Written Testimony
of
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Before the

Committee on Homeland Security

Hearing on:

Critical Water Infrastructure Preparedness and Resilience: A Focus on Water.

Date

Wednesday, September 21, 2022

Chairman Thompson, Ranking Member Katko, and Members of the Committee, thank you for inviting me to testify today.

With the recent reports from the Jackson, Mississippi on their drinking water system, both flooding and preexisting conditions resulted in the total failure of the system. We are seeing more record setting floods impact aging drinking water infrastructure across the nation. What happened in Jackson is not an exception, but an indicator for future failures.

My questions are, how many community drinking water systems are at risk of similar failure? And, with a marked increase in extreme flood events, how many drinking water systems that were build to standards based on past flood risk history will fail in the next record setting flood?

Background

Department of Homeland Security has established Water and Wastewater systems as National Critical Functions (NCF's). Per DHS, "Safe drinking water is central to the life of an individual and of society, a drinking water contamination incident or the failure of drinking water services would have far-reaching public health, economic, environmental, and psychological impacts across the Nation. Other critical services such as fire protection, healthcare, and heating and cooling processes would also be disrupted by the interruption or cessation of drinking water service, resulting in significant consequences to the national or regional economies".[1]

"Every day, more than 150,000 public water systems provide drinking water to millions of Americans and U.S. wastewater treatment facilities process approximately 34 billion gallons of wastewater. Considered National Critical Functions (NCFs), both the ability to "supply water" and "manage wastewater" are functions of government and the private sector so vital to the U.S. that their disruption, corruption, or dysfunction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof". [2]

During my time as FEMA Administrator (2009-2017), I oversaw the response to numerous flood and other disasters that impacted water treatment facilities. Notable events include

2010 Floods, Nashville, Tennessee

K.R. Harrington Water Treatment Plant (WTP) was flooded and the other major WTP, Omohundro, came within one foot of flooding as well. Metro Water Services was reduced to 50% capacity for a month while repairs to the Harrington WTP were completed. [3]

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[1] DHS The 2015 Water and Wastewater Sector-Specific Plan

[2] https://www.cisa.gov/ncf-water

[3] https://www.nashvillescene.com/news/b-one-year-later-b-how-the-flood-almost-left-nashville-without-water/article_cf2ea3e3-0947-5b3b-afc2-aec5df825ae8.html

2015 Floods, Columbia, South Carolina

A canal that serves as the main source of drinking water for about half of the Columbia water system's 375,000 customers collapsed in two places following historic rainfall and flooding over the weekend, sending contractors scrambling to build a rock dam to plug the holes while National Guard helicopters dropped giant sandbags in the rushing water. [4]

Water Crisis, Flint, Michigan

High lead levels and other issues resulted in a Presidential Emergency Declaration with FEMA providing support to the State of Michigan for 8 months. [5]

Not considering the impacts of disasters on drinking water systems, many water systems are behind in replacing aging infrastructure. Both the American Water Works Association[6] and the EPA identify renewal and replacement of ageing water infrastructure as a primary concern. EPA estimates that drinking water and wastewater utilities need to invest almost $744 billion to repair and replace their existing infrastructure over the next 20 years.

Adding to issue of aging infrastructure, poor financial health of some drinking water systems has resulted in delayed maintenance, low staffing levels, lack of training, that increases the likelihood of system failures.

[4] https://toronto.citynews.ca/2015/10/08/as-flooding-recedes-after-historic-rains-coming-home-in-south-carolina-can-lead-to-heartbreak/
[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5353852/
[6] https://www.awwa.org/AWWA-Articles/awwas-state-of-the-water-industry-report-now-available

Next Steps

The General Accounting Office (GAO) was asked to review what federal actions may be taken to reduce the potential impacts of climate change and related effects on drinking water and wastewater infrastructure. Their report "Technical Assistance and Climate Resilience Planning Could Help Utilities Prepare for Potential Climate Change Impacts" GAO-20-24 Published: Jan 16, 2020. Publicly Released: Feb 13, 2020.

GAO recommends that EPA identify technical assistance providers and engage them in a network to help water utilities incorporate climate resilience into infrastructure projects.

GAO also recommends that Congress should consider requiring that climate resilience be incorporated in the planning of all drinking water and wastewater projects that receive federal financial assistance from programs that EPA, FEMA, HUD, and USDA administer.

I recommend that this Committee consider requesting relevant agencies conduct a risk assessment of existing drinking water facilities based on increasing flood risk and aging infrastructure to identify vulnerable communities.

And finally, these reviews should consider past actions that have resulted in lack of investment or barriers to federal funding at the local level for repairing and upgrading drinking water systems.