

Brominated Disinfection Byproducts (DBPs) Study

Risk management research project addressing challenges in the Ohio River Watershed

Background

To protect public health, public water system (PWS) operators must meet federal limits for disinfection byproducts (DBPs) formed during the water treatment process. A better understanding of the relationship between bromide in source water and DBP formation will help operators in the Ohio River Watershed improve treatment processes, ensure compliance with federal limits, and provide important information to state, local, and federal regulators responsible for protecting the rivers and streams in the watershed.

Collaborative Study

This project is a collaborative drinking water research study. EPA is evaluating water samples collected by PWS operators in order to investigate relationships between bromide in source water and the formation of brominated DBPs in finished drinking water. EPA is partnering with eight PWS operators for the research project. The participating operators obtain their water from the following sources:

- Ohio River
- Monongahela River
- Allegheny River
- Red Bank Creek, tributary to the Allegheny River

Local partners also include the Pennsylvania Department of Environmental Protection and the West Virginia Department of Health and Human Resources.

Research Approach

This study will include a two year long water sampling period, which began in January 2013. Samples are collected at four locations in the drinking water treatment and distribution process:

- (1) Source water prior to treatment
- (2) After filtration
- (3) Finished water prior to distribution
- (4) Finished water at the consumer tap at a compliance monitoring location

The samples are analyzed at EPA's Environmental Science Center at Ft. Meade, Maryland, and EPA's National Risk Management Research laboratory in Cincinnati, Ohio. The measurement results will be used for data and modeling analyses through 2015.



Future Research Results and Outcomes

Once the results from the collected samples have been finalized, EPA will analyze the data to determine whether correlations exist between bromide in source water and brominated DBP formation. Based on the analysis, EPA will then determine if models can be used to estimate DBP formation, optimize treatment, and inform source control strategies.

Contacts

Wendy Gray
 EPA Region III
gray.wendy@epa.gov
 (215) 814-5673

Michael Elovitz
 EPA Office of Research and Development
elovitz.michael@epa.gov
 (513) 569-7642