

Flint's Water Fiasco: The Detroit Connection

By Bonner R. Cohen



President Obama's visit to Flint, Michigan will focus renewed attention on who bears responsibility for allowing lead, a potent neurotoxin, to contaminate the city's drinking water.

Yet lost in the finger-pointing is the role played by Michigan's largest water utility and by antiquated municipal procurement procedures in both Flint and Detroit. Flint's water system was a disaster waiting to happen, and Detroit's decrepit iron piping network, fraught with health and safety issues of its own, helped spark the crisis.

The Detroit Water and Sewer Department (DWSD) is the third-largest water and wastewater utility in the United States and serves Detroit and 127 (including Flint) southeastern Michigan communities with 4.3 million people (46 percent of the state's population). Over the years, DWSD has had its share of water-quality violations and underground infrastructure problems, which have been passed on to ratepayers throughout its network, including those in Flint. For instance, the Motor City utility routinely exceeded the federal action level for lead in drinking water as early as the 1990s.

Later in the decade, it also violated federal monitoring requirements for total coliform bacteria by failing to collect samples in accordance with EPA rules. Total coliform bacteria are microbial contaminants whose presence is a potential indicator that disease-causing organisms may be present in tap water.

Continuing this pattern, DWSD in the 2000s failed to publish any recent HAA (halo acetic acid) data. HAA are byproducts of chlorine disinfectants that may cause cancer as well as reproductive and other health problems. The Detroit water utility also neglected to provide EPA with other important water quality data for the agency's annual "community right to know" report on hazardous and toxic chemicals.

Citizen and environmental groups urged EPA to address this situation so that ratepayers could access accurate information about their drinking water. Published reports on threats to public health resulting from the utility's outdated water treatment and distribution systems urged DWSD to replace its aging piping systems, which are often the breeding ground for water-borne diseases.

In the 2000s, corroding underground iron and ductile iron water pipes leaked more than 35 billion gallons of water each year, costing ratepayers served by DWSD more than \$23 million annually, according to an analysis by the Natural Resources Defense Council. Responding to this and other problems afflicting Detroit's deteriorating underground water infrastructure, DWSD proposed a capital-improvement program for water and sewage systems projects totaling \$4.3 billion over five years. In a misguided effort to deal with the growing number of water-main breaks and other water-quality concerns, DWSD replaced its corroding infrastructure with more corrosion-prone iron piping. The resulting higher costs continued to be passed along to Flint and other communities.

By 2009, the Water Finance Research Foundation estimated that Michigan faced \$11.3 billion in costs associated with replacing its underground iron water pipes over the next 20 years. While many other states across the U.S. confronted similar challenges, DWSD continued to charge their higher-than-necessary rates by preventing the use of any corrosion-resistant alternative pipe material. Ductile iron pipes, manufactured with thinner walls and still subject to internal and external corrosion, were used to replace the thick old iron pipes at a significantly higher cost (30-50 percent) than alternative non-metallic pipe material.

The U.S. Conference of Mayors published a report in 2009 warning about the higher costs utilities will pay due to a lack of open competition in bidding on underground water infrastructure. It also pointed to major health issues associated with rusty pipes. Timothy Ford, a microbiologist and water researcher at Montana State University, stated: "If you clean up water and put it into a dirty pipe, there's not much point." Ford added that water distribution systems will become a source of even greater risk in the future "as the iron pipes corrode and break — not only does water escape, but diseases get in." A National Research Council study reported that, "Investigations conducted in the last five years suggest that a substantial proportion of waterborne disease outbreaks are attributable to problems within distribution systems."

For decades, DWSD has been supplying high-cost water of an inferior quality to communities in southeastern Michigan, including Flint, through a distribution system fraught with corrosion-related operational and maintenance problems. By the time Flint, in a cost-saving move, switched its water source from DWSD to the Flint River in April 2014, the damage had been done. Not only did the cash-strapped city after the switch fail to add anti-corrosion chemicals to keep its corroding iron pipes from leaching lead and contaminating its drinking water, it continued to maintain procurement specifications for underground piping that effectively exclude any alternative solution or technology from the competitive bidding process.

Flint's long-suffering residents have been paying the highest water rates in the nation. For their trouble, they have water they dare not drink. They have been betrayed by water monopolies in Detroit and Flint that refuse to change their ways.