



Risk Communication of Per- and Polyfluoroalkyl Substances

Pennsylvania Department of Environmental Protection

Background and Environmental Agency Program/Capacity

The Pennsylvania Department of Environmental Protection (DEP) is an independent agency tasked with environmental protection in the state. DEP is responsible for oversight and implementation of the Public Water System Supervision Program as part of its mission to protect the air, land, and water from pollution and to provide for the health and safety of citizens. Pennsylvania is one of two states without authority to regulate private wells. The agency has regulations and guidance that provide some authority to address unregulated contaminants in public water systems, the protocol for which changes when contamination is elevated from a Tier 2 to a Tier 1 level. Pennsylvania has approximately 8600 public water systems, only 175 of which require monitoring under the Unregulated Contaminant Monitoring Rule (UCMR) 3. Of these 175, six have tested positive for per- and polyfluoroalkyl substances (PFAS).

One of the largest roadblocks Pennsylvania and other states face in mitigating harmful effects of PFAS is that the science is emerging. The existence of thousands of PFAS chemicals, coupled with a lack of toxicity data and analytical methods, leaves states struggling to tell the public and other stakeholders what they are facing with any level of certainty.

DEP was largely unaware of PFAS since there were no manufacturers using the compounds in the state. PFAS was first detected in Pennsylvania through monitoring conducted by public water systems under the UCMR 3. The suspected source of PFAS was determined to be federal facility Superfund sites. Once PFAS was discovered, DEP teamed up with U.S. EPA to communicate risks to the public. EPA and the U.S. Department of Defense conducted additional sampling on the privately owned wells near the federal sites. DEP's success in communicating risks of an emerging science stems from past experience with unregulated contaminants. Citizens had previously dealt with other Superfund contaminants, so they understand the process but were troubled that there were new chemicals of concern.

There is currently no state or federal maximum contaminant level for PFAS. Since DEP views health advisories as a trigger level for action, it relies on EPA's lifetime health advisory for perfluoroactanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) of 70 parts per trillion (ppt).

Rollout and Dissemination of Advisory and Relevant Resources

When PFAS was first detected at levels above [EPA's Provisional Health Advisory](#), DEP required the affected public water systems to issue public notice (PN). The PN was drafted in cooperation with EPA to explain what was found. DEP and EPA held numerous public meetings to notify the public about the Superfund sites and the agency's cooperation with stakeholders. Communications improved upon release of EPA's Final Health Advisory for PFOA and PFOS; the PN was more detailed, included the actual Health Advisory level, and could be targeted to the sensitive subpopulations.

Key Messages for the Public

DEP notes that the most important message for the public is that drinking water is not the only source of PFAS and that PFAS is everywhere. Despite this message, the public is concerned as they do not have control over drinking

water quality in their communities. DEP also tells the public that Pennsylvania continues to track research in other states so that the state can update its policies as necessary.

Gaps and Challenges

The leading challenge of communicating risks is that there is not a great deal of information. Facing uncertainty, the public does not trust a contaminant level greater than zero and DEP cannot guarantee that there is no PFAS in the drinking water. Also, the public does not understand the difference between a health advisory and a maximum contaminant level. As a result, to get to zero, some communities took all private wells offline, requiring use of bottled water. Citizens also did not understand why neighboring New Jersey had such [low standards](#).

While DEP is finding solutions to communicating risks despite a lack of concrete PFAS data, the agency notes the challenge of social media. DEP has implemented health advisories for 20 to 30 years, but reactions have changed as the public is able to research on its own. As EPA looks at the science and research, it needs to think early about risk communication guidance.

A recent action faced by DEP is facing is Delaware Riverkeeper Network's submission to the Environmental Quality Board of a [petition](#) to direct the department to set a PFOA standard not to exceed 6 ppt. The agency is working with the Pennsylvania Department of Health to hire a toxicologist to review differences among allowable PFOA contamination levels, and will write an assessment report of whether the current health advisory is protective enough to warrant no change in allowable contaminant levels.

DEP notes the importance of continuing work with EPA, ECOS, Association of State Drinking Water Administrators, and other partners. Working closely with other states and sharing resources and tools to measure and mitigate PFAS contamination will serve to inform the public.