

To: Jackson, Ryan[jackson.ryan@epa.gov]
Cc: Smith, Keith[Keith.Smith@prime-policy.com]; Black, Charlie[Charlie.Black@prime-policy.com]; Peck, Gregory[Peck.Gregory@epa.gov]
From: Rozsa, Gabe
Sent: Thur 6/15/2017 6:34:19 PM
Subject: New Hanover County Water Issue
[GenX-Health-Effects-Summary-DHHS-6_12_17-PDF.pdf](#)

Ryan,

Thank you for your willingness to assist New Hanover County on this critical water issue. Here some additional background on the matter.

Press reports in early June indicated the existence of the chemical GenX in the drinking water supply of the residents in New Hanover County and other southeast North Carolina counties. New Hanover County, under the leadership of Woody White, Chairman of the County Commission, organized an immediate inquiry and action plan for addressing the concerns of the residents of the Wilmington area about whether the levels found pose any health threat. The local officials are also asking for help from relevant State agencies (see attached Cape Fear Public Utility Authority letter of June 7th). At the County's request, NC Department of Health and Human Services (NC-DHHS) and the North Carolina Department of Environmental Quality (NC-DEQ) have responded to the need for more information about the chemical and its regulation as summarized in the release posted yesterday by NC-DEQ (<http://deq.nc.gov/deq-dhhs-investigating-reports-unregulated-chemical-cape-fear-river>).

I believe North Carolina is a delegated state for water programs but my understanding is that the issue at hand may also involve an earlier enforcement agreement entered into between the previous owner of the facility producing GenX and the EPA. I believe there was a call this week between New Hanover County Officials, NC DEQ and the Atlanta Regional Office of the EPA. Also, detailed questions have been submitted to EPA HQ about this chemical and related enforcement issues.

On Monday, the NC-DHHS released a health effects statement on GenX to county public health directors. The statement, attached above, was prepared for the NC-DEQ by the Occupational and Environmental Epidemiology Branch of NC-DHHS. NC-DEQ and the community at large is working to understand the human health effects of GenX, and the health effects statement. Based on the information available thus far from all sources, NC-DEQ issued a statement summarizing what was known to include the following:

“There are no U.S. regulatory guideline levels for GenX. However, as part of the European chemical registration, a 2-year chronic toxicity and cancer study with rats was performed. They reported a Derived No Effect Level (DNEL) of 0.01 mg/kg bw/day. Based on U.S. risk assessment calculations, this corresponds to a concentration in drinking water of 70,909 ng/L of GenX- more than 100 times greater than the mean value of 631 ng/L detected in the Cape Fear River. Based upon these data, the GenX levels detected in 2013-2014 would be expected to pose a low risk to human health.”

This statement begins to shed light on human health risks from GenX, but it does not eliminate the county’s concern that this unregulated compound has been found in the community’s drinking water supply, especially in light of lower standards established by EPA for related chemicals.

New Hanover County officials are asking that the EPA and DEQ work to provide the residents and the state agencies involved with the best available information about the health threats posed.

Ryan, we appreciate your willingness to help. A statement from your office that you are working quickly and cooperatively with all parties, including New Hanover County elected officials, Members of Congress, NC-DEQ and EPA staff (both Region and HQ), would help ease the concerns in the current climate.

Thank you for your assistance.

Gabe

Gabe Rozsa

Managing Director

1110 Vermont Avenue, NW | Suite 1000 | Washington, DC 20005

202 530 4843 | Fax: 202 530 4800 | Cell: 202 701 7710

www.prime-policy.com



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Prepared by the Occupational and Environmental Epidemiology Branch, NC DHHS

June 12, 2017

- GenX is a chemical used in the manufacturing of fluoropolymer resins, which are used for nonstick coatings and other purposes. GenX is part of the perfluorinated family of compounds that includes the chemicals PFOS and PFOA. In 2009, GenX was developed as a replacement for PFOA thus limited health information is available for GenX.
 - According to media reports, the GenX in the Cape Fear River is originating from Chemours Co. at Fayetteville Works, a facility 100 miles upstream from Wilmington. GenX has been detected in water treated by the Cape Fear Public Utility Authority as detailed in the article by Sun et al.¹
 - The recent media reports on GenX in the Cape Fear River are associated with the paper written by Sun et al. This paper was published in November 2016. Media reports cite 631 ng/L concentrations of GenX detected in the Cape Fear River. This number is taken from the Sun et al. article based on data from 2013-2014. It is not known whether these levels reflect the current concentrations of GenX in the Cape Fear River.
 - Limited health information is available for GenX. PFOA and PFOS (chemicals that are part of the same family of fluorinated compounds) were recently reviewed by the EPA and the most common effects observed in laboratory tests were kidney and testicular cancer, impaired fetal development, and effects on the liver, thyroid, and immune system. The EPA recently released a Health Advisory with recommendations for drinking water not to exceed 70 parts per trillion (70 ng/L) for PFOS and PFOA combined.²
 - There are no U.S. regulatory guideline levels for GenX. However, as part of the European chemical registration, a 2-year chronic toxicity and cancer study with rats was performed. They reported a Derived No Effect Level (DNEL) of 0.01 mg/kg bw/day. Based on U.S. risk assessment calculations, this corresponds to a concentration in drinking water of 70,909 ng/L of GenX- more than 100 times greater than the mean value of 631 ng/L detected in the Cape Fear River. Based upon these data, the GenX levels detected in 2013-2014 would be expected to pose a low risk to human health.
 - This summary covers GenX only and does not address other poly- or perfluorinated compounds that might be present. This summary is preliminary and subject to change as additional information becomes available.
1. Sun et al. Legacy and Emerging Perfluoroalkyl Substances Are Important Drinking Water Contaminants in the Cape Fear River Watershed of North Carolina. Environmental Science & Technology Letters. Nov 2016. DOI: 10.1021/acs.estlett.6b00398.
 2. USEPA. Drinking Water Health Advisories for PFOA and PFOS. <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>