Emerging contaminants, particularly perfluorinated compounds, are increasingly found in drinking water throughout the country. Regulatory uncertainty facing drinking water suppliers and consumers is slowly forcing legislators, regulators, and private plaintiffs to act. While there has been limited movement at the federal level, and states have not yet developed comprehensive regulatory schemes for perfluorinated compounds, the landscape is changing quickly as the public demands drinking water free of these compounds. Recent developments are in part clarifying, as states are developing drinking water and cleanup standards that facilitate cleanup of these contaminants, and in part confusing, as jurisdictions are reacting differently and the federal government has not established uniform standards.

Perfluorinated Compounds Overview

Perfluorinated compounds (PFASs) are a generic term for a family of perfluoroalkyl acids (PFAAs), synthetic chemicals that have many useful properties, including fire resistance and oil, stain, grease, and water repellency. The two most widely known PFASs are perfluorooctanoic acid (PFOA) and perfluorooctane sulfate (PFOS). PFASs are, or have been, found in firefighting foams, wire insulation, cleaners, textiles, apparel, carpet, leather, paper, and paints. While many of these chemicals have been in use since the mid-20th century, increased detection ability and awareness has recently confirmed their ubiquitous presence in our environment. Because of their widespread use and persistence (i.e., they degrade slowly), PFASs are now found worldwide in the environment, wildlife, and humans, which may be harmful to the environment and human health. For example, studies have shown that exposure to PFASs, specifically PFOA and PFOS, is associated with developmental effects to fetuses and infants, cancer, and impacts to the liver, thyroid, immune system, and cholesterol changes.

Evolving Regulatory Landscape

PFASs are classified as emerging contaminants at both the federal and state level. This means that they pose a perceived, potential, or real threat to human health but generally lack binding environmental and health standards. Both federal and state agencies have determined that PFASs are a known environmental and health risk and have taken a range of steps to begin regulating PFASs.

Federal Action

The U.S. Environmental Protection Agency (EPA) has established non-binding drinking water health advisories for PFOA and PFOS, setting the advisory level at 70 parts per trillion. The EPA has not yet listed any PFASs as hazardous under relevant regulatory schemes or taken any other...
direct action setting mandatory regulations for PFAS chemicals. However, the U.S. Food and Drug Administration has banned three perfluorinated compounds from use in food packaging. Previously, the FDA had allowed the use of these chemicals as oil and water repellents in paper food packaging, but as of January 2016, their use in such applications is prohibited.[2]

Despite the lack of comprehensive action by EPA and other federal agencies, members of Congress from districts impacted by PFAS contamination are seeking to secure funding for drinking water treatment, PFAS cleanup, exposure assessment, and health impact research. One proposed amendment to the National Defense Authorization Act (NDAA) would also set maximum contaminant levels for PFAS chemicals. As of August 2017, the House of Representatives had passed versions of the NDAA and a 2018 spending packaging that includes provisions relating to PFAS, including funding for Navy and Air Force environmental cleanup and a health impact study of PFOA and PFOS.[3] These Congressional actions are not final, but it is likely that some provisions impacting the funding or study of PFAS chemicals will be included in a final defense or appropriations bill in 2017.

State Developments

California

In September 2016, the California Office of Environmental Health Hazard Assessment (OEHHA) issued a notice of intent to list PFOA and PFOS as known to cause reproductive toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986 (otherwise known as Proposition 65).[4] OEHHA based its decision on the EPA’s Drinking Water Health Advisories for the chemicals. OEHHA has not yet finalized the listing; however, action on the listing is due by November 16, 2017. [5] A year after the final listing, businesses will be required to provide a "clear and reasonable" warning before knowingly and intentionally exposing anyone to a listed chemical, unless the business can show that the anticipated exposure level will not pose a significant risk of cancer or is significantly below levels observed to cause birth defects or other reproductive harm.[6] This warning can be given in several ways, including labeling a consumer product, posting signs at a workplace, or publishing notices in a newspaper.[7] Proposition 65 also prohibits companies that do business within California from knowingly discharging listed chemicals into sources of drinking water.[8] Once a chemical is listed, businesses have 20 months to comply with the discharge prohibition.[9]

OEHHA’s listing of PFOA and PFOS will significantly impact the management of these chemicals in California. First, it obligates manufacturers and retailers of products containing perfluorinated compounds to disclose the chemical’s presence. This will further raise awareness of the chemical throughout the state (and indirectly throughout the nation). In addition, current or former manufacturing facilities using PFOA or PFOS must examine their waste streams to ensure they comply with the discharge prohibition. While California’s action here does not create cleanup standards, it is a large first step in the state’s regulation of these chemicals.

Connecticut

In November 2016, the Connecticut Department of Public Health established an “action level” for perfluorinated alkyl substances in drinking water. The action level is 0.07 µg/L for the sum of five perfluorinated compounds: PFOS, PFOA, PFNA, PFHxS, and PFHpA.[10] This regulatory step is unique in that it encompasses five perfluorinated compounds instead of the two most common PFOA and PFOS. However, this action level is not a binding standard for water
suppliers. Instead, detections above the action level result in a “do not drink” recommendation, followed by an investigation and individual well treatment.\[11\]

**Maine**

In December 2016, the Maine Center for Disease Control and Prevention adopted the EPA drinking water health advisory levels for PFOA and PFOS as Maximum Exposure Guidelines (MEGs).\[12\] Like EPA’s health advisories, MEGs are guidelines meant to assist risk managers, homeowners, and others in making decisions about whether water with certain levels of contaminants is safe to drink. The legislation does not establish legally enforceable drinking water standards.

**Massachusetts**

In January 2017, Massachusetts released a draft fact sheet titled “Guidance on Sampling and Analysis for PFAS at Disposal Sites Regulated under the Massachusetts Contingency Plan.”\[13\] While this fact sheet does not establish binding cleanup standards, it notes that the Massachusetts Department of Environmental Protection considers PFAS chemicals to be hazardous materials under Massachusetts law and that PFASs must be addressed at cleanup sites where they are possible contaminants of concern.

**Michigan**

In January 2017, Michigan’s governor signed Public Act No. 545, which is targeted at holding the federal and state government responsible for legacy drinking water contamination.\[14\] The bill was drafted in response to the PFAS contamination discovered near Wurtsmith Air Force Base in Oscoda, Michigan.\[15\] Public Act No. 545 amended Michigan’s Safe Drinking Water Act to require the state or federal government, when it owns or owned real property where a “substance of concern” was used, to provide an alternative water supply to users of a water source impacted by that substance. In addition, the law requires the government to conduct long-term monitoring to track the substance’s migration; provide an alternative water supply to the users of additional impacted water sources identified by the monitoring; and reimburse a state agency or political subdivision that has provided an alternative water supply to users of an impacted water source.

Currently the Air Force is not complying with Public Act No. 545, claiming sovereign immunity.\[16\] The Air Force claims that although Congress has waived sovereign immunity under the Comprehensive Environmental Response, Compensation and Liability Act and the Safe Drinking Water Act, the state or local law must apply equally to all people and entities.\[17\] Since Public Act No. 545 only applies to federal and state governments, the Air Force claims sovereign immunity has not been waived and it is not required to comply.\[18\] Even if the Air Force’s claims of sovereign immunity are correct, this law could still have implication for state agencies and shows a trend of state concern for PFAS contamination near military installations.

**Minnesota**

The Minnesota Department of Health (MDOH) recently released guidance values of 35 parts per trillion for PFOA and 27 parts per trillion for PFOS in drinking water. These values are lower than the EPA value of 70 parts per trillion, relying on new state-level analysis of the potential for
mothers to pass along the chemicals to fetuses and nursing infants.[19] In addition, MDOH has conducted long-term biomonitoring for PFAS chemicals in areas where these chemicals were discovered in the mid-2000s.[20] The state is also actively investigating sites where PFAS contamination is likely, such as manufacturing and waste disposal facilities, fire training facilities, chrome plating plants, and waste water treatment plants and is conducting ambient monitoring to detect PFAS chemicals in the general environment.[21] Minnesota’s approach is more comprehensive than other state action; however, it does not provide binding drinking water or cleanup standards.

**New Jersey**

In March 2017, the New Jersey Drinking Water Quality Institute unanimously approved a maximum contaminant level for PFOA in drinking water of .014 parts per billion limit.[22] This limit is lower (i.e. more protective) than EPA’s health advisories but is not yet binding, as New Jersey Department of Environmental Protection has not approved it.

**New York**

New York has taken significant action to regulate PFAS chemicals. Effective March 3, 2017, New York has finalized rulemaking that lists PFOA and PFOS as hazardous substances, requires the proper storage of these substances, limits releases to the environment, and enables the state to use its legal authority and funds to investigate and clean up impacted sites.[23] In addition to listing PFOA and PFOS as hazardous, these regulations also prohibited the use of firefighting foam containing PFOA or PFOS after April 25, 2017. New York has already used these regulations to issue at least three consent orders relating to the investigation and cleanup of PFOA.[24] In addition to regulating the cleanup of PFAS chemicals, the New York legislature recently considered, but ultimately failed to pass, two pieces of legislation that would prohibit the sale of pet products and children’s products containing PFOS.[25] New York’s regulation of perfluorinated chemicals is among the most comprehensive in the country and is a model for other states considering regulating both the cleanup and the source of these contaminants.

**Pennsylvania**

The Pennsylvania House of Representatives is considering a bill that would add perfluorinated chemicals to the commonwealth’s definition of “hazardous substance.” Pennsylvania House Bill 1398 would add “any element, compound or material which is...[a] polyfluoroalkyl substance or perfluorinated chemical, including, but not limited to, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA)” to the definition of “hazardous substance” in Pennsylvania’s Hazardous Site Cleanup Act, the commonwealth’s CERCLA-equivalent clean up law. The bill would also direct the Department of Environmental Protection to determine whether a chemical should be designated as a hazardous substance within twelve months of the establishment of a maximum contaminant level, health advisory level, or provisional health advisory under the Pennsylvania Safe Drinking Water Act or a similar federal law. This proposed law is unique in that it anticipates future emerging contaminants and provides a mechanism for forcing regulatory action when new chemicals become an issue.

Meanwhile, in May 2017, Delaware Riverkeeper petitioned the Pennsylvania Environmental Quality Board (Board) to set a maximum contaminant level for PFOA at 6 parts per trillion, far lower than EPA’s health advisory of 70 parts per trillion. On August 15, 2017, the Board unanimously accepted Riverkeeper’s petition to investigate setting a maximum contaminant
limit for PFOA, the Board’s first such decision in its more than 40-year history.[26]

Rhode Island

Rhode Island recently announced it would be testing for PFAS in more than 30 water systems across the state, focusing on systems serving less than 10,000 people.[27] This is a unique step, as testing of public drinking water systems thus far has focused on large systems, and testing smaller systems may reveal many more communities impacted by PFAS-contaminated drinking water.

Vermont

Like New York, Vermont has taken several notable steps in regulating perfluorinated compounds. Vermont has established an advisory level for PFOA in drinking water at 20 parts per trillion, lower than the U.S. EPA health advisory level.[28] Vermont has also added liquid wastes containing PFOA or PFOS in concentrations greater than 20 parts per trillion to its list of hazardous wastes,[29] and the state has also finalized primary groundwater quality standards for PFOA and PFOS, at 0.02 micrograms per liter.[30] The Vermont General Assembly has recently considered legislation that would further regulate these chemicals. The Vermont Senate in 2017, passed S.103 which would have established an interagency committee on chemical management. The Committee would have evaluated chemical inventories in Vermont on an annual basis; identified potential risks to human health and the environment from chemical inventories in Vermont; and proposed measures or mechanisms to address the identified risks from chemical inventories in Vermont. The bill would have also required water quality testing for new groundwater wells used as potable water supplies. The bill ultimately failed to pass both chambers during the 2017 legislative session.

Washington

Beginning in 2016, the Washington State Departments of Ecology and Health have been developing a Chemical Action Plan (CAP) for PFASs. A CAP generally includes analyzing the chemistry, sources, health effects, and environmental data of the chemical at issue, as well as a regulatory and economic analysis coupled with recommendations.[31] The PFAS CAP was on hold nearly since its initiation in early 2016; however, in August 2017 the process was reinstated. Draft chapters of the CAP report are now available,[32] with research recommendations released in December 2017 and an interim CAP released in June 2018. While the CAP process is important, it will not necessarily result in a substantive rule or policy change, and the process is slow-moving.

Apart from the CAP, Washington agencies and legislators are considering other actions. After the discovery of PFAS contamination in at least three separate drinking water systems in Washington, the Department of Ecology is considering recognizing PFOS and PFOA as hazardous under the state’s cleanup law. This would give critical guidance to those cleaning up PFAS contamination on cleanup necessity and ultimate sufficiency. The Department of Health also plans to fund up to 500 PFAS samples for known at-risk public drinking water systems, seeking greater distribution of drinking water quality data across the state.[33]

In addition to taking steps to address PFASs already in drinking water and groundwater, Washington is working toward regulating perfluorinated compounds in consumer products. Washington’s Children’s Safe Products Reporting Rule requires manufacturers to annually
report to Ecology the presence of Chemicals of High Concern to Children (CHCCs) in children’s products offered for sale in Washington. The rule already classifies PFOS as a CHCC.[34] Ecology is now proposing to add PFOA to the list.[35] Finally, the Washington legislature recently considered but ultimately failed to pass a bill banning the sale and distribution of food packaging to which PFAS chemicals have been intentionally added in any amount.[36]

Litigation In Lieu of Regulation

As concerns grow about the health impacts of PFAS and regulation lags behind, those affected by the contamination seek to recover damages through litigation. Several lawsuits against polluters are underway, including personal injury class actions brought by those who consumed contaminated drinking water against manufacturers who used PFAS compounds in New York, West Virginia, Alabama, Vermont, New Hampshire, and New Jersey.[37] In addition to personal injury suits, several public water providers have sued manufacturing facilities contaminating their water supplies with PFAS chemicals.[38] At least one non-profit organization has sued a manufacturer claiming “imminent and substantial endangerment to health or the environment” under the Resource Conservation and Recovery Act.[39]

In addition to seeking relief from manufacturers that used PFAS chemicals, some impacted by PFAS contamination are suing the Navy for contamination at its installations. Some plaintiffs are seeking blood tests, health effects studies, and medical monitoring.[40] Others are seeking reimbursement for decreased property values due to drinking water contamination throughout the community.[41]

Other plaintiffs are focusing on aqueous film forming foam (AFFF) used to fight large fires. A Massachusetts town has reached a settlement in a lawsuit against a local fire training academy for PFAS contamination of drinking water.[42] New York residents impacted by PFAS contamination resulting from airport operations are suing manufacturers of AFFF.[43]

While these lawsuits may provide an avenue of recovery for some parties, ultimately, they do not provide a regulatory structure or the certainty that comes with clear, binding regulations.

Looking Ahead

A desire for more data analyzing the health and environmental impacts from PFAS chemicals has led to uncertainty about regulating PFAS chemicals. Even though studies indicate that PFAS chemicals are harmful, some regulators do not feel comfortable relying on the science conducted thus far to establish binding standards. This may change soon, as the public outcry about perfluorinated chemicals is leading to further research to clarify the sources, and health and environmental impacts of PFASs. For example, the University of Rhode Island and Harvard University recently announced a five-year, $8 million grant from the National Institute of Environmental Health Sciences to establish a center focused on gaining a better understanding of how PFAS chemicals make their way into water, through the food chain, and affect people and animals.[44]

Even if federal and state governments regulate PFOA and PFOS in consumer products, drinking water, groundwater, and soil, questions regarding perfluorinated compounds and other emerging contaminants are far from settled. For example, public concern about GenX, a DuPont replacement for PFOA, has recently emerged. Levels of GenX in the drinking water of one North Carolina water utility averaged 631 parts per trillion according to a study published in Environmental Science & Technology Letters in 2016.[45] Federal and state action on PFOA and
PFOS is far from complete, and agencies have not begun to grapple with the potential environmental and health impacts of this wide swath of unregulated chemicals in drinking water. Regulators must not only consider PFOA and PFOS but must think about chemicals not yet known to the public or not previously detected in our environment.

For more information, please contact Jeff Kray, Sarah Wightman, or one of the other attorneys in the Firm’s Water Quality, Water Resources, or Waste Cleanup practice groups.

[1] For more information about perfluorinated compounds, see our prior piece in this newsletter: Emerging Contaminants Cause Regulatory Uncertainty for Water Suppliers and Landowners. This article builds on and updates that article.


[16] Id.

[17] Id.

[18] Id.


[25] S1454; A7739.


[29] VHWMR § 7-211.
[30] Vermont Groundwater Protection Rule and Strategy, Appendix 1, Table 1.


[34] WAC 173-334-130.


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