



ADG Insights

PFAS contamination: An emerging threat and liability¹

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Introduction

Companies operating in the aerospace, defense, and government services (ADG) industry are increasingly being impacted by regulatory scrutiny of a group of man-made materials called per- and poly-fluorinated alkylated substances (PFAS). Beginning in the 1970s, PFAS were widely used in firefighting foam at military bases, airports, and large industrial facilities. These facilities are therefore especially susceptible to PFAS contamination. ADG companies that have historically used PFAS, including in firefighting operations, may be responsible for environmental clean-up of military sites and may be susceptible to other PFAS-related liabilities that we discuss further below.

The impact of PFAS on human health and the environment is currently not well understood, but some scientists have identified these chemicals as suspect carcinogens and some studies link them to reproductive disorders. Alleged health impacts caused by PFAS have been prominently featured in the news media. Recent attention on these "emerging contaminants" has focused public attention on the widespread presence of these contaminants in the environment and in drinking water sources in the United States and internationally.

In February 2019 the Environmental Protection Agency (EPA) published a PFAS action plan² that outlines the steps the agency is taking toward establishing a comprehensive regulatory regime to address PFAS. Several states also have undertaken measures to regulate these chemicals. Below, we provide a brief overview of these chemicals and their potential impacts on human health and the environment, summarize current and proposed regulation of PFAS, and advise ADG companies on several actions they can take to address the potential liabilities associated with PFAS.

PFAS: What are they?

PFAS are chemicals that are widely used in industrial and consumer products including in firefighting foam, water-resistant and nonstick fabrics and materials such as waterproof clothing, Teflon products, and other household products such as stain-resistant carpets. U.S. manufacturers began to phase out PFAS production of certain so-called "long-chain" PFAS in 2002. EPA subsequently led a voluntary phaseout of "long-chain" PFAS that was completed in 2015.³ PFAS are still used internationally, however, and companies in the United States regularly import products containing PFAS.⁴

There are hundreds of chemicals that are classified as PFAS including perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), and others.⁵ If released into the environment, PFAS can seep into the groundwater and impact drinking water sources. Consumption of contaminated drinking water and contaminated fish and vegetables are the primary ways by which humans are exposed to PFAS. PFAS are persistent in the environment (i.e., they do not readily degrade)⁶, may bio-accumulate in blood of humans and animals, and have been linked to adverse human health effects by some studies.⁷

PFAS are considered so-called "emerging contaminants" because (1) their impacts on human health and the environment are not fully understood, (2) some scientists suspect that they can have significant human health impacts, and (3) there is no comprehensive regulatory regime regulating them. EPA has set a health advisory of 70 parts-per-trillion (ppt) for exposure to certain types of PFAS, but it has not established an enforceable drinking water standard under the Safe Drinking Water Act and has not yet adopted federal cleanup standards for soil or groundwater.

Four percent of public drinking water systems contain some level of PFAS, and 1.3 percent of public drinking water systems contain PFAS above EPA's current health advisory limit.⁸ This means that millions of people are consuming drinking water that contains PFAS.

While treatment technologies exist, they are complicated and expensive.⁹ There is no proven in-situ method of treatment, although EPA has indicated that it is experimenting with some methods.¹⁰ The current treatment methods mostly consist of pumping contaminated groundwater and treating it using activated-carbon treatment systems.¹¹

PFAS impact in the aerospace, defense, and government services industry sector

Installations such as military bases, airports, fire stations, and refineries are potentially significant sources of PFAS contamination as a result of the use of aqueous film-forming foam (AFFF) for fire suppression at these sites. AFFF has been widely used since the 1970s, but restrictions regarding PFAS used in AFFF did not begin to develop until the early 2000s. Approximately 75 percent of the AFFF produced is used by the military and the remaining 25 percent is used by oil refineries, municipal airports, fire stations, and storage tank farms.¹²

In March 2018 the U.S. Department of Defense (DoD) released a study on the impact of PFAS on drinking water systems operated by DoD.¹³ The study indicated that 24 drinking water systems where DoD is the supplier of drinking water had levels of PFAS above EPA's health advisory limit of 70 ppt.¹⁴ DoD indicated that it was following EPA's recommendations at these sites, including taking wells offline and providing alternative drinking water in response to the findings.¹⁵ DoD also indicated that it was working with communities and individuals to test private drinking water wells that could be affected by the spread of PFAS contamination off-base. As of August 2017 DoD had tested almost 2,500 off-base public and private drinking water systems and 564 of those tested above EPA's health advisory limit.¹⁶ For instance, at the Peterson Air Force Base in Colorado Springs, DoD recently indicated that it found PFAS contamination in groundwater at levels as high as 88,000 ppt - more than 1,000 times EPA's health advisory limit.¹⁷

Historically, site investigations at contaminated sites or potentially contaminated sites did not include testing for PFAS chemicals. This was due in part to the fact that these chemicals are not detectable using conventional analytical tools.¹⁸ In addition, the potential health impacts from these chemicals were not identified until the 1990s.¹⁹ As a result, historically, environmental cleanups at contaminated facilities did not address PFAS impacts to soil or groundwater. This has changed as a result of recent media and regulatory attention on these chemicals throughout the country, including at DoD installations, as well as more and more studies that have linked these chemicals to significant human health concerns.

Current federal regulatory regime governing PFAS

Two federal laws touch on PFAS: the Safe Drinking Water Act and the Toxic Substances Control Act. However, neither currently imposes enforceable standards that allow regulators to order remediation of PFAS contamination.

Safe Drinking Water Act (SDWA)

The SDWA, 42 U.S.C. §§ 300f et seq., governs public drinking water systems, and it authorizes EPA to set maximum contaminant levels (MCLs), which are enforceable standards for contaminants in drinking water. EPA has not set an MCL for PFAS, but in 2009, it established a provisional health advisory for two types of PFAS chemicals – PFOS at 200 ppt and PFOA at 400 ppt under the SDWA.²⁰ In 2016 EPA revised its health advisory for PFOS and PFOA and issued a lifetime health advisory for PFOS and PFOA at 70 ppt.²¹ Several states have adopted EPA's health advisory limit as a guideline for state action to address PFAS. We discuss state regulation further below.

Toxic Substances Control Act (TSCA)

Under TSCA, 15 U.S.C. §§ 2601 et seq., Congress authorized EPA to publish Significant New Use Rules (SNURs) that require companies to notify EPA before chemical substances or mixtures are used in ways that may be a concern.²² This process provides EPA with an opportunity to conduct a risk assessment on chemicals and impose restrictions on their use. In 2002 EPA published SNURs for 75 chemicals that were specially included in a voluntary PFAS phaseout instituted by industry.²³ Since 2006 EPA has reviewed 294 PFAS and has regulated 191 PFAS through a combination of orders and SNURs.²⁴

Planned federal regulation and standards

On February 14, 2019, EPA released its PFAS action plan that provides additional details regarding EPA's May 2018 announcement. The plan identifies the following priority actions that EPA intends to take:

- **MCLs.** Develop an MCL for PFOA and PFOS in 2019. The agency is also gathering information to determine whether to regulate a broader set of PFAS. Because an MCL is an enforceable drinking water standard, adopting an MCL would allow EPA to require drinking water purveyors to meet that standard. Importantly, MCLs apply not only to water utilities but to any company that acts as a "public water system" by providing water to at least 15 service connections or serving at least 25 people for at least 60 days a year.²⁵
- **Cleanup standards.** EPA has initiated the process of listing PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 et seq. EPA also indicated that it anticipates developing interim cleanup recommendations to address groundwater contamination

in 2019. Designating PFAS as "hazardous substances" under CERCLA and establishing groundwater cleanup levels would allow EPA to hold entities that release PFAS into the environment liable for cleanup costs and require entities undertaking environmental remediation to clean up groundwater to the standard that EPA develops.

- **Toxicity assessments.** Finalize draft toxicity assessments for GenX and perfluorobutanesulfonic acid (PFBS) in 2019 and develop additional PFAS toxicity values for pentafluorobenzoic acid (PFBA), perfluorohexanoic acid (PFHxA), perfluorohexanesulphonic acid (PFHxS), perfluorononanoic acid (PFNA), and perfluorodecanoic acid (PFDA) in 2020.
- **TSCA.** Review new PFAS and issue supplemental proposed SNURs. This process was initiated in 2016 and is ongoing.
- **Research.** Develop new analytical methods and tools for understanding and managing PFAS risk.
- **Enforcement.** Support communities that have PFAS releases by using federal enforcement authorities where appropriate.

Pursuant to the action plan, on April 25, 2019, EPA published interim cleanup recommendations to address PFOA and PFAS contamination in groundwater, proposing a screening level of 40 ppt, at which a broader investigation would be triggered, and recommending a groundwater cleanup level target of 70 ppt where no state or tribal MCL exists.²⁶ EPA is accepting comments on these recommendations through June 10, 2019. Critics are already contending that EPA proposed a weaker standard than originally anticipated in response to pressure from DoD.²⁷

State regulation

In the absence of a comprehensive federal regulatory regime governing PFAS, states have begun to regulate PFAS at the state level. The types of regulations and the standards set vary greatly by state. Below we provide a summary of some of the key state initiatives under way.

New Jersey

New Jersey is the only state that has developed an enforceable drinking water standard for PFNA, at 13 ppt.²⁸ In addition, on April 1, 2019, the New Jersey Department of Environmental Protection proposed drinking water standards for PFOA and PFOS of 14 ppt and 13 ppt, respectively.²⁹ These same levels in groundwater would trigger cleanup requirements.³⁰ The proposed standards are subject to a 60-day public comment period.³¹





New York

In 2016 New York designated PFAS chemicals as "hazardous substances" under state law.³² Hazardous substances are subject to a wide array of requirements, including proper handling and storage, release reporting, and remediation standards. The regulations also allow the New York State Department of Environmental Conservation (DEC) to use the State Superfund Program to conduct investigations and cleanups of impacted sites.

In addition, in April 2017 Governor Cuomo signed the Clean Water Infrastructure Act of 2017.³³ Among the act's provisions is a directive that requires DEC, along with the Department of Health, to evaluate over 1,750 inactive solid waste sites around the state to identify potential impacts from PFAS. DEC is already requiring all facilities undergoing cleanup through the state Brownfield Cleanup Program to sample sites for PFAS.

California

California has added PFAS to its Proposition 65 list, which imposes certain labeling requirements on companies that use PFAS in their products.

The state also has established nonbinding health advisory limits for PFAS in drinking water. It established a "notification level" for PFOS at 13 ppt and for PFOA at 14 ppt.³⁵ While this regulation does not require water suppliers to test their water supplies for PFAS, if they do test for these contaminants, they must notify the California State Water Resources Control Board if the contaminants exceed these notification levels.³⁶ The state has established a response level of 70 ppt, at which point the state recommends, but does not require, that the supplier remove the water source from service or provide treatment.³⁷

In addition, the California Department of Toxic Substances Control has proposed to list PFAS-containing carpets and rugs as priority products under the state Safer Consumer Products program.³⁸ If finalized, the rule would require manufacturers to evaluate alternative chemicals for use in stain-resistant carpets and rugs.³⁹

Minnesota

Minnesota was one of the first states to face the PFAS issue as a result of PFAS contamination stemming from manufacturing operations at a facility outside of Minneapolis. The state began investigating PFAS contamination in 2002.⁴⁰ It initially set health-based values for certain PFAS in 2002 and revised those standards in 2017. The current standards are 35 ppt for PFOA and 27 ppt for PFOS.⁴¹ Notably, the health-based values are not enforceable drinking water standards, but rather, similar to EPA's health advisory limit, serve as a guide for state agencies to address PFAS contamination in drinking water.

Other state requirements

Other states also have issued standards related to PFAS. While most of the standards are unenforceable guidelines, a few other states, namely Vermont and New Hampshire, have issued or proposed enforceable groundwater or drinking water standards.

Summary of State PFAS Standards			
Connecticut	Sum of PFOA and PFOS	70 ppt	Recommended action level
Maine	Sum of PFOA and PFOS	70 ppt	Maximum exposure guideline
Massachusetts	Sum of PFOA, PFOS, PFNA, PFHxS, PFHpA	70 ppt	Office of Research and Standards Guideline
Minnesota	PFOA PFOS PFHxS	35 ppt 27 ppt 27 ppt	Health Based Guidance for Water
New Hampshire	Sum of PFOA and PFOS	70 ppt	Groundwater Quality Standard*
North Carolina	GenX	140 ppt	Health Advisory
Vermont	Sum of PFOA, PFOS, PFNA, PFHxS, PFHpA	20 ppt	Groundwater quality cleanup standard*
West Virginia	Sum of PFOA and PFOS	70 ppt	EPA Health Advisory

Source: Association of State Drinking Water Administrators [not dated]

* These standards are enforceable under state laws and regulations.

In addition to adopting standards, other states have been aggressively collecting additional data about PFAS contamination. For example, in Pennsylvania, the Department of Environmental Protection is conducting statewide sampling at 300 public water supplies to identify PFAS impacts.⁴²

Federal legislative action

Congress also is proposing action to address concerns over PFAS contamination. In January 2019 a bipartisan group of lawmakers in the House of Representatives launched the Congressional PFAS Task Force, whose purpose includes educating Congress on PFAS issues, drafting legislation to address PFAS contamination, and procuring funding to clean up PFAS contamination.⁴³ Lawmakers have introduced 16 bills this session that address PFAS issues.⁴⁴ A bill introduced by democratic Rep. Madeleine Dean of Pennsylvania proposes banning the manufacture and processing of PFAS and requires EPA to regulate PFAS disposal.⁴⁵

Another bill, H.R. 2377, sponsored by democratic Rep. Brendan Boyle of Pennsylvania, includes provisions requiring EPA to establish a binding drinking water limit, designating PFAS as a hazardous substance under CERCLA, and increasing funding for PFAS cleanups.⁴⁶ New York democratic Rep. Paul Tonko, chairman of the Energy and Commerce Subcommittee on Environment and Climate Change, indicated that the subcommittee expects to pass bipartisan legislation through Congress before the August recess.⁴⁷

Litigation

Class-action lawsuits have been filed against PFAS manufacturers in some states including Minnesota, New York, and Colorado. In Colorado Springs, a class action has been filed against PFAS manufacturers related to groundwater contamination at the Peterson Air Force Base.⁴⁸ In addition, claims also have been filed against product manufacturers, namely carpet and shoe manufacturers, that use PFAS in their products,⁴⁹ as well as parties responsible for releases of PFAS such as DoD facilities and airport operators.⁵⁰ Plaintiffs in these cases assert tort and product-liability theories in their claims against manufacturers.

Practice tips

Clients, especially in the ADG industry sector, and their counsel need to consider issues related to PFAS in multiple contexts, including:

- **Compliance/health and safety.** Companies that furnish drinking water to at least 15 service connections or regularly serve at least 25 individuals are obligated under the SDWA to ensure that the water meets MCLs. These companies should closely track EPA's development of MCLs. Moreover, they may want to begin testing their drinking water for PFAS now in order to limit risk to employees.
- **Environmental cleanups.** Companies that have cleaned up environmental contamination at their facilities or offsite disposal sites (landfills) in the past and have received regulatory closure may be vulnerable to so-called re-opener provisions. "No further action" determinations from regulators issued once a cleanup has been achieved at a site are typically issued with respect to specific media and specific known contamination. They include re-opener provisions that allow an agency to require additional cleanup if previously unknown contamination is identified. Because PFAS contamination has not previously been regulated, PFAS contamination can trigger these re-openers and companies may be required to undertake additional remedial actions at facilities they thought they had cleaned up decades ago. Even in the absence of an MCL, water suppliers that discover PFAS contamination above the EPA health advisory limit have been forced, as a result of public attention and pressure, to address PFAS impacts. When EPA issues an MCL, water suppliers will be legally

required to address PFAS contamination in their drinking water supplies, and companies that are sources of PFAS contamination in drinking water supplies will likely face litigation and cleanup claims.

- **Environmental insurance.** Companies should consider whether environmental insurance policies can address some of the unknown risk with respect to PFAS contamination.
- **Corporate transactions.** During the diligence process, companies and their lawyers should consider whether the entity or property being bought or sold could be affected by PFAS contamination. Clients and their lawyers also should ensure that environmental provisions in purchase and sale agreements cover PFAS contamination and should pay attention to how transactional agreements allocate potential liability for PFAS contamination.

With EPA implementing its action plan, various states issuing regulations and guidelines governing PFAS, plaintiff's lawyers bringing more and more claims, and Congress looking to get involved, companies will need to continue to pay attention to PFAS issues for some time.

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Endnotes

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