



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

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Rebecca Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

July 31, 2023

Nicholasville WTP
ATTN: Mr. Scott House

Re: Nicholasville WTP– Finished Water PFAS Analysis

Mr. House,

Analytical results for per- and polyfluoroalkyl substances (PFAS) from samples collected recently from the above referenced water treatment plant are included with this transmittal. Although there are currently no final regulatory limits for PFAS, the US Environmental Protection Agency (US EPA) has released draft maximum contaminant levels (MCLs) for drinking water, as well as interim or final drinking water health advisory thresholds (HAs) for the PFAS in the table below. At present, there are no regulatory requirements relating to these specific PFAS, and the results in this email do not have to be included in Consumer Confidence Reports.

The Department for Environmental Protection’s laboratory did not detect any of the 31 PFAS that were tested for in this study (see table below and attached laboratory report).

Acronym	Name	Results		Draft MCL	Health Advisory (ng/L)
		ng/L	Hazard Index		
PFOA	Perfluorooctanoic acid	ND	NA	4.0 ng/L	0.004*
PFOS	Perfluorooctane sulfonic acid	ND	NA	4.0 ng/L	0.02*
GenX	Hexafluoropropylene oxide dimer acid	ND	HI = 0	Hazard index = 1.0 (unitless)	10
PFBS	Perfluorobutane sulfonic acid	ND			2000
PFNA	Perfluorononanoic acid	ND			NA
PFHxS	Perfluorohexane sulfonic acid	ND			NA

*: interim health advisory thresholds, NA: not applicable, ND: not detected

Please note that PFAS results for finished drinking water samples can be affected by any treatment that may have been in use at the time of sampling, as well as the particular water sources in use. Additionally, the HAs for PFOA and PFOS are below laboratory detection limits so it is still possible to have these compounds in drinking water at levels that may be of concern over a lifetime of exposure based on US EPA guidance.

Thank you for assisting the Division of Water in proactively evaluating the state’s drinking water for PFAS. Please review these results and contact PFAS@ky.gov if you have any questions or concerns.

Sincerely,

Carey Johnson, Director
Division of Water



INFORMATION ABOUT PFAS TESTING IN YOUR DRINKING WATER

Nicholasville Water System
KY0570315

WHAT ARE PFAS?

Per- and polyfluoroalkyl substances, also called “PFAS,” are a group of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, stain-resistant carpets and fabrics, and firefighting foam, as well as in certain manufacturing processes. There are thousands of different PFAS. The domestic production or use of some PFAS (like PFOA and PFOS) has been largely phased out but others continue to be used.

PFAS tend to break down extremely slowly in the environment and can build up in people, animals, and the environment over time. PFAS have been found in water, air, and soil across the nation and around the globe. Because of this, PFAS can end up in the water sources that communities rely on for drinking water. Scientific studies show links between certain levels of PFAS exposure over time and harmful health effects in humans and animals.

Additional information on PFAS from the United States Environmental Protection Agency (EPA) can be found at <https://www.epa.gov/pfas>.

WHAT IS KNOWN ABOUT PFAS IN MY DRINKING WATER?

The Kentucky Energy and Environment Cabinet (EEC) collected and analyzed drinking water samples from 81 community public drinking water treatment plants (WTPs) for PFAS in 2019 and have extended the study to include 113 WTPs in 2023. Samples were collected at the Nicholasville Water Treatment Plant on 3/21/2023. The results for PFAS that have an EPA Drinking Water Health Advisory Level and/or proposed National Primary Drinking Water Regulation (NPDWR) Maximum Contaminant Level (MCL) are provided in the table below. The full report is attached.

PFAS	MRL ¹ (ppt)	EPA Health Advisory Level (ppt) ²	Proposed NPDWR MCL	Sample Results (ppt)	Hazard Index Calculation
perfluorooctanoic acid (PFOA)	4	0.004 (interim)	4.0 ppt	ND	NA
perfluorooctanesulfonic acid (PFOS)	4	0.02 (interim)	4.0 ppt	ND	NA
hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX chemicals)	5	10 (final)	1.0 Hazard Index ³ (unitless)	ND	HI=0
perfluorobutanesulfonic acid (PFBS)	3	2,000 (final)		ND	
perfluorohexane sulfonic acid (PFHxS)	3	NA		ND	
perfluorononanoic acid (PFNA)	4	NA		ND	

¹MRL - Minimum Reporting Level, lowest concentration that can reliably be measured.

²ppt - parts per trillion (ppt)

³Hazard Index - A tool to evaluate the potential increased health risk from mixtures of PFAS that may be found together in contaminated water.

Additionally, in 2023 the Nicholasville Water System will start testing our drinking water for 29 PFAS by participating in the EPA Fifth Unregulated Contaminant Monitoring Rule program, or UCMR 5. UCMR 5 requires sample collection for 30 chemical contaminants between 2023 and 2025 using analytical methods developed by EPA and consensus organizations. This action provides EPA, EEC, and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water. Consistent with EPA's PFAS Strategic Roadmap, UCMR 5 will provide new data that is critically needed to improve understanding of the frequency that 29 PFAS (and lithium) are found in the nation's drinking water systems and at what levels. This data will ensure science-based decision-making and help prioritize protection of disadvantaged communities. We will share the results from our UCMR 5 sampling in the Consumer Confidence Report.

EPA anticipates posting the first set of national preliminary UCMR5 results in mid-2023 and expects to update the results approximately quarterly thereafter at <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#5>.

More information on the UCMR 5 can be found at <https://www.epa.gov/system/files/documents/2022-02/ucmr5-factsheet.pdf>.

WHAT IS BEING DONE ABOUT PFAS IN DRINKING WATER?

On June 15, 2022, EPA issued interim updated drinking water health advisories for PFOA and PFOS. At the same time, EPA also issued final health advisories for PFBS and GenX chemicals. EPA health advisories are non-enforceable and non-regulatory.

More information on EPA's health advisory levels is available at <https://www.epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs>.

On March 14, 2023, EPA proposed a new drinking water regulation to establish legally enforceable limits for six PFAS known to occur in drinking water. The six PFAS are PFOA, PFOS, GenX chemicals, PFBS, PFHxS, and PFNA. No action is required for drinking water systems until EPA finalizes the rule, which is expected around the end of 2023.

The Nicholasville Water Treatment Plant is currently evaluating our existing treatment techniques for the effectiveness of PFAS removal. We are also reviewing technologies that could be implemented if PFAS levels exceed proposed limits.

WHAT EPA IS PROPOSING AND WHAT DO WATER SYSTEMS HAVE TO DO?

Specifically, EPA is proposing:

- **An enforceable limit for PFOA and PFOS.** EPA is proposing to regulate PFOA and PFOS at a level they can be reliably measured, which is 4.0 parts per trillion (ppt).
- **An enforceable limit on a combination of GenX chemicals, PFBS, PFHxS, and PFNA.** The proposed rule also would place limits on any mixture containing one or more of GenX chemicals, PFBS, PFHxS, and/or PFNA. For these PFAS, water systems would use an approach called a hazard index. This approach protects communities from the additive effects of multiple PFAS when they occur together.
- **Monitoring.** EPA is proposing requirements for monitoring for the six PFAS that build upon EPA's long established monitoring framework.
- **Public notification.** Public water systems would be required to notify the public if monitoring detects these PFAS at levels that exceed the proposed limits.
- **Treatment.** Public water systems would be required to take actions to reduce the levels of these PFAS in drinking water if they exceed the proposed limits. This could include removing these chemicals through various types of treatment or switching to an alternative water supply that meets the standard.

More information on EPA's proposed PFAS drinking water regulation is available at <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>.

CAN I STILL DRINK MY TAP WATER AND USE IT TO COOK AND BATHE?

Yes. EPA is not recommending bottled water for communities based solely on concentrations of PFAS chemicals in drinking water that exceed the health advisory levels. They also highlight that PFAS cannot be removed by heating or boiling water. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. If you remain concerned about the level of PFAS in your drinking water, you may consider installing an in-home water treatment device that is certified by an

WHAT IS A PART PER TRILLION?

A part per trillion describes the amount of something, in this case PFAS, in water or soil. Here is an idea of what that means:

parts per million (ppm)

3 drops



added to a 42-gallon barrel

parts per billion (ppb)

1 drop



added to a large tanker truck

parts per trillion (ppt)

10 drops



added to the Rose Bowl

independent party, currently available for PFAS (NSF P473), and maintained to ensure that the treatment remains effective over time.

More information is available below and at <https://www.epa.gov/sdwa/questions-and-answers-drinking-water-health-advisories-pfoa-pfos-genx-chemicals-and-pfbs#q6>.

WHAT CAN I DO TO REDUCE MY OVERALL EXPOSURE TO PFAS?

Because certain PFAS are known to cause risks to human health, and due to their pervasiveness, the most important steps you and your family can take to protect your health is to understand how to limit your exposure. Learn more at <https://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk>.

WHERE CAN I FIND ADDITIONAL INFORMATION ABOUT PFAS?

For general questions call the Nicholasville Water Treatment Plant at 859-885-6974.

Learn more about PFAS in Kentucky at <https://eec.ky.gov/PFAS>.

Read EPA's PFAS Strategic Roadmap at <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>.

EPA explains PFAS at <https://www.epa.gov/pfas/pfas-explained>.

PFAS health effect information can also be found on the U.S. Centers for Disease Control and Prevention (CDC) website at <https://www.atsdr.cdc.gov/pfas/health-effects/index.html>.



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ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL PROGRAM SUPPORT

TONY HATTON
COMMISSIONER

100 SOWER BOULEVARD, SUITE 104
FRANKFORT, KENTUCKY 40601

Tuesday, April 25, 2023

Lab Sample Number: AU01707

Station/Project ID:

To: Division of Water
300 Sower Blvd
Frankfort, KY 40601
ATTN: Melanie Arnold

Re: KY PFAS Drinking Water Project
AI #2300

Program Code: A71

County: Jessamine

AKGWA:

Facility:

Collected By: James Bevins

Date: 03/21/2023 **Time:** 11:20

Delivered By: James Bevins

Date: 03/21/2023 **Time:** 16:30

Received By: Jennifer Clark

Date: 03/21/2023 **Time:** 16:30

Sample Matrix: Drinking Water

Collection Method: Grab

Sample Description: Nicholasville WTP - Nicholasville Water

Sample Type: Field Sample

Sample ID: KY0570315

Container ID:

Shipment Temp: 1.8C

REPORT OF ANALYSIS

<u>LAB ACODE</u>	<u>CAS NUM</u>	<u>CONSTITUENTS</u>	<u>RESULT</u>	<u>UNIT</u>	<u>LOQ</u>	<u>LOD</u>	<u>FLAG</u>
\$6075 ALL	375-22-4	PFBA	Not detected	ng/L	1.04	0.690	IU
\$6075 ALL	2706-90-3	PFPeA	Not detected	ng/L	1.04	0.690	RUX
\$6075 ALL	375-73-5	PFBS	Not detected	ng/L	1.04	0.690	RU
\$6075 ALL	57124-72-4	4:2 FTS	Not detected	ng/L	1.04	0.690	UX
\$6075 ALL	307-24-4	PFHxA	Not detected	ng/L	1.04	0.690	UX
\$6075 ALL	2706-91-4	PFPeS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	13252-13-6	HFPO-DA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	355-46-4	PFHxS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	375-85-9	PFHpA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	19005-14-4	ADONA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	375-92-8	PFHpS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	27619-97-2	6:2 FTS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	335-67-1	PFOA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	1763-23-1	PFOS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	375-95-1	PFNA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	56426-58-1	9CI-PF3ONS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	68259-12-1	PFNS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	335-76-2	PFDA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	39108-34-4	8:2 FTS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	2355-31-9	NMeFOSAA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	335-77-3	PFDS	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	2058-94-8	PFUnA	Not detected	ng/L	1.04	0.690	UX
\$6075 ALL	2991-50-6	NEtFOSAA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	63051-92-9	11CI-PF3OUds	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	307-55-1	PFDoA	Not detected	ng/L	1.04	0.690	UX
\$6075 ALL	72629-94-8	PFTTrDA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	376-06-7	PFTDA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	51772-58-6	NFDHA	Not detected	ng/L	1.04	0.690	U
\$6075 ALL	377-73-1	PFMPA	Not detected	ng/L	1.04	0.690	IU
\$6075 ALL	63090-89-5	PFMBA	Not detected	ng/L	1.04	0.690	U

<u>LAB A CODE</u>	<u>CAS NUM</u>	<u>CONSTITUENTS</u>	<u>RESULT</u>	<u>UNIT</u>	<u>LOQ</u>	<u>LOD</u>	<u>FLAG</u>
\$6075 ALL	13507-82-7	PFEESA	Not detected	ng/L	1.04	0.690	U

Container Preservation Status at Sample Login

@P-NH4OAC-1	Plastic; Ammonium Acetate pres	pH > 6.5 and < 7.5 (checked by pH strip)
@P-NH4OAC-2	Plastic; Ammonium Acetate pres	pH not tested

Data Quality Flag Description

I = Internal Standard Limits Exceeded
R = Surrogate Limits Exceeded
U = Analyte Not Detected
X = See Case Narrative

Case Narrative

X flag added (\$6075) due to low E.I.S. recovery in CCV

This report has been prepared and reviewed by personnel within the Department for Environmental Protection Laboratory (DEPLAB) and has been approved for release.

Andrea S. Peggiam

for Tony Hatton, Acting Director

Report Format: DESFinal