinking water sources,
- build up (bioaccumulate) in fish and wildlife,
- may lead to liver cancer, kidney cancer, and other health effects.

The regulatory landscape regarding PFAS is changing. While there are only limited rules in place at this time, the City is meeting all current drinking water and wastewater regulations related to PFAS. We are committed to monitoring the rulemaking processes ahead and taking actions as necessary to comply with any changes to the regulations. We are still in the early stages of testing and will be updating City Council periodically as we learn more about PFAS in our wastewater system.

The following roadmap outlines staff's preliminary recommendations for near-term actions and strategies to prepare for future regulations and protect public health and the environment:

1. Testing for PFAS in our Drinking Water

The US Environmental Protection Agency (USEPA) has developed a proposed National Primary Drinking Water Regulation. To support this effort, the USEPA has asked drinking water providers across the US to collect additional data on the occurrence of 29 PFAS compounds as part of the federal unregulated contaminant monitoring rule (UCMR). Accordingly, the City has initiated quarterly sampling efforts of our drinking water at the distribution source, which is located downstream of our Geren Island Water Treatment Facility near the City of Turner. To date, there have been no detections of PFAS at or above the EPA minimum reporting levels in our drinking water. We will continue testing our drinking water in accordance with the UCMR, and also test for PFAS in our aquifer storage recovery (ASR) wells in November 2023 and May 2024.

2. Testing for PFAS in our Wastewater System and Biosolids

No Oregon or federal regulations currently exist for PFAS in wastewater or biosolids. As a proactive measure, we are collaborating with the Oregon Association of Clean Water Agencies and the Oregon Department of Environmental Quality to voluntarily collect data on PFAS every quarter to support the development of state and national wastewater regulatory strategies. To date, the City has measured PFAS in our wastewater and biosolids at levels comparable to other wastewater systems across the country.

3. Managing Leachate from Landfills

Leachate is a liquid that forms when water passes through a landfill. It is collected with underdrain systems below a landfill to avoid contaminating groundwater aquifers. The City of Salem currently accepts leachate from landfills at our Construction Waste Processing Facility located along Airway Drive SE near the Salem Airport. After the leachate is collected at this facility it travels through our sanitary sewer system and eventually enters our Willow Lake Pollution Control Facility where all of our sewerage is treated. Leachate test results prior to entering our system indicate that it contains significant amounts of PFAS substances. However, after it enters our system and travels to the Willow Lake Pollution Control Facility it mixes with other sewerage and becomes highly diluted. Test results of PFAS substances in the untreated wastewater entering the Willow Lake Pollution Control Facility and the treated wastewater leaving the Facility are consistent with national averages. In July

2023 we tested for PFAS in our wastewater with leachate in the system and then stopped accepting leachate and retested 5 days later. The PFAS test results were slightly lower without leachate in the system, which means other sources are also contributing to PFAS in our wastewater. More testing will help us understand the concentrations and treatment opportunities to reduce PFAS from this source as well as other sources.

4. Sharing Information with the Public
We are committed to sharing information with the public and introduced a City webpage this past summer. We will continue to provide information about what we currently know, the results of testing in our drinking water, changes to regulations, and the actions we are taking to protect public health and the environment. When regulations are introduced for wastewater, we will begin sharing those test results.

5. Building Partnerships to Find Long-Term Solutions
PFAS compounds are human-made substances used to make many things we use daily. It can be found worldwide in soil, water, and air. The PFAS issue can't be solved by our community alone. We all play a part in the solution, from reducing our use of PFAS products to keeping our water and streams safe. We will continue to work to build partnerships to understand, identify, and mitigate the impacts of PFAS on our community.

BACKGROUND:

PFAS Regulatory Overview
The City of Salem is meeting all current regulations related to PFAS. PFAS substances are human-made chemicals that have been widely used in industry and consumer products since the 1940s. They are known for their resistance to degradation and can remain in the environment indefinitely. The fate and transport of PFAS touches all aspects of the water cycle, as PFAS have been observed in groundwaters, surface waters, wastewater streams, and solid waste. Human exposure to PFAS is a public health concern primarily because health studies and modeling efforts suggest that relatively small amounts (on the order of parts per trillion) may cause adverse health effects. Because of their persistence in the environment and their impact on human health, regulations and guidelines related to PFAS on the federal, state, and local level have grown in their number and stringency over the last twenty years. The following paragraphs provide information on the state of legislation pertaining to PFAS in drinking water and wastewater.

Drinking Water
The unregulated contaminant monitoring rule is used as a tool for the USEPA to collect data, and ultimately establish regulations, for contaminants that are suspected to be present in drinking water but do not have health-based standards set under the Safe Drinking Water Act. The City of Salem collects PFAS samples under this rule. To date, there have been no detections of PFAS at or above the EPA minimum reporting levels in Salem's drinking water.

On March 14, 2023, USEPA announced a proposed National Primary Drinking Water Regulation to establish legally enforceable levels for two prominent PFAS compounds, PFOA and PFOS, and other

PFAS compounds such as perfluorononanoic acid (PFNA), GenX, perfluorohexane sulfonic acid (PFHxS), and PFBS. The USEPA anticipates finalizing the National Primary Drinking Water Regulation by the end of 2023 and enforcing the regulation by 2026. Under the National Primary Drinking Water Regulation, public water systems will be required to sample at all entry points to the distribution system. With no detection of PFAS at or above the minimum reporting levels in Salem's drinking water source, Salem expects to meet the requirements of this new regulation without modifications to the existing treatment system.

Wastewater

Wastewater treatment plants can be directly affected by the fate and transport of PFAS either through point sources or non-point sources. While US manufacturers have phased out certain PFAS, such as PFOA and PFOS, wastewater treatment plants can still observe point sources of these compounds from areas associated with historical uses, such as leachate from landfills or wastewater from certain industries. Even for plants without direct industrial sources, PFAS compounds are generally detectable at low levels in the influent and effluent of domestic wastewater. While the primary causes for PFAS in domestic wastewater remains unclear, they could be entering the domestic wastewater from human waste or leaching from consumer products.

Currently, no federal or Oregon regulations enforce a PFAS limit in municipal wastewater effluent. However, early discussions around potential regulatory action have caused concern for cities and municipalities due to the treatment complexity and cost associated with PFAS treatment. Further, there is concern around the potential liability implications of any regulations that do not distinguish between industries that produce or use PFAS versus wastewater treatment plants which simply passively receive these compounds from other sources.

To provide guidance to states, the USEPA published a memo in December 2022 titled "Addressing PFAS Discharges in National Pollutant Discharge Elimination System Permits and through the Pretreatment Program and Monitoring Programs". The USEPA recommended that states require wastewater utilities to: (1) monitor for PFAS quarterly in influent, effluent, and biosolids; (2) update their industrial user (IU) inventory to include all potential PFAS discharges; (3) monitor these IUs quarterly;(4) reduce IU PFAS discharges if PFAS levels in biosolids indicate an industrial source. Earlier this year, Salem began testing for PFAS and sources of PFAS such as leachate to compare the results within the context of peer facilities and other key metrics. Similar to the situation most utilities across the country find themselves in, more testing will be needed to fully understand the emerging PFAS impact.

Wastewater Solids and Biosolids

Currently, no federal or Oregon regulations enforce a PFAS limit in wastewater solids or biosolids. Federally, the USEPA under the Clean Water Act Section 405(d) regulates standards for the use or disposal of sewage sludge in 40 Code of Federal Regulations (CFR) Part 503 (Part 503). Part 503 includes pollutant limits, requirements for pathogen and vector attraction reduction, management practices, monitoring and reporting, and other requirements for sludge management, including biosolids land application. Sludge that meets Part 503 requirements for land application is called biosolids. Salem just began testing for PFAS in 2023 to compare the results within the context of peer facilities and other key metrics. Similar to the situation most utilities across the country find

themselves in, more testing will be needed to fully understand the emerging PFAS impact.

Brian D. Martin, PE
Public Works Director

Attachments:

1. Attachment 1 - City Staff Recommendations for Actions and Strategies