DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

December 30, 2024

Transmitted via email
[redacted]

Dear [redacted],

Thank you for your petition request, received via email on December 15, 2023, to the Agency for Toxic Substances and Disease Registry (ATSDR). Your request was for ATSDR to evaluate the quality of the drinking water provided by the South Granville (North Carolina) Water and Sewer Authority (SGWASA), and whether contaminants in the water might be related to harmful health effects, including higher cancer rates for the area. You indicated that your concerns have been heightened by the discovery of per- and polyfluoroalkyl substances (PFAS) in the drinking water. You also requested for ATSDR to advise on whether residents should install reverse osmosis filtration systems.

ATSDR appreciates your interest in understanding the cause of increased cancer in your community. In general, state, tribal, local, and territorial health departments play the primary role in examining unusual patterns of cancer in communities, including those associated with local environmental concerns. Therefore, we recommend that you submit any cancer rate concerns directly to the North Carolina Department of Health and Human Services (NCDHHS) Central Cancer Registry (CCR) at schs.info@dhhs.nc.gov or (984) 236-7400, Option 2.

The remainder of this letter describes how ATSDR evaluated and is responding to your petition request. You previously submitted a petition request to ATSDR in July 2016 for us to evaluate water quality issues related to the SGWASA. We summarize and update the drinking water quality evaluation detailed in our March 29, 2017, response letter to you (copy enclosed). We also include a discussion of the health effects of PFAS exposure and how to reduce your exposure to PFAS in drinking water since these issues were not discussed in our previous response.

Drinking Water Quality (non-PFAS)

ATSDR's March 2017 petition response letter included an evaluation of non-PFAS chemicals in SGWASA's drinking water for years 2007 – 2015. We concluded that the levels of chemicals or turbidity elevations were unlikely to cause any harmful health effects to people drinking the water. ATSDR was unable to conduct a meaningful public health evaluation of the disinfection byproducts, including haloacetic acid, because the scientific information is limited on these compounds. ATSDR recommended that the

SGWASA continue efforts to reduce the amount of disinfection byproducts, including total haloacetic acid, and manganese in finished water to protect the health of consumers. We shared our conclusions and recommendations with the SGWASA.

To update our conclusions, we reviewed the SGWASA's Drinking Water Quality Reports for years 2018 – 2023. The reports revealed no violations of drinking water standards for non-PFAS chemicals for the years 2018 - 2023. Therefore, ATSDR will not conduct further evaluation of non-PFAS chemicals in SGWASA drinking water at this time.

PFAS in Drinking Water

The remainder of this letter focuses on PFAS in drinking water. ATSDR did not evaluate or discuss PFAS in our 2017 petition response letter because analysis of PFAS in SGWASA drinking water did not occur until 2022.

Background – PFAS Drinking Water Standards

The U.S. Environmental Protection Agency (EPA) sets standards for drinking water quality under the Safe Drinking Water Act (SDWA). Under the SDWA, EPA sets enforceable drinking water standards and oversees the states, localities, and water suppliers who implement those standards. EPA has established protective drinking water standards for more than 90 contaminants and requires routine monitoring and reporting to ensure compliance under the SDWA. Until recently, PFAS were not among the contaminants regulated by the SDWA.

On April 10, 2024, the U.S. Environmental Protection Agency (EPA) established the first-ever national drinking water standard for six PFAS known to occur in drinking water. EPA set enforceable maximum contaminant levels (MCLs) at 4.0 parts per trillion (ppt) for PFOA and PFOS and 10 ppt for PFNA, PFHxS, and HFPO-DA (GenX chemicals). EPA is also regulating, through a hazard index (HI), mixtures of four PFAS – PFHxS, PFNA, HFPO-DA, and PFBS.[1]

The EPA's final rule requires:

- Public water systems must monitor for these PFAS and have three years to complete initial monitoring (by 2027), followed by ongoing compliance monitoring. Water systems must also provide the public with information on the levels of these PFAS in their drinking water beginning in 2027.
- Public water systems have five years (by 2029) to implement solutions that reduce these PFAS if monitoring shows that drinking water levels exceed these MCLs.

[1] Perfluorooctanoic acid (PFOA); Perfluorooctane sulfonic acid (PFOS); Perfluorononanoic acid (PFNA); Perfluorohexanesulfonic acid (PFHxS); Hexafluoropropylene oxide dimer acid (HFPO-DA); Perfluorobutane sulfonic acid (PFBS).

- Beginning in five years (2029), public water systems that have PFAS in drinking water which violates one or more of these MCLs must take action to reduce levels of these PFAS in their drinking water and must provide notification to the public of the violation.

PFAS Sampling Results in SGWASA Drinking Water

Beginning in 2022, the North Carolina Department of Environmental Quality (NCDEQ) began sampling water systems in North Carolina to assess PFAS levels. Based on available data, more than 300 water systems in North Carolina have PFAS levels that exceed the new standards, including 42 municipal water systems serving nearly 3 million residents.

For the SGWASA, PFAS were detected in drinking water beginning in 2022. From 2022-2024, the following PFAS were detected in SGWASA drinking water **above applicable drinking water standards**. (Other PFAS compounds detected below drinking water standards are not listed in the table.)

PFAS Detected in South Granville Water and Sewer Authority Drinking Water 2022 – 2024			
Chemical	Detected Concentration Range, ppt	Enforceable MCL, ppt	MCL Exceeded?
PFOA	6 – 11	4	Yes
PFOS	12 – 28	4	Yes

ppt = parts per trillion
MCL - EPA maximum contaminant level (MCL)

ATSDR does not know exactly how long and at what concentrations residents were exposed to PFAS in their drinking water. Historical sampling data are unavailable. In addition to drinking water exposures, residents likely have additional PFAS exposures from other sources. PFAS accumulate and remain in the body for years before they are eliminated. Past and current exposures contribute to the overall health risks from PFAS.

PFAS Health Effects

ATSDR understands that many communities such as yours are concerned about how PFAS exposure may affect their health. Most Americans have been exposed to PFAS, and some PFAS can accumulate in the human body. Some PFAS can cause serious health problems if you are exposed to them – even at low levels – over a long period of time.

Ongoing research has identified associations between PFAS exposure and several health impacts. Epidemiological evidence suggests associations between increases in exposure to (specific) PFAS and certain health effects, such as:

- Increases in cholesterol levels (PFOA, PFOS, PFNA, PFDA).
- Lower antibody response to some vaccines (PFOA, PFOS, PFHxS, PFDA).
- Changes in liver enzymes (PFOA, PFOS, PFHxS).
- Pregnancy-induced hypertension and preeclampsia (PFOA, PFOS).
- Small decreases in birth weight (PFOA, PFOS).
- Kidney and testicular cancer (PFOA)

The risk of developing health effects associated with PFAS depends on

- Exposure factors (e.g., dose, frequency, route, and duration)
- Individual factors (e.g., sensitivity and disease burden)
- Other determinants of health (e.g., access to safe water and quality healthcare)

Scientists are still learning about the health effects of exposures to mixtures of different PFAS. Additional research may change our understanding of the relationship between exposure to PFAS and human health effects.

If you have been exposed to PFAS and are concerned about your health, you should talk to your healthcare provider. ATSDR has developed information for clinicians that you can share with your provider and work together to determine the best path forward based on your unique circumstances.

Reduce Your PFAS Drinking Water Exposures

Because certain PFAS are known to cause risks to human health, **the most important step you and your family can take to protect your health is to limit your exposure to PFAS.**

Public water systems are required to take actions to reduce the levels of these PFAS in drinking water if they exceed regulatory standards. This could include removing these chemicals through various types of treatment or switching to an alternative water supply that meets the standard. Because public water systems have five years (by 2029) to implement solutions that reduce these PFAS if monitoring shows that drinking water levels exceed MCLs, the responsibility to limit PFAS exposures in the interim falls to the individual water user.

We make the following recommendations for people concerned about PFAS in their public drinking water:

- Contact NCDHHS using the following contact information to find out what actions they recommend: **email:** oeeb@dhhs.nc.gov and **phone:** (919) 707-5900.
- Contact your local water utility to learn about how they are addressing PFAS in your local water system and to ask them to share any PFAS testing information they have with you now and in the future.
- Choose to test your water yourself. Fees may apply. It is important to use a state-

certified laboratory using EPA-developed testing methods if you do test your own water.

- Consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. You can find out more about certified in-home water treatment filters from EPA here.

What is ATSDR Doing?

As a federal public health agency, ATSDR does not have regulatory authority to enforce environmental violations or regulations. However, ATSDR does work closely with partners like EPA and NCDEQ, which are agencies that do have the authority and responsibility to establish guidance and regulatory standards for public drinking water supplies.

ATSDR is committed to reviewing the science on PFAS and providing updated information as it becomes available. Research is ongoing to understand the mechanisms of PFAS toxicity. We recommend that you periodically check ATSDR's webpage for the latest information on PFAS exposures and human health. Additionally, the NCDHHS's webpage provides valuable PFAS information and resources for residents in North Carolina.

Thank you for bringing your concerns to our attention. We believe the information provided in this letter addresses your concerns. Additionally, we have relayed your concerns to the NCDHHS and SGWASA for ongoing awareness and action. Therefore, we will not be conducting additional public health activities regarding SGWASA drinking water. If you have any questions about how ATSDR evaluated your petition request, please contact Leann Bing of ATSDR's Region 4 Office at 770-488-3002 or KBing@cdc.gov.

Sincerely,

Elizabeth Irvin, Ph.D., Director
Office of Community Health
Hazard Assessment
ATSDR

Enclosure

cc: L. Bing, ATSDR Region 4