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‘Dark Air’: Why industries should prepare for regulation of PFAS air emissions

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The movie “Dark Waters” is about one attorney’s decades-long fight over the improper disposal of per- and polyfluoroalkyl substances (PFAS). The movie brings attention to issues regarding the presence and legal status of PFAS in the nation’s soil and water. But what about PFAS air emissions?

Although the Environmental Protection Agency and many stakeholders [have recognized](#) that PFAS are emitted into the air by certain industrial activities, little attention has been paid to the potential for regulation of PFAS air emissions.

That lack of attention is rapidly changing. A few states have already taken action to address emissions of PFAS. The EPA’s PFAS Action Plan also discusses plans to address PFAS air emissions. And dozens of bills [were introduced](#) in Congress in 2019 that proposed changes to several environmental statutes, including the Clean Air Act (CAA), to regulate PFAS.

This article discusses the fast-approaching regulation of PFAS air emissions. By preparing for the coming storm now, the regulated community can take steps to avoid the “Dark Air” of the future.

What are PFAS and why are they a problem?

PFAS include thousands of synthetic chemicals that have been used for decades in the production of a variety of consumer products resistant to grease, water, oil, and extreme temperatures. The sturdy carbon-fluorine bonds in PFAS account for their utility, but also prevent them from breaking down in most environments, including the human body (hence their nickname “forever chemicals”). Studies by the Centers for Disease Control and Prevention (CDC), for example, have found that PFAS are [likely present](#) at some level in the bloodstreams of nearly every adult in the United States.

Studies by the International Agency for Research on Cancer (IARC) and the EPA, among other entities, have found links between PFOA and PFOS (PFAS with significant historical uses) and adverse effects on the developmental, reproductive, and immune systems. PFAS raise substantial public health and environmental concerns. Further, the science and study of PFAS is continuing to rapidly develop.

What industrial or clean-up activities may lead to PFAS air emissions?

The EPA [has found](#) that stack emissions of PFAS from industrial facilities are significant sources of the chemicals in the environment, based on evidence of soil and surface water samples proximate to facilities that emit them. Such facilities could include manufacturers of plastics, textiles, electronics, cleaning products, agricultural chemicals, and synthetic fibers; pulp and paper mills; and even airports.

Methods to treat or remove PFAS from water and soil may also result in air emissions of PFAS. Air transport mechanisms can result in groundwater infiltration and short- and long-range surface depositions of PFAS, depending on each particular chemical’s weight and other characteristics. Any facility that releases PFAS emissions into the air could potentially be subject to permitting and other requirements under the CAA when PFAS become subject to regulation under the statute.

Do EPA-approved test methods, emissions factors, or monitoring methods exist to determine or model PFAS emissions levels?

Standardized methods for testing levels of PFAS in source emissions or ambient air do not yet exist, but the EPA is [developing](#) them and working with multiple state environmental agencies to do so.

The EPA anticipates in its PFAS Action Plan that by 2020 it will complete a “method for sampling and analyzing PFAS in factory stack air emissions”; “incorporate PFAS information into the EPA air models ... to inform understanding of the potential and significance of atmospheric transport of PFAS”; and establish the exposure pathways that may present risks to human health and environment.

Are PFAS air emissions currently regulated by the EPA, and, if not, what potential regulation may occur in the future?

PFAS air emissions are not currently regulated under the CAA or any other federal law, and no quantity limits or monitoring requirements applicable to air emissions sources currently exist. That will likely change sometime in the near future given the flurry of recent legislative activity. Additionally, the EPA could address PFAS air emissions by exercising its broad regulatory authority granted by the CAA and other environmental laws.

While it is difficult to predict exactly how regulation of PFAS air emissions will take shape, one fairly probable route is that Congress or the EPA will add specific categories of PFAS to [the list of “hazardous substances”](#) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or “Superfund”).

Many of the bills proposed in Congress in 2019, as well as EPA’s Action Plan, call for certain PFAS to be listed as CERCLA hazardous substances. Listing PFAS as hazardous substances under CERCLA could require facilities that predictably release PFAS to the air to submit [continuous release reports](#).

With respect to the CAA, at least [one bill](#) pending in Congress would direct the EPA to promulgate a rule listing **all** PFAS as [hazardous air pollutants](#), or HAPs. If enacted, PFAS emissions would be subject to strict emissions limits and other CAA permitting requirements, including the installation of control technology. PFAS listed as HAPs would also automatically be deemed hazardous substances under CERCLA.

Additionally, and irrespective of the potential listing of PFAS HAPs, the CAA [grants](#) the EPA the power to file suit and issue emergency administrative orders to stop any air pollution source that presents an imminent and substantial endangerment to public health or welfare, or to the environment. Given the current focus on PFAS, the EPA could choose to use this authority to regulate significant sources of PFAS air emissions.

What are states doing to regulate PFAS air emissions?

States can regulate air emissions beyond the regulatory “floor” set by the CAA to reach chemicals not currently covered by federal law. Some state environmental agencies have already done so with respect to PFAS air emissions.

For example, this year North Carolina entered into a consent order with a chemical manufacturing facility, and New Hampshire released for public comment a draft air permit for a fabric coating facility, both of which require the respective facilities to install thermal oxidizers to significantly reduce PFAS air emissions. State activity is bound to accelerate once the EPA begins setting enforceable emissions limits and instituting other rules.

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