Attorneys General of the States of California, Colorado, Connecticut, Delaware, District of Colombia, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Virginia, Washington, and Wisconsin

June 10, 2020

Via Regulations.gov
Water Docket
Environmental Protection Agency
Mail Code: [28221T]
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Re: Comments on *Preliminary Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List*, 85 Fed. Reg. 14098 (Mar. 10, 2020)

Docket ID No. EPA-HQ-OW-2019-0583

Dear Administrator Wheeler:

The state attorneys general of California, Colorado, Connecticut, Delaware, District of Colombia, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Virginia, Washington, and Wisconsin (collectively, the States) appreciate the opportunity to offer comments on the Environmental Protection Agency's (EPA) *Preliminary Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List* (Preliminary Determination), 85 Fed. Reg. 14098 (Mar. 10, 2020). In the Preliminary Determination, EPA announces its decision to regulate perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA),[1] chemicals which belong to a large class of per- and polyfluoroalkyl substances (PFAS).[2] 85 Fed.

[1] Preliminary Regulatory Determinations for Contaminants on the Fourth Drinking Water Contaminant Candidate List (Preliminary Determination), 85 Fed. Reg. 14,098, 14,120 (Mar. 10, 2020). These comments address only EPA's decision to regulate PFOA and PFOS and do not address EPA's announced decisions not to regulate the six other non-PFAS contaminants EPA is considering for regulation here.

[2] PFAS are a subset of fluorochemicals, which are highly fluorinated aliphatic substances that "contain 1 or more C atoms on which all the H substituents…have been replaced by F atoms, in such a manner that they contain the perfluoroalkyl moiety," denoted by the chemical formula $R–C_nF_{2n+1}$. N is an integer greater than zero and the "R–" represents a bond between a functional group (e.g. carboxylic acid or sulfonic acid) and the

Reg. 14120. EPA's preliminary determination is the first step toward the development of a National Primary Drinking Water Regulation (NPDWR) and a maximum contaminant level (MCL) for PFOA and PFOS pursuant to the federal Safe Drinking Water Act (SDWA).[3]

As stated in the Preliminary Determination, "PFAS are a group of synthetic chemicals that have been in use since the 1940s" and "are found in a wide array of consumer and industrial products."[4] PFOA and PFOS are "two of the most widely-studied and longest-used PFAS."[5] In addition to direct human exposure to PFAS through the use of consumer and industrial products, "PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations have been associated with PFAS releases into the air, soil, and water."[6] As part of a nationwide health study, the Centers for Disease Control and Prevention has been testing for various PFAS, including PFOA and PFOS, in the blood of adults and children since 1999, finding that "most people in the United States have one or more specific PFAS in their blood."[7] Elevated levels of PFOA and PFOS have also been detected in public water systems serving millions of people across the United States.[8]

The States have a significant interest in ensuring that their residents have access to safe drinking water. Although PFAS have been shown to negatively affect human health, there is currently no national requirement that all public water systems test for and remove unsafe levels of PFAS in drinking water.[9] Considering that millions of people across the United States rely on public drinking water systems contaminated with PFAS, and the limited resources available to states to comprehensively address PFAS, EPA should regulate PFAS, including PFOA and PFOS, under the SDWA to set nationwide baseline drinking water standards and to protect public health.

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perfluoroalkyl tail. *See* Buck et al. 2011. *Perfluoroalkyl and polyfluoroalkyl substances in the environment: terminology, classification, and origins*, Integrated Envtl. Assessment and Mgmt. 7 (4), 513–541 (2011), https://www.ncbi.nlm.nih.gov/pubmed/21793199. The term PFAS includes all known perfluoroalkyl substances and all known polyfluoroalkyl substances, regardless of chain length, as well as potentially created perfluoroalkyl substances and polyfluoroalkyl substances.

[3] Preliminary Determination at 14,110.

[4] *Id.* at 14,115.

[5] *Id.*

[6] *Id.*

[7] *PFAS Blood Testing*, Agency for Toxic Substances and Disease Registry, https://www.atsdr.cdc.gov/pfas/pfas-blood-testing.html (last visited Apr. 9, 2020). *See also* 85 Fed. Reg. 14115 (PFOS and PFOA "have been detected in up to 98% of serum samples taken in biomonitoring studies that are representative of the U.S. general population").

[8] Preliminary Determination, 85 Fed. Reg. at 14,117–18.

[9] *Id.* at 14,115–17.

Set forth below are the States' comments responding to EPA's preliminary determination to regulate PFOS and PFOA under the SDWA.[10] First, the States support EPA's Preliminary Determination to set NPDWRs for PFOA and PFOS and agree that these contaminants meet the three statutory criteria set forth in SDWA section 1412(b)(1)(A), 42 U.S.C. § 300g-1(a)(1). Second, the States urge EPA to propose final NPDWRs for PFOA and PFOS that are well below EPA's existing Health Advisory Level in order to reflect current science and protect human health. Third, we encourage EPA to regulate other PFAS in addition to PFOA and PFOS, and to evaluate potential approaches to regulate PFAS as a class. Fourth, we encourage EPA to promulgate final NPDWRs as soon as possible to protect public health, but no later than 18 months from the time the final determination to regulate is made.

A. EPA's Preliminary Determination to regulate PFOA and PFOS under the Safe Drinking Water Act is appropriate and necessary to protect public health.

The States agree with and support EPA's Preliminary Determination that PFAS, specifically PFOA and PFOS, meet the statutory criteria to regulate under section 1412(b)(1)(A) of the SDWA; namely, (1) the chemicals "may have an adverse effect on the health of persons," (2) the chemicals are "known to occur or there is a substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern," and (3) regulating these chemicals "presents a meaningful opportunity for health risk reduction for persons served by public water systems."[11] Because other PFAS, as well as PFAS as a class, also meet the statutory criteria, as discussed in Section C below, we urge EPA to regulate other PFAS, as well as to evaluate approaches to regulate the entire PFAS class, under section 1412(b)(1)(A).

1. Exposure to PFOA and PFOS has an adverse effect on human health.

We agree with EPA that substantial scientific evidence demonstrates that PFOA and PFOS have adverse effects on human health and meet the first statutory criterion for regulation under the SDWA. The toxicity of PFOA and PFOS to humans and animals has been studied for decades, including internal tests conducted by 3M on PFOS and by DuPont on PFOA.[12] As recited in the Preliminary Determination, the vast body of research demonstrates serious adverse health

[10] *Id.* at 14,107.
[11] 42 U.S.C. § 300g-1(a)(1).
[12] *See, e.g.,* Office of Minn. Attorney General Keith Ellison, *State's Second Amended Exhibit List*, https://www.ag.state.mn.us/Office/Cases/3M/StatesExhibits.asp (last visited Apr. 15, 2020) (providing documentation of, *inter alia*, research performed by 3M and DuPont regarding the toxic effects of PFOA and PFOS exposure to humans and animals).

effects associated with exposure to PFOA and PFOS, including "decreases in female fecundity and fertility, decreased birth weights in offspring and other measures of postnatal growth," as well as "high cholesterol, increased liver enzymes, decreased vaccination response, thyroid disorders, pregnancy-induced hypertension and preeclampsia, and cancer."[13]

However, PFOA and PFOS are not the only chemicals within the PFAS class that present health risks to humans. Due to characteristics shared by all PFAS, other PFAS show similar indicia of toxicity, environmental persistence, bio-accumulation, and ubiquity in the environment.[14] Additionally, many members of the PFAS class are chemical precursors known to break down or transform into PFOA and PFOS in the environment and the human body.[15] These types of PFAS pose similar health risks as PFOA and PFOS.[16] Moreover, precursor PFAS may pose increased toxicity compared to their break down or transformation products. For example, one of the precursors to perfluorohexanoic acid (PFHxA) has been shown to be significantly more toxic than PFHxA.[17]

In the Preliminary Determination, EPA relies on the Health Effects Support Documents (HESDs) that it published in 2016 to aid in its development of Health Advisory Levels for PFOA and PFOS. These documents synthesize decades of

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[13] Preliminary Determination, 85 Fed. Reg. at 14,115–16; *see also* Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *What are the health effects?*, https://www.atsdr.cdc.gov/pfas/health-effects.html (last visited Jan. 21, 2020) (reporting that human exposure to PFAS, such as PFOA and PFOS, may increase the risk of cancer, alter the immune system, increase cholesterol levels, interfere with natural hormones, decrease fertility, and affect the growth, learning, and behavior of infants and children); Cal. Water Bds., *Per- and Polyfluoroalkyl Substances (PFAS)*, https://www.waterboards.ca.gov/pfas (last updated Apr. 9, 2020) (human exposure to PFAS, such as PFOA and PFOS, may also result in low birth weight, birth defects, delayed puberty onset, increased risk of thyroid disease, and increased risk of asthma).

[14] Attorneys General of New York et al., Comment Letter on the Advance Notice of Proposed Rulemaking, Addition of Certain Per- and Polyfluoroalkyl Substances; Community Right-to-Know Toxic Chemical Release Reporting (Feb. 3, 2020), https://www.regulations.gov/document?D=EPA-HQ-TRI-2019-0375-0086.

[15] Buck et al., *supra* at 513–541; Concawe, *Environmental Fate and Effects of Poly- and Perfluoroalkyl Substances (PFAS)*, Report No. 8/16 - Environmental Science for the European Refining Industry (2016), https://www.concawe.eu/wp-content/uploads/2016/06/Rpt_16-8.pdf.

[16] Buck et al., *supra* at 513–541; Concawe, *supra* note 15; Attorneys General Comment Letter, *supra* note 14.

[17] Rice et al., *Comparative analysis of the toxicological databases for 6:2 fluorotelomer alcohol (6:2 FTOH) and perfluorohexanoic acid (PFHxA)*, 138 FOOD CHEM TOXICOL. 111210 (Apr. 2020), https://www.sciencedirect.com/science/article/pii/S0278691520300983?via%3Dihub.

animal and human studies demonstrating that PFOA and PFOS are toxic at very low concentrations. Based, in part, on these HESDs, EPA derived a health reference level for the combined concentration of PFOA and PFOS of 70 parts per trillion (ppt). For the Preliminary Determination, EPA uses this health reference level to evaluate the occurrence of the contaminants in public water systems.[18]

Recent analyses indicate that to adequately protect public health, the health reference level for this determination should be lower than EPA's Health Advisory Level.[19] In 2018, the Agency for Toxic Substances Disease Registry (ATSDR) developed draft minimal risk levels for PFOA and PFOS as a screening tool to identify exposures that could potentially be hazardous to human health.[20] ATSDR's draft minimal risk levels are significantly lower than the reference doses that EPA used to generate its Health Advisory Level.[21] Similarly, the New Jersey Drinking Water Quality Institute (NJDWQI) evaluated the basis of the EPA Health Advisories for PFOA in 2017[22] and PFOS in 2018[23] and concluded that "elevations in serum PFOA levels of the magnitude expected from ongoing exposure to 70 ng/L (the USEPA Health Advisory) in drinking water are not desirable and may not be protective of public health." The NJDWQI concluded that EPA's "reasons for dismissing low-dose toxicological effects [of PFOA] do not appear to be scientifically valid and/or are also equally or more applicable to the endpoints selected by EPA,"[24]

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[18] Preliminary Determination, 85 Fed. Reg. at 14,115–17.

[19] *See infra* part III.B.

[20] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *PFAs Toxicological Profile Key messages* (June 2018), https://www.atsdr.cdc.gov/docs/PFAS_Public_KeyMessages_June20_Final-508.pdf.

[21] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *Toxicological Profile for Perfluoroalkyls: Draft for Public Comment* (June 2018),https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf; *see also infra* part B.

[22] N.J. Drinking Water Quality Institute Health Effects Subcommittee, *Health-based Maximum Contaminant Level Support Document: Perfluorooctanoic Acid (PFOA)*, Appendix 2: Comparison of USEPA Office of Water Health Advisory and DWQI recommended Health-based MCL for PFOA (Feb. 15, 2017), https://www.state.nj.us/dep/watersupply/pdf/pfoa-appendixa.pdf.

[23] N.J. Drinking Water Quality Institute Health Effects Subcommittee, *Health-based Maximum Contaminant Level Support Document: Perfluorooctane Sulfonate (PFOS)*, Appendix 2: Comparison of USEPA Office of Water Health Advisory and DWQI Health-based MCL for PFOS (June 5, 2018), https://www.state.nj.us/dep/watersupply/pdf/pfos-recommendation-appendix-a.pdf.

[24] N.J. Drinking Water Quality Institute Health Effects Subcommittee, *Health-based Maximum Contaminant Level Support Document: Perfluorooctanoic Acid (PFOA)*, Appendix 2: Comparison of USEPA Office of Water Health Advisory and DWQI recommended Health-based MCL for PFOA (Feb. 15, 2017), https://www.state.nj.us/dep/watersupply/pdf/pfoa-appendixa.pdf.

and that EPA "dismissed the most sensitive toxicological effect in animal studies . . . from consideration as the basis for [PFOS] risk assessment."[25] Furthermore, in 2018, the Michigan PFAS Science Advisory Panel analyzed toxicology and epidemiology studies and concluded that long-term exposure to drinking water containing concentrations of PFOA below 70 ppt could result in adverse health effects.[26] Thus, the evidence underlying EPA's Preliminary Determination and more recent scientific analyses, which are discussed in more detail below, demonstrate that PFOA and PFOS, and other chemicals in the PFAS class, have an adverse effect on human health, even at concentrations far below EPA's Health Advisory Level.

2. PFOA and PFOS are found in public water systems with a frequency and at levels of public health concern.

The States agree with EPA's Preliminary Determination that PFOA and PFOS meet the second statutory criterion for regulation under the SDWA because they occur in public water systems with a frequency and at levels of public health concern. This determination is supported by the Unregulated Contaminant Monitoring Rule (UCMR) 3 data, state data gathered by EPA, and the additional data provided in these comments.

In the Preliminary Determination, EPA determined that the UCMR 3 data, which were collected from 2013 to 2015, represents the best available occurrence information for PFOA and PFOS.[27] The UCMR 3 occurrence data show that one or more PFAS were detected in 4 percent of reporting public water systems.[28] We agree that these data demonstrate that PFOA and PFOS occur in public water systems at a frequency of public health concern.

However, the UCMR 3 data underrepresent the occurrence of PFOA and PFOS in public water systems. As the UCMR 3 data focus on public water systems serving more than 10,000 customers, it excludes many smaller public water systems which are close to PFAS sources and vulnerable to PFAS contamination. Furthermore, the UCMR 3 survey used a minimum reporting level of 20 ppt for

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[25] N.J. Drinking Water Quality Institute Health Effects Subcommittee, *supra* note 21, App'x 2.

[26] Mich. PFAS Science Advisory Panel, *Scientific Evidence and Recommendations for Managing PFAS Contamination in Michigan* (Dec. 7, 2018), https://www.michigan.gov/documents/pfasresponse/Science_Advisory_Board_Report_641294_7.pdf.

[27] Preliminary Determination, 85 Fed. Reg. at 14,117.

[28] Interstate Tech. & Regulatory Council, *Environmental Fate and Transport for Per- and Polyfluoroalkyl Substances* 12 (Apr. 2020), https://pfas-1.itrcweb.org/fact_sheets_page/PFASFact_Sheet_Fate_and_Transport_April2020.pdf.

PFOA[29] and 40 ppt for PFOS.[30] Several states and ATSDR have concluded that contamination below these levels are harmful to human health but lower levels of contamination were not reported in the UCMR 3 data. More recent state sampling conducted with much lower minimum reporting levels has detected more widespread PFAS contamination than the UCMR 3 data.[31] Additionally, PFAS were detected much more frequently than was reported in UCMR 3 data when a large subset of the UCMR 3 PFAS analytical results were reevaluated using lower reporting levels by a laboratory that analyzed about 30% of all UCMR 3 PFAS samples.[32]

The States also present data regarding the occurrence of PFOA and PFOS, as well as other PFAS chemicals, in public water systems and in surface water and groundwater.[33] For example, the following data support EPA's determination that PFAS occur in our waters with a frequency and at levels of public health concern:

- At Joint Base Lewis-McChord in Washington, the Army sampled 4 drinking water supply wells, all of which had combined PFOA and PFOS over EPA's Health Advisory Level of 70 ppt, ranging from 72 to 250 ppt.[34]

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[29] U.S. Envtl. Prot. Agency, *Regulatory Determination 4 Support Document* 4-16 (Dec. 2019), https://www.regulations.gov/document?D=EPA-HQ-OW-2019-0583-0004.

[30] *Id.* at 3-15. Minimum reporting levels for other PFAS may also underrepresent the occurrence of these PFAS at concentrations of public health concern. For example, UCMR 3 minimum reporting levels are 90 ppt for perfluorobutanesulfonic acid (PFBS), 10 ppt for perfluoroheptanoic acid (PFHpA), 30 ppt for perfluorohexanesulfonic acid (PFHxS), and 20 ppt for perfluorononanoic acid (PFNA). U.S. Envtl. Prot. Agency, *Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary* (Jan. 2017), https://www.epa.gov/sites/production/files/2017-02/documents/ucmr3-data-summary-january-2017.pdf.

[31] *Regulatory Determination 4 Support Document* at 3-20-22, 3-22-24, 4-21-23, 4-24-25.

[32] Post, Gloria B. et. al, *Key scientific issues in developing drinking water guidelines for perfluoroalkyl acids: Contaminants of emerging concern*, PLOS BIOL. 15(12) (Dec. 20, 2017), https://journals.plos.org/plosbiology/article/file?id=10.1371/journal.pbio.2002855&type=printable.

[33] In addition to the UCMR 3 data, EPA evaluated other sources of finished drinking and ambient water occurrence data. Preliminary Determination, 85 Fed. Reg. at 14,111-13. For additional information about the occurrence of PFAS throughout the country, see the interactive map created by the Environmental Working Group at https://www.ewg.org/aboutpfasmap.

[34] Maureen Sullivan, *Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)* (Mar. 2018), https://partner-mco-archive.s3.amazonaws.com/client_files/1524589484.pdf.

- At Letterkenny Army Depot in Pennsylvania, the Army sampled 24 groundwater monitoring wells, 6 of which had combined PFOA and PFOS concentrations between 82 and 2,069 ppt.[35]
- At Seneca Army Ammunition Plant in New York, the Army sampled 43 groundwater monitoring wells, 16 of which had combined PFOA and PFOS concentrations that ranged from 580 to 89,000 ppt.[36]
- At Warminster Naval Base in Pennsylvania, 4 of 17 nearby public water supply wells sampled by the Navy had combined PFOA and PFOS concentrations between 88 and 1,300 ppt.[37]
- At the China Lake Naval Air Weapons Station in California, the Navy tested 11 wells, 7 of which had combined PFOA and PFOS concentrations between 3,800 and 8,000,000 ppt.[38]
- At Fort McCoy in Wisconsin, the Army tested 27 groundwater monitoring wells, 14 of which had PFAS concentrations that ranged from 70 to 120,000 ppt.[39]
- In the City of La Crosse, Wisconsin, concentrations of PFOA and PFOS in one municipal well have been observed as high as 22.3 ppt for PFOA and 188 ppt of PFOS.[40]
- In the City of Madison, Wisconsin, surface water[41] samples downstream of a known source of PFAS, Truax Field Air National Guard Base, showed 360 ppt of PFOS, 43 ppt of PFOA.[42]
- In the cities of Marinette and Peshtigo, Wisconsin, a site investigation revealed that out of 168 drinking water wells

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[35] *Id.*
[36] *Id.*
[37] *Id.*
[38] *Id.*
[39] *Id.*
[40] Wis. Dep't of Nat. Res., *Summary of Results from Sampling Program at Well 23*, https://dnr.wi.gov/botw/GetActivityDetail.do?adn=0232000065&siteId=4221400&crumb=1&search=a (follow "20190418_43_monitoring_Qtrly_April_2019.pdf" hyperlink) (last visited Apr. 15, 2020).
[41] The surface water, Starkweather Creek, is hydrologically connected to groundwater that is used as the City of Madison's drinking water source. Nelson Institute for Environmental Studies at the University of Wisconsin – Madison, *Starkweather Creek Watershed: Current Conditions and Improvement Strategies*, WATER RESOURCES PRACTICUM 2005 (2006), https://www.nelson.wisc.edu/docs/report.pdf.
[42] Wis. Dep't of Nat. Res., *2019 PFAS Surface Water Sampling Results*, https://dnr.wi.gov/topic/Contaminants/documents/pfas/SurfaceWaterReport20191015.pdf (last visited Apr. 15, 2020).

sampled, 16 had combined PFOA and PFOS concentrations above EPA's Health Advisory Level, and 29 had combined PFOA and PFOS concentrations above 20 ppt.[43]

- In February of 2018, PFOA and PFOS were found in three public wells maintained by the Town of Blades, in southern Delaware. The combined PFOA and PFOS concentration in the wells ranged from 96.2 to 187.1 ppt. The municipal water system servicing 1200 people was shut down, until a carbon filtration system could be installed. The suspected source of the contamination was a defunct metal plating company.[44]
- For many years, DuPont (now Chemours) operated an industrial facility known as the Chambers Works in Deepwater, New Jersey on the Delaware River, which discharged wastewater into the tidal waters of the River.[45] Tests conducted by the Delaware River Basin Commission have found excessive concentrations of PFAS in the River and Bay estuary.[46]

Thus, the occurrence data in EPA's Preliminary Determination and the additional data provided in this comment demonstrate that PFOA and PFOS occur in public water systems, in surface water, and in groundwater with a frequency and at levels of public health concern. However, due to EPA's use of a health reference level of 70 ppt to evaluate the occurrence data, the EPA's occurrence data in the UCMR 3 survey may significantly underrepresent the actual occurrence of PFOA and PFOS at levels of human health concern.

3. <u>The regulation of PFOA and PFOS presents a meaningful opportunity to reduce the health risk for persons who use public water systems</u>.

The States support EPA's conclusion that the regulation of PFOA and PFOS presents a meaningful opportunity for health risk reduction. In the Preliminary Determination, EPA recognizes significant public concern regarding these contaminants and public interest in the promulgation and enforcement of a national

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[43] Wisconsin Dep't of Nat. Res., PFAS contamination in the Marinette and Peshtigo area, Drinking water sampling and analysis, (revised May 22, 2020), https://dnr.wi.gov/topic/Contaminants/Marinette.html.

[44] Northwestern University Social Science Environmental Health Research Institute, Per- and Polyfluoroalkyl Substances, Blades, Delaware, https://pfasproject.com/bladesdelaware/.

[45] Northwestern University Social Science Environmental Health Research Institute, Per- and Polyfluoroalkyl Substances, Deepwater, Salem County, New Jersey, https://pfasproject.com/deepwater-salem-county-new-jersey/.

[46] Delaware River Basin Commission, *Contaminants of Emerging Concern in the Tidal Delaware River, Pilot Monitoring Survey 2001-2009*, at 33 (Aug. 2013), https://www.nj.gov/drbc/library/documents/contaminants-of-emerging-concernAug2013rev.pdf.

drinking water standard.[47] As stated throughout these comments, the States recommend that EPA regulate other PFAS, and evaluate approaches to regulate PFAS as a class, which presents a more comprehensive and meaningful opportunity to reduce the health risks for persons who use public water systems.

While some states have developed and others are in the process of developing their own PFAS drinking water standards, many states do not have the capacity or resources to do so.[48] Without a federal NPDWR and MCL for PFAS, public water systems in many states will not be required to monitor or address PFAS contamination. Thus, if EPA does not adopt appropriate protective federal drinking water standards, residents of states that have not regulated or otherwise addressed PFAS contamination may continue to be exposed to harmful levels of these chemicals.

Regulating PFOA and PFOS contamination in drinking water presents a meaningful opportunity for health risk reduction because enforceable, health-based, standards that are sufficiently stringent will protect the public, including sensitive populations such as newborns, infants, and children. Reducing health risks is especially critical in areas where PFOA and PFOS occur in public water systems at levels harmful to human health. Because PFOA and PFOS are highly persistent in the environment, have high mobility, and can form as a result of precursor transformations, the need to reduce PFOA and PFOS contamination in public water systems will continue even as the production, use, and disposal of PFAS become more regulated or phased out.[49] The state data summarized in these comments confirm that many public water systems are contaminated with PFOA and PFOS at concentrations that exceed EPA's Health Advisory Level of 70 ppt by several orders of magnitude.

B. Experts link adverse health impacts to exposure to PFOA and PFOS at levels lower than EPA's current Health Advisory Level.

In the four years since EPA set the Health Advisory Level for PFOA and PFOS at 70 ppt, additional scientific research and further analysis of existing research have continued to improve our understanding of how PFAS affect the human body. As more is learned about these contaminants, it becomes increasingly

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[47] Preliminary Determination, 85 Fed. Reg. at 14,119.

[48] Envt'l Council of the States, *Processes & Considerations for Setting State PFAS Standards* 7 (Feb. 2020), https://www.ecos.org/wp-content/uploads/2020/02/Standards-White-Paper-FINAL-February-2020.pdf.

[49] Concawe, *Environmental Fate and Effects of Poly- and Perfluoroalkyl Substances (PFAS)*, Report No. 8/16 - Environmental Science for the European Refining Industry (2016), https://www.concawe.eu/wp-content/uploads/2016/06/Rpt_16-8.pdf.

apparent that exposure to PFOA and PFOS is linked to adverse health effects in humans even at concentrations that are far lower than the current Health Advisory Level.[50] It is critical that EPA incorporate new scientific information and analyses into its regulatory development process to ensure its drinking water standards are adequately protective of human health.[51]

Evolving human epidemiology and animal toxicology data, concerns over the environmental mobility and persistence of PFAS, and widespread human exposure and environmental contamination have led scientists and health professionals to conclude that EPA's Health Advisory Level far exceeds a safe level of exposure to PFOA and PFOS. In 2018, the ATSDR developed draft minimal risk levels for PFOA and PFOS. These draft minimal risk levels are lower than previous levels because ATSDR took into account more sensitive developmental effects and immune effects, which can occur at lower concentrations than developmental effects used as the basis for the EPA Health Advisory and earlier ATSDR evaluations.[52] ATSDR's analysis indicates that a lower drinking water standard is necessary, as EPA's Health Advisory Level did not account for these more sensitive developmental effects or for immune effects.[53] Additionally, the European Food Safety Authority (EFSA) recently developed a draft Tolerable Daily Intake for total exposure to

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[50] The Pennsylvania Department of Environmental Protection (DEP) is currently in the process of evaluating drinking water standards for certain PFAS, including PFOA and PFOS. For that reason, Pennsylvania joins these comments only to the extent that they discuss the public health concerns presented by PFAS, highlight the states' interest in protecting our residents from the adverse health effects of PFAS exposure, argue for the importance of proper regulation of these chemicals by EPA, and urge EPA to move as expeditiously as possible to develop water quality standards for PFOA and PFOS. Given DEP's ongoing evaluations, Pennsylvania takes no position on specific recommendations, scientific conclusions, or the validity of any of the scientific sources referenced herein.

[51] The Colorado Department of Public Health and Environment (CDPHE) is currently in the process of evaluating the best regulatory approach to address PFAS, including PFOA and PFOS. For that reason, Colorado joins these comments only to the extent that they discuss the public health concerns presented by PFAS, highlight the states' interest in protecting our residents from the adverse health effects of PFAS exposure, argue for the importance of proper regulation of these chemicals by EPA, and urge EPA to move as expeditiously as possible to develop drinking water standards for PFOA and PFOS. Given CDPHE's ongoing evaluations, Colorado takes no position on specific recommendations, scientific conclusions, or the validity of any of the scientific sources referenced herein.

[52] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *PFAs Toxicological Profile Key messages* (June 2018), https://www.atsdr.cdc.gov/docs/PFAS_Public_KeyMessages_June20_Final-508.pdf.

[53] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *Toxicological Profile for Perfluoroalkyls: Draft for Public Comment* (June 2018), https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf.

PFOA, PFOS, and two other PFAS based on decreased response to vaccination in children exposed to PFAS in breast milk. This Tolerable Daily Intake is approximately twenty times lower than the EPA Reference Dose.[54] In addition to other reasons for setting a lower drinking water standard,[55] these analyses indicate that EPA's current Health Advisory Level does not sufficiently protect public health.

Based on developments in PFAS research and states' independent analyses, several states have developed, or are in the process of developing, drinking water and health-based groundwater standards for PFOA and PFOS that are much lower than the federal Health Advisory Level of 70 ppt. These lower state standards consider sensitive toxicological effects in laboratory animals and human health effects that EPA did not take into account when developing the Health Advisory Level of 70 ppt.[56] For a comparison of states' existing and developing PFAS standards, please refer to Appendix A.

The NJDWQI, for example, performed comparative analyses of EPA's and its own risk assessments of PFOA and PFOS. The NJDWQI determined that EPA's Health Advisory Level is not sufficiently health protective and recommended drinking water standards of 13 ppt for PFOS and 14 ppt for PFOA.[57] Subsequently,

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[54] European Food Safety Authority, *PFAS public consultation: draft opinion explained*, https://www.efsa.europa.eu/en/news/pfas-public-consultation-draft-opinion-explained; European Food Safety Authority Panel on Contaminants in the Food Chain, Schrenk, D., *Scientific opinion on the risk for human health related to the presence of perfluoroalkyl substances in food* (draft for public comment Feb. 24, 2020), https://www.efsa.europa.eu/en/consultations/call/public-consultation-draft-scientific-opinion-risks-human-health.

[55] For instance, states may develop valid, more stringent standards based not only on the reference dose, but also on other factors. *See, e.g.,* Vt. Dep't of Health, *Drinking Water Health Advisory for Five PFAS,* at 4 (July 10, 2018), https://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_DW_PFAS_HealthAdvisory.pdf (using drinking water intake rate for infant during first year of life in setting 20 ppt advisory for 5 PFAS).

[56] Post, G., *Basis of State & USEPA PFAS Drinking Water Standards & Guidelines*, PFAS Substances & Emerging Contaminants in the Environment Symposium, Air & Waste Management Association–Mid-Atlantic States Section (Jan. 22, 2020), https://www.mass-awma.net/pfas-workshop-2020-slideshows.html.

[57] N.J. Dep't of Envtl. Prot., *Affirming National Leadership Role, New Jersey Proposes Stringent Drinking Water Standards for PFOA and PFOS* (April 1, 2019), https://www.nj.gov/dep/newsrel/2019/19_0021.htm; N.J. Drinking Water Quality Institute Health Effects Subcommittee, *Health-based Maximum Contaminant Level Support Document: Perfluorooctanoic Acid (PFOA)*, (Feb. 15, 2017), https://www.state.nj.us/dep/watersupply/pdf/pfoa-appendixa.pdf; N.J. Drinking Water Quality Institute Health Effects Subcommittee, *Health-based Maximum Contaminant Level Support*

the New Jersey Department of Environmental Protection adopted MCLs and ground water quality standards of 13 ppt for PFOS and 14 ppt for PFOA.[58]

In 2019, a Michigan Science Advisory Workgroup developed Health-Based Drinking Water Value Recommendations for PFAS in Michigan.[59] Based on an examination of peer-reviewed studies, EPA's health assessment, and information provided by ATSDR, the Michigan Workgroup recommended a health-based drinking water value of 8 ppt for PFOA and 16 ppt for PFOS.[60] The Michigan Workgroup also noted that state and federal drinking water standards for PFOA and PFOS have decreased over time due to "the evolving science, both the ever-increasing knowledge gained from published toxicology and epidemiology studies and the risk assessments for development of toxicity values and drinking water values."[61]

On December 27, 2019, the Massachusetts Department of Environmental Protection published proposed revisions to the state's drinking water regulations, commencing the Commonwealth's formal process to revise the state's drinking water standards for PFAS.[62] The proposed regulation establishes a total combined MCL of 20 ppt for six PFAS, including PFOA and PFOS.[63]

Document: Perfluorooctane Sulfonate (PFOS), (June 5, 2018), https://www.state.nj.us/dep/watersupply/pdf/pfos-recommendation-appendix-a.pdf.

[58] Envt'l Council of the States, *New Jersey Sets Stringent Limits for PFOA, PFOS in Drinking Water* (Apr. 17, 2020), https://www.ecos.org/news-and-updates/new-jersey-enacts-stringent-limits-for-pfoa-pfos-in-drinking-water/; N.J. Dep't of Envtl. Prot., *Affirming National Leadership Role, New Jersey Publishes Formal Stringent Drinking Water Standards for PFOA and PFOS,* (June 1, 2020), https://www.nj.gov/dep/newsrel/2020/20_0025.htm.

[59] Mich. Sci. Advisory Workgroup, *Health-Based Drinking Water Value Recommendations for PFAS in Michigan* (2019), https://www.michigan.gov/documents/pfasresponse/Health-Based_Drinking_Water_Value_Recommendations_for_PFAS_in_Michigan_Report_659258_7.pdf.

[60] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *Toxicological Profile for Perfluoroalkyls*, https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=1117&tid=237 (last updated Sept. 26, 2019).

[61] Mich. Sci. Advisory Workgroup, *supra* note 6, at 26.

[62] Mass. Dep't of Envtl. Prot., *Proposed Amendments and Public Comment, The Massachusetts Drinking Water Regulations, 310 C.M.R. 22.00*, https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations#proposed-amendments-public-comment (last accessed Jun. 2, 2020).

[63] The six PFAS included in the MCL are : PFOS, PFOA, perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorodecanoic acid (PFDA). *Id.*

In February 2020, the California State Water Resources Control Board's (California Water Board) Division of Drinking Water lowered the response levels for PFOA and PFOS contamination in public drinking water systems to 10 ppt for PFOA and 40 ppt for PFOS.[64] These response levels are based on the estimated lifetime risk of one additional case of cancer in 10,000 people due to exposure to each contaminant through drinking water.[65] Where the concentration of a contaminant in a public water source exceeds the response level, a community water system must take the affected water source out of use, treat the water delivered such that it no longer exceeds the response level, or provide written public notification of the exceedance.[66]

The Wisconsin Department of Health Services (Wisconsin DHS) also developed recommended health-based groundwater standards for PFOA and PFOS in 2019.[67] Wisconsin DHS determined that a groundwater standard of a combined concentration of 20 ppt was necessary to protect the health of sensitive populations and to account for immunotoxicity effects.[68] Wisconsin DHS based this recommendation on modeling and studies published after the 2016 HESDs. In January 2020, Wisconsin's Department of Natural Resources was authorized to

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[64] Cal. Water Bds., *Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS)*, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html (last updated Feb. 25, 2020).

[65] Cal. Water Bds., *Notification Level Issuance: perfluorooctanoic acid (PFOA)* (Feb. 6, 2020), https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/pfos_and_pfoa/pfoa_nl_issuance_jan2020.pdf; Cal. Water Bds., *Notification Level Issuance: perfluorooctanesulfonic acid (PFOS)* (Feb. 6, 2020), https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/pfos_and_pfoa/pfos_nl_issuance_jan2020.pdf.

[66] Cal. Water Bds., *Notification Level Issuance: perfluorooctanoic acid (PFOA)* (Feb. 6, 2020), https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/pfos_and_pfoa/pfoa_nl_issuance_jan2020.pdf; Cal. Water Bds., *Notification Level Issuance: perfluorooctanesulfonic acid (PFOS)* (Feb. 6, 2020), https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/pfos_and_pfoa/pfos_nl_issuance_jan2020.pdf; Cal. Health & Safety Code § 116378(c)(3).

[67] Wis. Dep't of Health Servs., *Recommended Public Health Groundwater Quality Standards: Scientific Support Documents for Cycle 10 Substances* (June 2019), https://www.dhs.wisconsin.gov/publications/p02434v.pdf. Wisconsin DHS recommends public health groundwater quality standards based on the acceptable daily intake of the substance using a scientific review process that is similar to that used by EPA to set drinking water standards. Wis. Stat. § 160.13(2).

[68] *Id.* at 169–70, 190.

proceed with establishing environmental standards for PFOA and PFOS in groundwater, surface water, and public drinking water.[69]

These states' and organizations' analyses of the concentration of PFOA and PFOS that is safe for human consumption, as well as analyses by several other states, indicate that EPA's Health Advisory Level does not adequately protect public health. The States encourage EPA to set a NPDWR and MCL for a combined concentration of PFOA and PFOS that is much lower than the current federal Health Advisory Level of 70 ppt and is appropriately protective of human health.

C. EPA should set drinking water standards for individual PFAS in addition to PFOA and PFOS and evaluate approaches to regulate PFAS as a class.

PFOA and PFOS share important characteristics with other chemicals in the PFAS class. Indeed, other PFAS have been used as replacement chemicals for PFOA and PFOS because of their shared properties.[70] In her testimony before Congress, Dr. Linda Birnbaum, the Director of the National Institute of Human Health Sciences and the National Toxicology Program of the National Institutes of Health at that time, said that the best way to protect public health was to approach PFAS as a class when assessing exposure and biological impact.[71] As mentioned above, the ATSDR established draft minimum risk levels for several individual PFAS, including PFOA, PFOS, perfluorohexanesulfonic acid (PFHxS), and perfluorononanoic acid (PFNA).[72] In addition, consensus statements signed by scientists around the world with expertise in PFAS show that there are potential harms posed by PFAS as a class, and that the adverse health effects of PFAS in drinking water are not limited to PFOA and PFOS.[73] Given that manufacturers

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[69] Wis. Dep't of Nat. Res., *Wisconsin Natural Resources Board Approves DNR Effort to Create New PFAS Standards* (Jan. 22, 2020), https://dnr.wi.gov/news/releases/article/?id=5021.

[70] U.S. Envtl. Prot. Agency, *Fact Sheet: Draft Toxicity Assessments for GenX Chemicals and PFBS* (Nov. 2018), https://www.epa.gov/sites/production/files/2018-11/documents/factsheet_pfbs-genx-toxicity_values_11.14.2018.pdf.

[71] *The Federal Role in the Toxic PFAS Chemical Crisis: Hearing Before the Subcomm. on Federal Spending Oversight and Emergency Management of the Senate Comm. on Homeland Security and Governmental Affairs* (Sept. 26, 2018), https://www.hsgac.senate.gov/imo/media/doc/Birnbaum%20Testimony.pdf.

[72] Agency for Toxic Substances & Disease Registry, U.S. Dep't of Health & Human Servs., *Minimum Risk Levels (MRLs) for Hazardous Substances* (Mar. 2020), https://www.atsdr.cdc.gov/mrls/mrllist.asp.

[73] Martin Sheringer et al., *Helsingør Statement on Poly- and Perfluorinated Alkyl Substances (PFASs)*, 114 Chemosphere 337 (2014); Arlene Blum et al., *The Madrid*

may substitute a regulated chemical with a similar, but unregulated one within the PFAS class, it is crucial that EPA expeditiously establish drinking water standards for other PFAS in addition to PFOA and PFOS, as well as evaluate approaches to regulate PFAS as a class, in order to protect public health and ensure safe drinking water.

Several states have proactively sought to protect their waters from a variety of PFAS in addition to PFOA and PFOS. The following are examples of state PFAS standards and additional state standards are provided in Appendix A. In 2018, New Jersey became the first state to promulgate a drinking water standard for any PFAS when it adopted a drinking water standard for PFNA at 13 ppt.[74] In May 2019, Vermont's state legislature called for regulation of five specific chemicals in drinking water: PFOA, PFOS, PFHxS, PFNA, and perfluoroheptanoic acid (PFHpA).[75] This year, Vermont's Agency of Natural Resources adopted an MCL of 20 ppt combined for these five PFAS.[76] In June 2019, Michigan announced it would develop regulatory drinking water standards for seven PFAS chemicals based on current science on PFAS and human health.[77] Specifically, Michigan has identified health-based values to regulate PFOA, PFOS, PFHxS, PFNA, PFHxA, perfluorobutanesulfonic acid (PFBS), and a PFOA replacement chemical known as GenX in drinking water.[78] Further, Michigan's Science Advisory Workgroup also recommended the State aim to reduce contamination of other long-chain PFAS when found at levels above 6 ppt.[79] Similarly, the Governor of Pennsylvania established a PFAS Action Team with the goal of providing every Pennsylvanian safe drinking water.[80] As part of the plan to set a maximum contaminant level for

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Statement on Poly- and Perfluoroalkyl Substances (PFASs), 123 Envtl. Health Persp. A107 (2015).

[74] N.J. Dep't of Health, *Drinking Water Facts: Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water*, https://www.nj.gov/health/ceohs/documents/pfas_drinking%20water.pdf (last updated Jan. 2020).

[75] Vt. Dep't of Envtl. Conservation, *PFAS (Per- and Polyfluoroalkyl Substances) Information Page*, https://dec.vermont.gov/water/drinking-water/pfas (last visited Apr. 15, 2020).

[76] Vermont Environmental Protection Rules, Chapter 21, Water Supply Rule (Mar. 17, 2020), https://dec.vermont.gov/sites/dec/files/dwgwp/DW/Water-Supply-Rule-March-17-2020.pdf.

[77] Mich. Dep't of Env't, Great Lakes & Energy, *Michigan moves forward on PFAS in drinking water rules* (June 27, 2019), https://www.michigan.gov/egle/0,9429,7-135-3308_3323-500772--,00.html.

[78] *Id.*

[79] *Id.*

[80] Pa. Governor Tom Wolf, *Wolf Administration Continues to Address PFAS Contamination, Announces First Round of Statewide Sampling Results*, (Dec. 5, 2019), https://www.governor.pa.gov/newsroom/wolf-administration-continues-to-address-pfas-contamination-announces-first-round-of-statewide-sampling-results/.

PFAS, in June 2019, Pennsylvania began sampling for at least six PFAS chemicals: PFOA, PFOS, PFNA, PFHxS, PFBS and PFHpA.[81] And in December 2019, Massachusetts published proposed regulatory drinking water standards for six PFAS chemicals: PFOA, PFOS, PFHxS, PFNA, PFHpA, and perfluorodecanoic acid (PFDA).[82]

The California Water Board, which established notification levels[83] and response levels[84] for PFOA and PFOS,[85] is evaluating notification and response levels for other individual PFAS, including PFHxA, PFHxS, PFBS, PFHpA, PFNA, PFDA and 4,8-dioxia-3H-perfluorononanoic acid (ADONA), a replacement for PFOA.[86] Similarly, after recommending groundwater quality standards for PFOA and PFOS, the Wisconsin DHS is evaluating groundwater enforcement standards

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[81] *Id.*

[82] Mass. Dep't of Envtl. Prot., *Proposed Amendments and Public Comment, The Massachusetts Drinking Water Regulations, 310 C.M.R. 22.00*, https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations#proposed-amendments-public-comment (last accessed Jun. 2, 2020). The need for such expansion of covered PFAS is amply supported by the data. For example, in February 2019 samples taken from public water supply wells in Ayer, Massachusetts, identified as wells Grove Pond 1, Grove Pond 6, Grove Pond 7, Grove Pond 6 and 7, and Grove Pond 8 (closed) tested for five long-chain PFAS at up to 250 ppt. *See* https://www.ayer.ma.us/sites/ayerma/files/uploads/is_ayers_water_safe.pdf (last accessed June 8, 2020).

[83] "A notification level is a nonregulatory, precautionary health-based measure for concentrations of chemicals in drinking water that warrant notification and further monitoring and assessment. Public water systems are encouraged to test their water for contaminants with notification levels. If the systems test, they are required to report exceedances to their governing boards and are urged by the State Water Board to report this information to customers." Cal. Water Bds., *Fact Sheet: Frequently Asked Questions: Drinking Water Guidelines for PFOA and PFOS* (Oct. 14, 2019), https://www.waterboards.ca.gov/publications_forms/publications/factsheets/docs/pfoa_pfos_guidelines_faq_factsheet.pdf.

[84] "A response level is a nonregulatory, precautionary health-based measure that is set higher than a notification level and represents a recommended level that water systems consider taking a water source out of service or provide treatment if that option is available to them. While the State Water Board continues to assess the scope of contamination based on initial data reporting from the statewide assessment, the response levels for PFOA and PFOS remain at 70 parts per trillion for the total combined concentration of both contaminants, consistent with the U.S. Environmental Protection Agency's Health Advisory Level. The response levels will be updated in the fall of 2019." *Id.*

[85] Cal. Water Bds., *Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS)*, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html (last updated Feb. 25, 2020).

[86] *Id.*

for 34 additional PFAS.[87]

Given the scientific evidence demonstrating the adverse health impacts of PFAS, EPA should also regulate other chemicals within the PFAS class, in addition to PFOA and PFOS, to protect human health and ensure safe drinking water. At a minimum, EPA should evaluate whether to regulate other types of PFAS under the SDWA, including individual PFAS for which sufficient toxicity and occurrence data are available or becomes available, and including either on an individual or class basis (for example, based on structural similarity), those monitored under the UCMR 3,[88] those added to the Toxics Release Inventory under the National Defense Authorization Act of 2020,[89] those listed as chemicals subject to significant new use regulations under the Toxic Substances Control Act, and those PFAS that are routinely quantifiable in drinking water using EPA-validated methods.[90]

In addition, the States request that EPA evaluate approaches to regulate PFAS as a class under the SDWA. EPA already takes a class approach to regulating polychlorinated biphenyls (PCBs) and disinfection byproducts.[91] We urge EPA to follow its own lead as reflected in a 2015 proposed rule, in which EPA included all members of a group of chemical substances containing "PFOA and its higher homologues," which is a subclass of PFAS.[92] Regulating PFAS as a class would protect human health more efficiently and effectively than regulating individual PFAS. Because polyfluoroalkyl substances are known, or are theoretically able, to break down to perfluoroalkyl substances, EPA must also regulate these precursors in order to effectively regulate the concentrations of PFOA and PFOS in drinking

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[87] Wis. Dep't of Natural Res., *Wisconsin Natural Resources Board Approves DNR Effort to Create New PFAS Standards* (Jan. 22, 2020), https://dnr.wi.gov/news/releases/article/?id=5021.

[88] Data collected for PFNA, PFHxS, PFHpA, and PFBS under the UCMR 3 could substantiate preliminary determinations to regulate those chemicals. (*Third Unregulated Contaminant Monitoring Rule*, United States Environmental Protection Agency, https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule (last visited Apr. 22, 2020); See Appendix A.)

[89] U.S. Envtl. Prot. Agency, *Chemicals Added to the Toxics Release Inventory Pursuant to Section 7321 of the National Defense Authorization Act*, https://www.epa.gov/sites/production/files/2020-04/documents/tri_non-cbi_pfas_list_2_19_2020_final_clean.pdf.

[90] 40 CFR Part 721 and Subpart E and 85 Fed. Reg. 12479 (March 3, 2020) (proposed rule).

[91] U.S. Envtl. Prot. Agency, *National Primary Drinking Water Regulations,* https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations (last updated Feb. 14, 2020).

[92] U.S. Envtl. Prot. Agency, *Long-Chain Perfluoroalkyl Carboxylate and Perfluoroalkyl Sulfonate Chemical Substances; Significant New Use Rule*, https://www.federalregister.gov/documents/2015/01/21/2015-00636/long-chain-perfluoroalkyl-carboxylate-and-perfluoroalkyl-sulfonate-chemical-substances-significant.

water. A class-based approach would also be more effective than regulating PFAS chemicals individually because it would prevent manufacturers from simply replacing each regulated PFAS chemical with one of the thousands of unregulated PFAS chemicals that have similar harmful qualities or may transform into regulated PFAS chemicals.[93]

D. Expeditious promulgation of final drinking water standards for PFAS is necessary to protect public health.

The States strongly urge EPA to exercise its authority under the SDWA to publish proposed maximum contaminant level goals and proposed national primary drinking water regulations for PFOA and PFOS concurrently with its final determination to regulate the contaminants. Expediting the development of final drinking water standards for PFOA and PFOS is necessary to protect public health, due to the bio-accumulative and persistent nature of the contaminants and their widespread presence in public drinking water systems. Furthermore, EPA has already gathered and analyzed sufficient data regarding the characteristics of the contaminants, the risks that they pose to human health, and the extent of their occurrence in public drinking water systems to support the expedited promulgation of national primary drinking water regulations for PFOA and PFOS.

The SDWA sets time limits for promulgating these standards. Pursuant to the SDWA, within 24 months of publishing a final determination to regulate PFOA and PFOS, EPA must issue proposed rules establishing maximum contaminant level goals and national primary drinking water standards for the contaminants.[94] After EPA makes these proposals, it has an additional 18 months to publish a final maximum contaminant level goal and a national primary drinking water regulation.[95] In addition, as repeatedly noted in the Preliminary Regulatory Determination, EPA may further extend this deadline by up to nine months.[96] As a result, once EPA makes a final determination to regulate PFOA and PFOS, EPA could take an additional 4.25 years to promulgate legally enforceable drinking water standards designed to limit PFOA and PFOS contamination in public water systems.[97] However, under the SDWA, EPA is authorized to publish a proposed

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[93] Several thousands of PFAS are known to exist. *See* Concawe, *supra* at 10. Given the sheer quantity of PFAS chemicals, it would be impracticable to regulate each individually.

[94] SDWA § 1412(b)(1)(E); 42 U.S.C. § 300g-1(b)(1)(E).

[95] SDWA § 1412(b)(1)(E); 42 U.S.C. § 300g-1(b)(1)(E).

[96] SDWA § 1412(b)(1)(E); 42 U.S.C. § 300g-1(b)(1)(E); *see also* Preliminary Determination, 85 Fed. Reg. at 14,100 n.3, 14,107 n.18, 14,135.

[97] Preliminary Determination, 85 Fed. Reg. at 14,135 (according to the Preliminary Determination, if EPA makes a final determination to regulate PFOS or PFOA, it "intends

maximum contaminant level goal and a proposed national primary drinking water regulation concurrently with its final determination to regulate.[98] We therefore urge EPA to act expeditiously in finalizing these standards.

The SDWA's requirement limiting the time period between a final determination to regulate and the promulgation of a national primary drinking water standard is intended to expedite the regulatory process to the extent practicable, while allowing EPA to collect necessary data and conduct analysis regarding the adverse effects of the contaminant on human health, the frequency of the contaminant's occurrence in public water systems at levels of public health concern, and whether regulation of the contaminant presents a meaningful opportunity for health risk reduction.[99] As the Preliminary Determination acknowledges, PFOA and PFOS have been widely studied and the scientific research on PFOA and PFOS is already well-developed.[100]

The urgency of promulgating standards is amply supported by existing data that show extensive PFOA and PFOS contamination in public drinking water systems across the country.[101] This contamination is especially concerning because "PFOS and PFOA are resistant to environmental degradation processes such as hydrolysis, photolysis, and biodegradation and are thus highly persistent in the environment."[102] As a result, without treatment, PFOA and PFOS contamination will continue to worsen and will persist in drinking water sources indefinitely. Due to the harmful effects of PFOA and PFOS in drinking water, swift promulgation of stringent final drinking water standards is crucial to enable EPA to take effective regulatory enforcement actions to address PFAS contamination.

As discussed above, the deadlines set forth in the SDWA allow for an additional 4.25-year delay in the promulgation of national primary drinking water regulations for PFOA and PFOS. Such delay is unnecessary, would needlessly increase the public health risk that these contaminants pose, and would ultimately require more costly and extensive treatment. Accordingly, the States urge EPA to

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to propose an NPDWR within 24 months and promulgate a final NPDWR within 18 months following the proposal," with the possibility of an additional nine-month extension).

[98] SDWA § 1412(b)(1)(E); 42 U.S.C. § 300g-1(b)(1)(E).

[99] The SDWA was amended to include these deadlines in 1986 in order to expedite the standard-setting process). 132 Cong. Rec. S6284-02, 1986 WL 793998 (May 21, 1986) (statement of Rep. Durenberger). "The development of the CCL, regulatory determinations, and any subsequent rulemaking should be viewed as a progression where each process builds upon the previous process, including the collection of data and analyses conducted." Preliminary Determination, 85 Fed. Reg. at 14,100.

[100] *Id.* at 14,115.

[101] *See, e.g., id.* at 14,118.

[102] *Id.* at 14,119.

publish proposed maximum contaminant level goals and national primary drinking water standards for PFOA and PFOS concurrently with its final determination to regulate, and to issue final drinking water standards for the contaminants as expeditiously as practicable, but no later than 18 months from the time the final determination to regulate is made.

In addition, the States request that EPA include chemicals in the PFAS class, other than PFOA and PFOS, on the Contaminant Candidate List 5 ("CCL 5") and the Contaminant Candidate List 6 ("CCL 6"). For example and as discussed above, several states, ATSDR, and EFSA have concluded that other long-chain PFAS including PFNA and PFHxS pose similar risks to human health as PFOA and PFOS when present at equal concentrations. Additionally, because chemicals in the PFAS class share similar characteristics, manufacturers may easily substitute PFOA and PFOS with other chemicals in the PFAS class. However, these replacement chemicals, and many other PFAS, have been shown to pose similar risks to human health as PFOA and PFOS and some are known to break down or transform into PFOA and PFOS.[103] As a result, it is crucial that EPA expeditiously promulgate drinking water standards for other chemicals in the PFAS class in addition to PFOA and PFOS in order to protect public health. Including these chemicals on the CCL 5 and CCL 6 is the first step in this process.[104]

E. Conclusion

The States appreciate the opportunity to comment on EPA's Preliminary Determination to regulate PFOA and PFOS under the SDWA. We agree with EPA's Preliminary Determination to regulate PFOA and PFOS. We respectfully request that EPA promulgate a drinking water standard for PFOA and PFOS that

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[103] Martin Sheringer et al., *Helsingør Statement on Poly- and Perfluorinated Alkyl Substances (PFASs)*, 114 CHEMOSPHERE 337 (2014); Arlene Blum et al., *The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs)*, 123 ENVTL. HEALTH PERSP. A107 (2015); Buck et al., *Perfluoroalkyl and polyfluoroalkyl substances in the environment: terminology, classification, and origins*, INTEGRATED ENVTL. ASSESSMENT AND MGMT. 7 (4), 513–541 (2011), https://www.ncbi.nlm.nih.gov/pubmed/21793199; Concawe, *Environmental Fate and Effects of Poly- and Perfluoroalkyl Substances (PFAS)*, Report No. 8/16 - Environmental Science for the European Refining Industry (2016), https://www.concawe.eu/wp-content/uploads/2016/06/Rpt_16-8.pdf.

[104] Although EPA has not yet announced the Final CCL 5, the deadline for nominations, December 4, 2018, has passed. (*Contaminant Candidate List 5 (CCL 5)*, United States Environmental Protection Agency, https://www.epa.gov/ccl/contaminant-candidate-list-5-ccl-5 (last visited Apr. 22, 2020).) The States therefore encourage EPA to include on the CCL 5 all chemicals in the PFAS class that were nominated for consideration. The States further encourage EPA to consider the inclusion of additional chemicals in the PFAS class on the CCL 6.

sufficiently protects public health, consider regulation of PFAS as a class and other individual PFAS under the SDWA, and expedite issuance of final drinking water standards.

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