



April 11 2016

TO: Members, Subcommittee on Environment and the Economy and the
Subcommittee on Health

FROM: Committee Majority Staff

RE: Joint hearing entitled “Flint Water Crisis: Impacts and Lessons Learned”

I. INTRODUCTION

On Wednesday, April 13, 2016, at 10:00 a.m. in 2123 Rayburn House Office Building, the Subcommittee on Environment and the Economy and the Subcommittee on Health will hold a joint hearing entitled “Flint Water Crisis: Impacts and Lessons Learned.”

II. WITNESSES

Panel One:

- Joel Beauvais, Deputy Assistant Administrator for the Office of Water, U.S. Environmental Protection Agency; and,
- Nicole Lurie, Assistant Secretary for Preparedness and Response, U.S. Department for Health and Human Services.
- Keith Creagh, Director, Michigan Department of Environmental Quality; and,
- Nick Lyon, Director, Michigan Department of Health and Human Services.

Panel Two:

- Mona Hanna-Attisha, MD, MPH, Program Director Pediatric Residency, Hurley Children’s Hospital at Hurley Medical Center, Assistant Professor of Pediatrics, Michigan State University College of Human Medicine;
- Joan Alker, Executive Director at the Center for Children and Families, Georgetown University;
- Steve Estes-Smargiassi, Director of Planning and Sustainability, Massachusetts Water Resources Authority;
- June Swallow, President and Administrator, Rhode Island Drinking Water Program, Rhode Island Department of Health; and,

- Mae Wu, Senior Attorney, Health and Environment Program, Natural Resources Defense Council;

III. BACKGROUND

In the spring of 2015, a resident of Flint, Michigan learned that her drinking water had tested positive for elevated levels of lead. Over the course of the next several months, it became clear that she was not the only Flint water system customer with this problem. Thousands of Flint drinking water customers were impacted. The cause was traced back to a sequence of water system management decisions that included, among others, switching the source of drinking water from the City of Detroit to the Flint River and, once that switch was made, failing to treat the corrosive Flint River water with orthophosphate to reduce the corrosivity. When the river water (treated for many contaminants, but not corrosivity) flowed through lead service pipes leading to several thousand homes in Flint, lead leached into the drinking water just before it arrived at those homeowners' taps.

Intending to switch to a new regional water system in 2016, the city of Flint, Michigan, stopped purchasing treated water from the city of Detroit and began using the Flint Water Treatment Plant and the Flint River as its interim water source.^{1,2} At the time of this switch, the Michigan Department of Environmental Quality (MDEQ) determined that Flint's water system was "new" under the LCR, permitting Flint to complete two six-month monitoring periods after which MDEQ would determine whether corrosion control was necessary.³

While some water quality changes (odor, color, and taste) were quickly apparent, and Flint had trouble maintaining compliance with the Safe Drinking Water Act (SDWA) standards for e. coli and disinfectant byproducts, elevated lead concentrations were identified over a longer period through monitoring conducted by the city and others and detections of elevated blood lead levels in children.⁴ On October 1, 2015, city officials urged residents to stop drinking the water. On October 16, Flint reconnected to Detroit's water and advised residents not to use unfiltered tap water. The city and the governor of Michigan each declared a state of emergency.⁵ President Obama issued an emergency declaration on January 16, 2016.

On January 21, 2016, the Environmental Protection Agency (EPA) issued an emergency order directing the city and state to take immediate actions to address concerns over the city's water system. Requirements include, among others, that the city and state re-optimize corrosion control, post online lead monitoring results and weekly reports, and ensure the city's capacity to

¹ On April 16, 2013, after a Flint City Council vote and Flint emergency manager's decision, the City joined the Karegnondi Water Authority (KWA). Upon being advised of the City of Flint's intent, Detroit notified Flint of the termination of its then-current water supply contract terms, effective April 2014.

² According to *Flint Journal* and *MLive*, in late April 2014, Flint the city switched from purchasing [treated](#) Lake Huron water from Detroit to treating water from the [Flint River](#). Flint's emergency manager finalized the sale in June 2014 of an Eastern Genesee County 9-mile section of water pipeline to Genesee County for \$3.9 million. On July 1, 2014, Flint's mayor was given operating authority over two city departments including Public Works.

³ http://flintwaterstudy.org/wp-content/uploads/2016/03/Flint-task-force-report_2438442_ver1.0.pdf (p. 16)

⁴ <http://www.crs.gov/Reports/IN10446?source=search&guid=d2bae934cb1d478fb5ff7a24349e98b8&index=1>

⁵ *Ibid.*

operate the system in compliance with federal regulations. EPA's current Flint responses include providing technical assistance for water testing and treatment, conducting water monitoring, and identifying lead service line locations. In addition, in response to MDEQ's 2014 determination that Flint was a "new" system under the LCR, on November 3, 2015, U.S. EPA clarified that large drinking water systems that cease to purchase treated water and switch to a new drinking water source must follow requirements for optimal corrosion control treatment.⁶

According to the Centers for Disease Control and Prevention, children under the age of five and pregnant women are at the highest risk for adverse lead exposure due to the neurotoxicity of the lead. The effects on people exposed to elevated lead levels are damage to the brain and nervous system, slowed growth and development, learning and behavior problems, as well as hearing and speech problems.⁷ These manifest themselves as lower IQ, decreased ability to pay attention, and underperformance at school. A blood lead test is the only way to find out if a child has high lead levels due to an exposure. Most children who are exposed to lead and have high blood lead levels have no immediate symptoms. Symptoms in adults and children develop after exposure. Some of the neurological effects of lead in children may persist into adulthood. Maternal blood lead can cross the placenta and put the child at risk.⁸

A. Safe Drinking Water Act/Lead and Copper Rule

Safe Drinking Water Act

Under the Safe Drinking Water Act, a state or EPA is responsible for ensuring compliance with the SDWA requirements for public water systems.⁹ These oversight and enforcement responsibilities include providing technical assistance to water suppliers on how to comply with federal regulations; ensuring that the suppliers report the monitoring results to EPA by the required deadlines; taking enforcement actions if violations occur; and using those enforcement actions to return the system to compliance as quickly as possible. If a state which has been delegated primary enforcement responsibility fails to properly execute it, EPA may enforce against violations or, if chronic failure is occurring, rescind a state's delegation.¹⁰

The SDWA directs EPA to promulgate National Primary Drinking Water Regulations for contaminants that may pose public health risks and that are likely to be present in public water

⁶ https://www.epa.gov/sites/production/files/2015-11/documents/occt_req_memo_signed_pg_2015-11-03-155158_508.pdf

⁷ CDC, <http://www.cdc.gov/nceh/lead/infographic.htm>.

⁸ CDC ATSDR, <http://www.atsdr.cdc.gov/csem/csem.asp?csem=7&po=10>.

⁹ In SDWA §1413, EPA may delegate primary enforcement responsibility to states or Indian tribes for implementing the SDWA if EPA determines that a state has regulations at least as stringent as the Federal ones and has the ability to enforce them in their state. All states except Wyoming and the District of Columbia have been granted primary enforcement responsibility under SDWA for regulation of public water systems.

¹⁰ SDWA §1414 provides that, in addition to overseeing states, when EPA finds that a water system is not in compliance, EPA must notify the state and system and provide assistance to both in order to bring the system into compliance. If, after 30 days, a state does not initiate enforcement action, EPA must do so. Under SDWA's emergency powers (§1431), EPA "may take such actions as [the Administrator] may deem necessary" to protect human health when a contaminant in a water system "may present an imminent and substantial endangerment to the health of persons" and state and local authorities have not acted.

supplies. These regulations generally include an enforceable numerical standard (maximum contaminant level, or “MCL”) to limit the amount of a contaminant that may be present in drinking water.¹¹ If it is not economically and technically feasible to determine the level of a contaminant, EPA may establish a treatment technique and action level in lieu of an MCL.¹² At least once every six years, EPA must review, and revise, as needed, each drinking water regulation.¹³

EPA’s Lead and Copper Rule

Lead enters drinking water primarily as a result of the corrosion of materials containing lead in the water distribution system and in household plumbing, a reaction between the lead pipes or solder and the water. These materials include lead service pipes that connect a house to the water main, household lead-based solder used to join copper pipe, and brass plumbing fixtures such as faucets that contain lead in the brass alloy.¹⁴

Since lead seldom occurs naturally in source water supplies, such as rivers and lakes, EPA has relied on treatment technique requirements (the 1991 Lead and Copper Rule, or “LCR”) to prevent lead from leeching into drinking water from the drinking water delivery system. This treatment technique relies on corrosion control: inserting a chemical at the water treatment plant that lines the inside of drinking water delivery pipes to act as a barrier between the lead in the pipe and the water passing through pipe.

The LCR also establishes a lead “action level” of 15 parts per billion (ppb) based on the 90th percentile level of water samples for water drawn from the tap. This means that for a water system to be in compliance with the LCR not more than 10 percent of sampled homes located in high risk areas for lead contamination (primarily homes with lead pipes and/or lead service lines) may have lead levels in their drinking water exceeding 15 ppb. The number of samples a public water system must take depends on the system’s size and the results of earlier testing. If lead concentrations exceed the action level in more than 10 percent of samples, the water system has 60 days to deliver an EPA-developed public education program to customers. The education program contains information about lead’s health effects and sources, and explains steps to reduce exposure to lead. The water system also must offer to sample the tap water of any customer who requests it. (The system is not required to pay for sample collection or analysis.) If a water system still exceeds the action level after installing optimal corrosion control treatment and source water treatment, it must replace annually 7 percent of the lead service lines under its ownership. The water system must offer to replace the privately owned portion of a service line (at the owner’s expense).

EPA has previously made minor (2004) and short-term (2007) updates to the rule. In 2007, EPA revised the LCR to enhance implementation in the areas of monitoring, treatment,

¹¹ SDWA §1412

¹² SDWA §1412(b) (7)(A)

¹³ SDWA §1412(b)(9)

¹⁴ <http://gao.gov/assets/120/111204.pdf> (p. 4)

customer awareness, and lead service line replacement.¹⁵ The update also enhanced public education requirements and ensured drinking water consumers receive is: meaningful, timely, and useful information.

EPA is currently considering long-term revisions to the LCR, which include substantive changes and the streamlining of rule requirements. EPA's primary goals in this effort are to: (1) improve the effectiveness of the corrosion control treatment in reducing exposure to lead and copper and (2) require additional actions that reduce the public's exposure to lead and copper when corrosion control treatment alone is not effective.¹⁶ As part of this effort, EPA's National Drinking Water Advisory Council tasked an LCR working group to come up with recommendation; the working group issued its final report on August 24, 2015.¹⁷

B. Public Health

The Administration has coordinated with the State of Michigan to provide a range of technical assistance to state and local health departments, they have worked with relevant HHS grantees to disseminate public health education, they have assisted the state with case management and interventions for children with elevated blood lead levels, and have helped the state identify vulnerable populations in Flint who may need further targeted outreach.

On February 18, 2016, the Department of Health and Human Services (HHS) awarded two grants of \$250,000 each through the Health Resources and Services Administration for two health centers in Flint, Michigan. Both Hamilton Community Health Network Inc. and Genesee Health System received these grants to hire additional personnel and provide more testing, treatment, outreach and education on the lead exposures.

On March 2, 2016, HHS announced an expansion of Head Start and Early Head Start in Flint, Michigan. There was a one time, emergency influx of \$3.6 million for these programs from the Office of Head Start within HHS.

On March 3, 2016, the Centers for Medicare and Medicaid Services (CMS) [approved](#) Michigan's application to establish a five-year Medicaid demonstration, entitled "Flint Michigan Section 1115 Demonstration," in response to the public health emergency of lead exposure related to the Flint water system. This demonstration is approved in accordance with section 1115(a) of the Social Security Act, and is effective as of the date of the signed approval through February 28, 2021:

- **Eligibility** – Through the waiver and associated State plan amendments, the State will expand coverage to children up to age 21 years and to pregnant women with incomes up to and including 400 percent of the federal poverty level (FPL) who were served by the Flint water system from April 2014 through a state-specified date. Additionally, Michigan has indicated that it will implement a State program to make available for

¹⁵ <https://www.epa.gov/dwreginfo/lead-and-copper-rule>

¹⁶ Id.

¹⁷ <http://www.awwa.org/Portals/0/files/legreg/documents/FinalLCR.pdf>

purchase unsubsidized coverage for children up to age 21 and pregnant women with incomes above 400 percent of the FPL who were served by the Flint water system. The initiative for individuals above 400 percent of the federal poverty level does not involve federal Medicaid funds.

- **Benefits** – With the approval of this demonstration authority and the associated State plan amendments, Medicaid-eligible children and pregnant women who were served by the Flint water system during the specified period will be eligible for all services covered under the State of Michigan’s State Medicaid plan. They will be exempt from cost-sharing or premiums. All such persons will have access to Targeted Case Management services and evaluation of potential sources of lead exposure in the home. The Targeted Case Management services will include assistance in gaining access to needed medical, social, educational, and other services. All State plan services, except for Targeted Case Management Services, will be delivered through the state’s existing systems.
- **Additional Considerations** – CMS waived the federal and State public notice processes and required time constraints to the extent necessary to provide a timely response to the public health emergency in Flint, Michigan. CMS did not approve the State’s request for Medicaid funding for certain lead-abatement activities. However, CMS and the state are in continued discussions over the possible design of a targeted and time-limited health services initiative under CHIP to support certain lead-abatement activities that would complement other State and local efforts to remove lead hazards from the homes of Medicaid and CHIP eligible children and pregnant women.

IV. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Paul Edattel, Jerry Couri, Dave McCarthy, or Adrianna Simonelli of the Committee staff at (202) 225-2927.