PFAS in South Bend Water

Public Health, Regulation, and Mitigation

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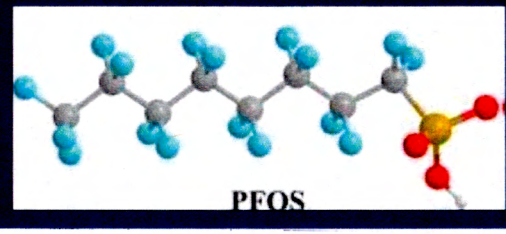
City of South Bend
Public Works

What Are PFAS?



- Per- and Polyfluoroalkyl Substances (PFAS)
  - Group of man-made chemicals that have been in use since the 1940s. PFAS has a strong carbon-fluorine bond making them resistant to heat, water and oil.
  - Thousands of compounds including two sub-categories
    - Perfluorooctanoic Acid (PFOA)
    - Perfluorooctanesulfonic acid (PFOS)
  - Known as 'forever chemicals' due to their persistence in the environment and human body.

Where PFAS is found:

- PFAS is in many everyday items—like dental floss, lipsticks, nonstick pans, food wrappers and treatments that make clothes, carpets and outdoor gear resist stains or water.

- They are also found in places such as factories, airports and military bases that use firefighting foams containing PFAS.

- Due to its widespread use and environmental persistence, nearly all people have been exposed to PFAS.

EPA Regulations (April 2024 Final Rule)

- EPA finalized enforceable limits for six PFAS chemicals to protect drinking water safety, PFOA, PFOS, PFHxS, PFNA, HFPO-DA(GenX), and a Hazard Index for a combination of the regulated chemicals. RB1
- EPA set Maximum Contaminant Levels (MCLs) for PFOA and PFOS at 4.0 parts per trillion to minimize health risks.
- Regulation requires ongoing water system monitoring and public alerts upon MCL exceedance.
- Compliance must be met by 2031.

Slide 4

RB1 Bipartisan Infrastructure Law received $1.3M

3M Lawsuit will receive a total of $6.4M to assist with construction costs

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PFAS Detection in Drinking Water

- PFAS has been detected in drinking water supplies across the country, including South Bend and neighboring cities, Mishawaka and Elkhart.

- PFAS is not used in treatment processes.

- Any PFAS detected in our drinking water comes from contaminated groundwater sources. PFAS enters water through industrial discharge, landfill leachate and runoff from products containing PFAS.

PFAS Detection in Drinking Water

- PFAS has been detected above the limits in 12 of 29 City wells
  - One of nine treatment plants have finished water results above the EPA limits.
  - As a result, the City immediately reduced or discontinued the use of wells with higher PFAS levels and only operates them when necessary.
  - In those cases, water from these wells is blended with other sources to ensure that PFAS levels remain below federal limits.

PFAS in Drinking Water

- South Bend has proactively acted on meeting these regulations
  - Initial monitoring is complete
  - Study has been conducted
  - Joined a National Class Action Lawsuit against 3M, Dupont, Tyco Fire Products and BASF
  - Started design phase for PFAS removal equipment at North Station - $1.3M BIL reimbursement

PFAS Detection in Drinking Water

- As a result, our finished drinking water currently meets EPA standards for PFAS at 8 of the 9 points of entry.
- It does not meet the 2031 standards at North Station Treatment Plant.
- Continue to monitor and test our wells.

City's Long-Term Plan to Remove PFAS

- Working with Black & Veach to identify the most important treatment technologies for water treatment plants.
- Will design a specific PFAS treatment for the North Station Plant.
- This will ensure that the City continues to meet EPA water quality standards for PFAS.
- Committed to providing clean and safe drinking water to residents.

Treatment Technologies

- Activated Carbon Adsorption
  - Granular and powdered activated carbon are widely used to adsorb PFAS compounds from water effectively
    - South Bend utilized granular activated carbon as a treatment technology
- Ion Exchange Resins
  - Ion exchange resins provide high removal capacity and selectivity for PFAS, ideal for drinking water treatment
    - South Bend is currently working to implement this treatment
- Membrane Filtration Methods
  - Reverse Osmosis and nanofiltration physically separate PFAS contaminants using advanced membrane technology
    - This is unrealistic for South Bend's water due to how naturally hard the water is
- Advanced Oxidation Processes
  - Emerging oxidation technologies like electrochemical and sonochemical methods target PFAS degradation for improved treatment
    - Also unrealistic due to water hardness

CG1

Next Steps

- Full Compliance with EPA regulations before 2031
- Evaluate treatment technologies best suited for South Bend's water chemistry
- Continued public updates and transparency
- Collaboration with consultants for design and implementation

Slide 11

CG1 What do you foresee in terms of public updates? We should note somewhere that the PFAS numbers will be included in the Water Quality Report that is distributed in the June bill.

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What Residents Can Do

To reduce exposure to PFAS in drinking water right now, the EPA recommends the following methods:

- **Certified PFAS Water Pitchers**: Look for pitchers that are explicitly labeled and certified for PFAS removal.
- **Charcoal (Granular Activated Carbon or GAC):** These filters use carbon to trap chemicals as water passes through them and can be installed under the sink.
- **Reverse Osmosis (RO) System**: Typically installed under the sink to treat water from the kitchen faucet. Reverse osmosis is a process that forces water through an extremely thin barrier that separates PFAS and other contaminants from the water.
- **Whole House Filtration Systems**: This is the most expensive option but would treat all the water in your house from the kitchen sink, bathroom, laundry, etc.

Public Communication Strategy

- Include an insert into upcoming water utility bills.
- Create a webpage on the City's website.
- Website updates and progress tracking
- Continued Water Quality Annual Report
- Council presentations and community engagement

Questions?

Extra Slides

Sources of PFAS Contamination

RB1

- Firefighting Foam Usage
  - Aqueous film-forming foams used in firefighting at airports and military bases are major PFAS contamination sources
- Industrial Discharges
  - Industries manufacturing or using PFAS-containing products release contaminants into the environment via wastewater
- Landfills and Biosolids
  - PFAS leaches from landfills and biosolids applied on farmlands, contaminating soil and water resources
- Consumer Product Sources
  - Non-stick cookware, textiles, and food packaging release PFAS during use and disposal, adding to pollution

Slide 16

RB1 Either display info like this or the common uses slides

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