



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Introduction to Per and Poly Fluoroalkyl Substances (PFAS)

PFAS Action Team Meeting

November 30, 2018

Tom Wolf, Governor

Patrick McDonnell, Secretary

What are PFAS?

- Per- and polyfluoroalkyl substances (PFAS)
 - Family of more than 3,000 chemicals
 - Manmade chemicals manufactured and used in thousands of processes and products since the 1940s
- Became popular because they repel oil and water, are temperature-resistant, and reduce friction
- The most-studied substances are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS)

Where are they found?

- Found in soil, air and water, and break down slowly in the environment
- Firefighting foams
- Stain-repellant clothing, carpets, upholstery; household products, such as non-stick cookware (first produced in the 1940s), polishes, waxes, and food packaging
- Metal plating and wire manufacturing
- Only certain FAS compounds have been phased out

How do people become exposed?

- Contaminated drinking water
 - Such contamination is typically localized and associated with a specific facility; such as an industrial facility where these chemicals were produced/used to manufacture products, or areas used for firefighting training

Why does it matter?

- Bioaccumulate in the body
- There is evidence that exposure to PFOA and PFOS can lead to adverse human health effects

➤ What are the impacts from PFOA and PFOS?

- Studies show that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals, including:
 - Increased cholesterol levels
 - Low infant birth weights
 - Effects on the immune system
 - Cancer
 - Thyroid hormone disruption

▶ What is U.S. EPA doing about this?

- In May 2016, U.S. Environmental Protection Agency (EPA) published a combined lifetime drinking water health advisory (HA) level of 0.07 parts per billion, or 70 parts per trillion (ppt), for PFOA and PFOS
 - Concentration in drinking water at which adverse health effects are not anticipated to occur over a lifetime
- EPA expects to develop a National PFAS Management Plan by the end of the year, which will lay out steps the agency intends to take to address PFAS

What is DEP doing about this?

- DEP can use existing authorities under the Pennsylvania Safe Drinking Water Act and Chapter 109 regulations to require public water systems (PWS) to conduct special monitoring for PFOA or PFOS if DEP has reason to believe the contaminant is present in the public water system and take corrective actions as needed to protect public health
 - Corrective actions include issuing public notice, taking contaminated sources offline, and installing long-term treatment

What is DEP doing about this?

- DEP is working with local, state and federal agencies to address PFOA and PFOS at public water systems where levels have exceeded the HA level
- DEP is conducting site investigations, interim response actions, and/or oversight activities at 11 sites where soil and/or groundwater has been found to be contaminated with PFAS

What is DEP doing about this?

- DEP is developing a new rule that would incorporate toxicity values and soil and groundwater medium-specific values for PFOS and PFOA into Chapter 250 (DEP's soil and groundwater cleanup standards)
- DEP is developing a sampling plan to gather occurrence data from public water systems across the state and provide a more complete picture of impacts from PFOA and PFOS

Governor Wolf Executive Order

- PFAS Action Team created to develop a comprehensive and proactive approach to addressing these emerging contaminants, including:
 - Identifying and developing recommendations to limit or control the sources of PFAS contamination
 - Addressing strategies to deliver safe drinking water and minimize risks from firefighting foam and other PFAS sources, manage environmental contamination, create specific site plans, explore funding for remediation efforts, and increase public education

Governor Wolf Executive Order

- Led by the secretaries of Environmental Protection, Health, Military and Veteran Affairs, Community and Economic Development, Agriculture, and the State Fire Commissioner
- *Public comment, expert presentations, public meetings, and additional testing can help us develop a clear path forward, including more fully defining state agency roles to ensure we are doing all we can to address this problem.*
-- Governor Wolf, in establishing Pennsylvania's multi-agency Action Team

DOH Actions on PFAS

- Since 2016 DOH has participated in:
 - Department of Defense Restoration Advisory Board Meetings in the Horsham area
 - Community meetings
 - National meetings, webinars and teleconferences on PFAS (CDC, EPA, CSTE, ATSDR)
- Worked with ATSDR to evaluate cancer incidence rates in communities near military bases, including additional reports of Addendum 1 (reviewed additional cancer types) and Addendum 2 (analysis restricted to water service areas)
- DOH Secretary Dr. Rachel Levine co-signed a letter to CDC calling for a nationwide study to determine the health outcomes in PFAS-affected communities
- DOH worked with ATSDR on development of the PFAS Exposure Assessment Technical Tools (PEATT) for PFAS biomonitoring and participated in the Toolkit document review process

PFAS Biomonitoring-Pilot Project

- Pilot study funded through the Association of State and Territorial Health Officials (ASTHO)
- Awarded to two states, PA and NY
- Purpose is to test ('walk through') CDC's toolkit titled the (PFAS) Exposure Assessment Technical Tools
- PA has reviewed and implemented the steps including biomonitoring and is providing feedback to federal partners

PEATT Pilot Project – Participant Selection

Number of randomly selected households contacted	:	600
Number of households responded	:	276
Number of households refused to participate	:	43
Number of ineligible households	:	6
Number of potential participants	:	584 (includes 113 children 3-17 years)
Number of participants completed paperwork	:	301 (includes 44 children)
Number of participants provided blood samples	:	235 (includes 26 children)

Pilot Project – Current Status and Next Steps

- Calculated preliminary numbers for community levels of four selected PFAS compounds – results communicated to participants
- Some elevation compared to the national averages observed
- Community meeting to present full results and the release of study report in December
- Meeting at CDC in January to present study findings, along with NY
- Awaiting national study criteria

Agenda Review

- 9:00 AM – Pennsylvania Overview
- 9:20 AM – National Perspective
- 9:50 AM – Minnesota
- 10:10 AM – New Hampshire
- 10:30 AM – North Carolina
- 10:50 AM – Michigan
- 11:10 AM – New Jersey
- 11:30 AM – Next Steps, PFAS Action Team
- 12:00 PM – Public Comment Presentations
- 1:00 PM – Adjourn



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For more information visit:

www.dep.pa.gov/pfcs