



GOVERNMENT OF THE UNITED STATES VIRGIN ISLANDS

-----0-----

DEPARTMENT OF PLANNING AND NATURAL RESOURCES

4611 Tutu Park Mall
Suite 300, 2nd Floor
St. Thomas, VI 00802
(340) 774-3320

45 Mars Hill, Frederiksted
St. Croix, VI 00840
(340) 773-1082
dpnr.vi.gov



Office of the Commissioner

October 31, 2023

The Honorable Novelle E. Francis, Jr.
President
35th Legislature of the US Virgin Islands

RE: Testimony on the Lead and Copper Found in St. Croix WAPA Water

Good day Senate President Francis, other members of the 35th Legislature, legislative staff present, and members of the viewing and listening public, my name is Jean-Pierre L. Oriol, Commissioner of the Department of Planning and Natural Resources (DPNR). I am here to provide testimony today as co-incident commander for the issues relating to the elevated levels of lead and copper found in the potable water system of the VI Water and Power Authority (WAPA).

Lead and copper enter drinking water primarily through plumbing materials. In 1986, the Safe Drinking Water Act banned the use of pipes, solder or flux that were not "lead free" in public water systems or plumbing in facilities providing water for human consumption. At the time "lead free" was defined as pipes with no more than 8% lead.

In 1991, the U.S. Environmental Protection Agency (EPA) published a regulation to control lead and copper in drinking water. This regulation is known as the Lead and Copper Rule. The rule requires systems to monitor drinking water at customer taps. If lead concentrations exceed an action level of 15 parts per billion (ppb) or copper concentrations exceed an action level of 1.3 parts per million (ppm) in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion of the plumbing materials.

So, with that background, it is important to note how we arrived where we are today. DPNR, in collaboration with WAPA, and the University of the Virgin Islands (UVI), along with support and technical assistance from the U.S. Environmental Protection Agency (EPA), conducted a micro project to sample red/brown water in specific areas of the WAPA water distribution system on St. Croix from September 28th through September 30th. The goal of the project was to establish the current state of WAPA's potable water distribution system in the principle areas of complaints regarding red/brown water and to identify those conditions that will need more in-depth investigation to ensure the safety of the drinking water in and around St Croix. The Plan included collecting samples from approximately sixty-six (66) locations where red/brown water has been detected and/or reported by residents in the St. Croix district. More than 101 samples were collected. WAPA and UVI conducted bacteriological testing. The third set of samples drawn were sent to the EPA Region 2 Lab in New Jersey to be evaluated for metals.

None of the samples analyzed by UVI contained the presence of *E. Coli* bacteria. Similarly, all but five (5) of the samples analyzed showed no signs of Coliform bacteria; the remaining five samples contained too much color interference for a determination to be made. The samples analyzed by WAPA showed similar results – five samples positive for Total Coliform bacteria, and all samples were negative for the presence of *E. Coli*. The samples analyzed by the EPA for metals did test positive for the presence of lead and copper, which took many aback given that WAPA’s history for lead and copper testing resulted in less than five percent (5%) of samples returning positive for lead. The positive results now set a chain of events in motion.

On Friday October 13, 2023 in a meeting set by the EPA, DPNR and WAPA were advised that of the samples collected between Sept 28-30 on St. Croix, 35 of the 66 locations (or 53%) had lead concentrations over the Action Level of 15 parts per billion (ppb) in the first draw samples collected, and that two (2) of the 66 locations had lead concentrations over the Action Level after the flush sample (where water is run for five to ten minutes before sample is taken). Pursuant to the Water Infrastructure Improvements for the Nation (WIIN) Act, WAPA was required to notify the public in the affected area that the presence of lead and copper was detected in the potable water supply. Within 24 hours of the meeting, and following consultation with DPNR and the EPA, WAPA released a statement on Saturday October 14th notifying the public that recent sampling had revealed the presence of lead and copper in the public water system, in particular, the communities of Diamond, Castle Burke, Colquhoun and Mon Bijou. Residents were urged to let the water from the tap run for 2-3 minutes to remove stagnant water; they were also urged not to cook with the water. On October 16th, the Unified Command was stood up with DPNR and the Department of Health serving as co-Incident Command, and VITEMA serving as the Coordinating Entity; numerous agencies then began to participate in the Unified Command, Tactics, Planning and Communications meetings. On October 17th Governor Bryan held a press conference and issued a resounding “Do Not Consume” order to the public, reiterating that water should be flushed before use, that it should not be used for cooking, and also encouraged residents to invest in home filtration options; Governor Bryan also asked the business community not to increase prices on drinking water while we continued to investigate the issue.

Upon receiving the news of the high lead and copper levels, DPNR devised a first sampling plan that prioritized the most vulnerable populations – our children and elderly – within the vicinity of the areas that sampled highest for lead and copper. Samples were collected from the John H. Woodson school kitchen, the Alfredo Andrews school kitchen, the St. Croix Educational Complex school, and the Mount Pleasant housing community. A sample was also taken from the Richmond Plant standpipe location. All of these samples taken showed lead and copper levels below the Action Level; in most cases, the lead levels were nearly undetectable.

After completing the targeted sampling effort, DPNR devised a sampling protocol to re-examine the 35 locations that previously tested above the action levels. It is important to note here that taking two samples, one first draw sample and one after flushing, meets the EPA’s “3T’s for Reducing Lead” protocol for lead and copper sampling. All first draw samples collected showed concentrations of lead and copper over the Action Level; however, all the samples taken after flushing were below the Action Levels, nearly undetectable. This information, along with the sample at the standpipe, the targeted samples at the schools and the housing community, and the original sampling where 31 of 66 locations (or 47%) all tested negative for lead and copper tell us something definitive – that the contamination isn’t system wide, and that the source water (water coming from the plant) meets all EPA Safe Drinking Water standards. The contamination is likely occurring somewhere in the lines of

the distribution system. It also confirms that flushing as an immediate mitigation response is effective in lowering the susceptibility to using contaminated water.

DPNR, in conjunction with the EPA, will be conducting future sampling across the distribution system. We will begin with some additional targeted sampling in the towns, then expand to different points along the system. The EPA will also be mobilizing a team to do sequential sampling, which is sampling at multiple points along the same line (from the tap, then out to the service line, then out to the main).

As we have inferred that the lines are the source of contamination, we have mandated that WAPA confirm this theory by conducting visual inspection of the lines and components at the sampling locations. Excavation of the lines at the locations with the highest concentration amounts is underway. For example, excavation at 498 Estate Strawberry has been done. While it was observed that the service line had been replaced with PVC, the connection components were observed to be older brass material. These brass components can react with water, leading to lead and copper contamination of the water. We will continue to have WAPA excavate lines to assess potential contamination points within the distribution system.

In addition to the visual inspection of the lines and components, DPNR has ordered WAPA to update its corrosion inhibitor and increase injection sites throughout the system. A corrosion inhibitor is an additive that binds to the pipes and creates a coating along the walls of metal piping, lessening the contact between the water and the pipe. DPNR, in conjunction with the EPA, will provide more technical guidance on the corrosion inhibitor following the results of the sequential sampling. Lastly, while the investigation continues on the distribution system, we are also asking WAPA to initiate a public education campaign on the effects of lead and water, and continue to encourage the public to flush their lines for 2-3 minutes before use.

To assist WAPA with the remedial actions, DPNR is making funding provided to us from the EPA available. Drinking Water State Revolving Fund (DWSRF) and Bipartisan Infrastructure Law (BIL) combined funding in the amount of \$50M is currently with the department and can be sub-awarded to WAPA to deal with the mitigation efforts. Eligible costs include line and component replacement, purchase of point-of-use filters, corrosion control optimization, lead education and training, just to name a few.

In closing, we acknowledge that it will be a process to isolate the locations of contamination in the distribution system and have them replaced; however, I would be remiss if I did not reiterate that that a) the source water for the distribution system has been found to meet all safe drinking water standards, and b) that almost 50% of the system sampled did not contain any lead. We will continue to work with our partners to determine the source of the issue. There are actions that can be taken, or are underway, to lessen or eliminate the contamination – flushing, the use of filters, and corrosion treatment in the system.

Ultimately, the interim solution to this problem, as demonstrated by water systems in similar predicaments across the nation, is to apply a corrosion control additive to the water distribution system that prevents further leaching of heavy metals into the drinking water. The permanent solution is the replacement of the remaining metal lines with new PVC piping and the replacement of the valves and fittings with components that meet current lead-free standards.

I will stop here and allow my colleagues present to make their presentations. I am prepared to answer any questions you may have to the best of my ability.