

Kenneth E. Wagner
Secretary of Energy & Environment



J. Kevin Stitt
Governor

STATE OF OKLAHOMA
OFFICE OF THE
SECRETARY OF ENERGY & ENVIRONMENT

September 28, 2021

Michael Regan, Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Oklahoma Department of Environmental Quality Comments related to State of New Mexico's Request for Listing of PFAS under RCRA

Dear Administrator Regan:

On June 23, 2021, Governor Grisham of the State of New Mexico submitted a petition, pursuant to 42 U.S.C. § 6921(c), requesting that the U.S. Environmental Protection Agency ("EPA") list the class of per- and polyfluoroalkyl substances ("PFAS") as a hazardous waste under Subtitle C of the Resource Conservation and Recovery Act ("RCRA"), or in the alternative, list individual PFAS compounds under RCRA. Similar petitions were filed by the Public Employees for Environmental Responsibility on September 19, 2019, and the Green Science Policy Institute *et al.* on January 15, 2021. In response to the State of New Mexico's petition, please accept the comments below on behalf of the Oklahoma Department of Environmental Quality ("ODEQ").

ODEQ Recommendations: Instead of initially attempting to address PFAS contamination concerns by listing the entire class of PFAS compounds as hazardous under RCRA, ODEQ recommends that EPA develop a multifaceted, phased approach that first focuses on the *waste streams of greatest concern*. Specifically, ODEQ recommends:

- EPA continue efforts to eliminate or reduce future PFAS contamination by incentivizing a shift away from all *nonessential* use of PFAS compounds through the Toxic Substances Control Act ("TSCA"). The massive volume of PFAS containing products, and the lack of validated disposal methods and capacity could create impossible situations for local governments and small businesses;
- EPA begin by consideration of the listing PFAS waste streams associated with Aqueous Film Forming Foam ("AFFF"), the concentrate of which contains perfluorooctanoic acid ("PFOA") and perfluorooctanoic acid ("PFOS"). Included in that consideration must be validation of disposal methods to insure that PFAS compounds are not merely moved around with little or no effective control or destruction. It is our understanding that there is currently a backlog of incineration capacity for existing hazardous wastes;

- The EPA, in conjunction with the U.S. Department of Defense, should consider developing a legacy firefighting foam collection and disposal program.
- EPA follow the initial phase by listing additional PFAS waste streams or compounds as our corresponding technical and scientific understandings advance, disposal capacities increase, and regulatory uncertainties decrease; and
- EPA explore developing a regulatory exemption for public water supplies, publicly owned treatment works, and other functions which may also be implicated and are deemed essential for human health. EPA should also consider some exemptions for small business and residential wastes.
- EPA must also consider the possibility that regulation of all PFAS compounds as hazardous waste could create an extreme number of new National Priorities List (“NPL”) sites or removal sites under the Comprehensive Response Compensation and Liability Act (“CERCLA”). There could also be a larger number of sites that do not meet the scoring criteria to be listed on the NPL which may be abandoned due to the liability created by regulation as hazardous waste. This could easily result in a large number of unusable properties in all parts of the country. If most landfills and municipal incinerators become Superfund sites or RCRA Subtitle C facilities, then the number of RCRA Subtitle D landfills would be significantly reduced along with the available options for solid waste management.

First and foremost, ODEQ shares the State of New Mexico’s desire to protect human health and the environment, and also shares the general concerns related to PFAS exposure expressed in the petition. Based on recent legislative and regulatory activity at both the State and Federal level, it appears inevitable that PFAS contamination will ultimately be addressed through multiple environmental statutes and programs, including RCRA. However, due to numerous scientific (human health and environmental), technological and regulatory uncertainties, ODEQ believes that it may be premature at this point to list the entire class of PFAS compounds as hazardous under RCRA as requested in the petition. Instead, as will be discussed in more detail below, ODEQ suggests that it may be more prudent to take advantage of a multifaceted, phased approach.

Under such an approach, EPA could continue its efforts to eliminate or reduce ongoing and future PFAS contamination by incentivizing a shift away from *nonessential* use of PFAS compounds. ODEQ believes that this is the single-most impactful action EPA should take to prevent/reduce the release of PFAS contaminants into the environment. The importance of using TSCA to manage ubiquitous compounds like PFAS cannot be overemphasized. In regard to regulating PFAS as a hazardous waste under RCRA, ODEQ suggests beginning with an initial phase focused on the PFAS waste streams of greatest concern and for which we have the greatest understanding and data. This initial phase could be followed by additional phases as our understanding increases and the corresponding uncertainties decrease. This approach would allow for many questions to be addressed and for a thoughtful, targeted, effective, and integrated cleanup process to be developed, which in turn would help avoid vast amounts of resources from being diverted to efforts that would likely not be as effective in addressing the long term impacts of PFAS on human health and the environment.

The science related to PFAS contamination is developing rapidly. Although much has been learned, there is still much more to learn. Some of the significant current challenges associated with listing PFAS as a class under RCRA, include:

Scientific and Technological Uncertainties –

- Bioaccumulation/Degradation/Structure/Functions: All known PFAS compounds are universally toxic to some extent, and all pose similar issues related to bioaccumulation and high resistance to degradation. One challenging aspect is that these compounds have different chemical structures, intended uses, and environmental and human health profiles. As a result, PFAS remediation is more challenging than the remediation of other contaminants and may require different solutions depending on the particular PFAS compound(s) at issue.
 - Although EPA has used a class approach in the past to address other human health concerns, the class approach has its challenges. For example, in the late 1990's, EPA established a Maximum Contaminant Level ("MCL") under the Safe Drinking Water Act ("SDWA") for five haloacetic acid ("HAA5") disinfection byproducts. Unfortunately, once this standard went into effect, a significant percentage of surface water systems in the United States were instantly out of compliance. It proved to be impossible for this public sector to achieve compliance with this MCL absent billions of dollars in upgrades to water treatment plants. In addition to the billions of dollars invested, the process to achieve compliance has been quite long. In fact, decades later, there are a significant number of public water supply systems still working toward compliance. Despite the MCL being established, in certain instances, the same quality of water continued to be provided for many years. Arguably, the extensive resources focused on enforcement of an unrealistic standard (in the near term) could have been devoted to a different approach that focused more resources on helping small and medium sized public water supplies design, fund, and construct systems that could meet the standard. Although a good general example of the challenges associated with using a class approach, the HAA5 example is nowhere near as complicated as a class listing of all PFAS compounds would be in that it does not involve the same domino regulatory impact and strict liability issues that arise from a RCRA listing.
- Destruction/Disposal/Capacity: There is still much to learn regarding the destruction and disposal of these compounds. For example, there is still some uncertainty regarding the temperature necessary to *properly destroy certain PFAS compounds* through incineration. The science must adequately demonstrate that the compounds sent for incineration are adequately destroyed during the process in order to avoid further dispersing remaining PFAS contaminants and making the situation worse. In addition, there are also significant questions as to whether there is *sufficient capacity available* to dispose of the volumes of hazardous waste that would result from such a class listing under RCRA. Absent the ability to properly destroy, or the capacity to properly dispose of, listed waste under RCRA, compliance will be challenging, violations will be inevitable, and large amounts of resources will be devoted to enforcement - *without a solution to the underlying issue*.
 - Due to the pervasive presence of PFAS throughout the country and the world, the potential volumes of waste that could be considered hazardous via a broad listing under RCRA are enormous. Just like we needed to make sure we had the capacity to treat public water supplies for HAA5 in the example above, we need to ensure that there is sufficient capacity to dispose of any PFAS waste that is listed under RCRA; otherwise, we will similarly struggle with compliance for decades. One significant difference between HAA5 and PFAS is that there is still a lot of research that needs to be done concerning adequate destruction or disposal of certain PFAS compounds.

- Detection/Quantification/Monitoring: There are also real challenges related to consistent and accurate detection, quantification, and monitoring of such ubiquitous compounds at such very low levels.

Human Health and Environmental Uncertainties –

- Toxicity/Exposure Pathways: It is apparent that PFAS compounds are persistent in the environment, and have the potential to accumulate in humans with potentially harmful effects. However, our understanding of the impacts of PFAS compounds in general, and in regard to specific compounds, on human health and the environment continues to develop at a rapid pace. The EPA PFAS Action plan recognizes the need for more research into the toxicity and exposure pathways of, and remediation alternatives for, different PFAS compounds.

Regulatory Uncertainties –

- Listing Alternatives under RCRA: Under RCRA, hazardous waste may be identified by: (1) identification of hazardous characteristics; or (2) listing specific hazardous wastes. Under the first option, EPA’s decision to list based on hazardous characteristics could be vulnerable to challenge if it fails to properly consider the eleven factors set forth in 40 C.F.R. § 261.11(a)(3). Under the second option, EPA may either list PFAS compounds or list specific PFAS waste streams as hazardous waste. One point with listing the entire class as hazardous is that although characteristic waste is only considered a hazardous waste as long as it exhibits the hazardous characteristic, a listed hazardous waste remains regulated under RCRA essentially forever (from cradle to grave).
- Hazardous Waste Disposal Requirements - Designating PFAS compounds as a hazardous waste would have major consequences for entities that produce, transport, or utilize these substances in their products or operations. RCRA provides EPA with the authority to control hazardous waste from “cradle-to-grave” and, as a result, designating the entire class of PFAS compounds as hazardous waste would directly regulate the generation, transportation, treatment, storage, and disposal of all PFAS compounds. Regulating the treatment and disposal of the entire class could be problematic based on the ubiquitous nature of PFAS and our current capabilities and level of knowledge.
 - For example, one consequence of PFAS regulation under RCRA is that many Subtitle D landfills will possibly need to be regulated under Subtitle C. To say the least, it would be very challenging to list every landfill contaminated with PFAS compounds as a designated treatment, storage, or disposal facility. Under RCRA, EPA may even be required to adopt interim standards for existing facilities.
- Administrative/Civil/Criminal Consequences: An all-encompassing listing under RCRA could make compliance very difficult and noncompliance could subject entities to significant monetary, injunctive, and criminal consequences through enforcement by EPA or corresponding State agencies. Even if EPA or the relevant State agency determined enforcement discretion was appropriate, entities would be subject to third party enforcement through RCRA’s citizen suit provision (RCRA § 7002, 42 U.S.C. § 6972) and the citizen suit provisions of the other environmental statutes that would be triggered by any such RCRA listing. Citizen suit provisions are incredibly useful to spur action in some instances but could also divert resources away from solving the broader issue. In addition, the taxpayers could ultimately bear the burden in many instances.

- CERCLA Liability: The designation of PFAS compounds as RCRA hazardous waste would also trigger liability under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), which could, dependent upon other associated actions EPA could take (*i.e.*, regulatory exclusions), expose a large number of sectors and entities across the country to strict liability for historic releases of PFAS compounds associated in some way to their products or operations. Section 101(14)(c) of CERCLA, 42 U.S.C. § 9601(14)(c), defines “hazardous substances” to include “any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act.” Therefore, by operation of law, the listing of PFAS compounds as a class under RCRA would result in all of the compounds in the class also being added to the list of hazardous substances under CERCLA. Arguably, this classification applies no matter when disposal of the substance occurred. This means that entities that discard wastes or wastewaters containing the listed PFAS compounds above an identified RCRA regulatory level at any time in the past would be considered generators of a “hazardous substance” under CERCLA and potentially be liable for all costs associated with responding to the releases of those compounds. In addition, sites that have already undergone remediation could once again be considered contaminated and require additional work, and many new sites that were not previously considered contaminated could be subject to substantial liability. In any event, such a blanket listing would undoubtedly create environmental liability for the costs of responding to and/or damages resulting from releases of PFAS compounds regardless of whether the entity at issue was involved in the manufacturing or use of the compound. This may ultimately be the appropriate outcome; however, it may be prudent to delay such a designation until there is a better understanding of the impacts and consequences associated with such action.
 - Other CERCLA alternatives - CERCLA provides multiple pathways for designating a hazardous substance under the Act. Under § 102 of CERCLA, EPA may designate a substance as hazardous if it is determined that the substance may present a substantial danger to public health or welfare, or the environment when released. *See* 42 U.S.C. § 9602(b). A designation under § 102 is limited in that it does not allow EPA to tailor a designation or make distinctions between different concentrations or sources. In contrast, the RCRA listing process does allow EPA to tailor the scope of the hazardous waste that is identified by considering management practices (including those voluntarily adopted by the regulated community as well as regulation under other authorities), constituent concentrations, and source.
- Public Water Supplies and Publicly Owned Treatment Works: The Clean Water Act (“CWA”) and the Safe Drinking Water Act (“SDWA”)’s Underground Injection Control Program allow for the discharge or disposal of many types of waste streams from municipalities through public water supplies or publicly owned treatment works. The listing of PFAS compounds as hazardous has the potential to significantly impact the liability of these public entities; for example, municipalities that currently or have in the past disposed of biosolids in solid waste landfills and/or have caused biosolids to be land applied. Even if EPA establishes a threshold concentration that must be reached before PFAS waste is considered hazardous (as opposed to designating any concentration as hazardous), it is likely that these public entities would exceed any such threshold due to their function and processes even though the biosolids handling occurred in compliance with 40 C.F.R. Part 503.

Currently, RCRA § 1004 provides an exclusion for domestic sewage; however, wastes that are generated from the treatment of sewage (*i.e.*, sewage sludge) are considered solid wastes and may be considered

hazardous wastes if they exhibit a hazardous characteristic(s). Although public water supplies do not currently have a specific exclusion under RCRA, source water treatment resulting in a discharge under a CWA discharge permit may be excluded under RCRA's industrial wastewater exclusion. However, this exclusion does not apply to treatment residuals or to any other material not specifically discharged pursuant to the CWA permit.

Similarly, although CERCLA § 107(j) provides an exclusion from liability for federally permitted releases, the exclusion only provides protection from CERCLA liability if the discharging entity is in compliance with a permit that specifically covers PFAS discharges or releases. Since RCRA does not currently regulate the disposal of PFAS compounds, the disposal of treatment residuals is not federally permitted. As a result, this exemption is unlikely to protect municipalities from CERCLA liability for past disposal of treatment residuals if the PFAS levels contained in the residuals are greater than the regulatory threshold that EPA establishes.

Currently, public water supply systems in Oklahoma are not required to treat for PFAS compounds. Assuming a requirement is established, these systems, most of which are small and rural, will be forced to manage their drinking water treatment facilities in a manner similar to industrial wastewater treatment facilities and will face the same challenges associated with destruction, disposal, and capacity described above.

ODEQ Recommendations

Generally, ODEQ strongly recommends that EPA continue its efforts to eliminate or reduce ongoing and future PFAS contamination by incentivizing a shift away from nonessential use¹ of PFAS compounds. In regard to listing PFAS compounds as hazardous waste under RCRA, and considering the challenges and uncertainties previously described, ODEQ recommends that EPA utilize a multifaceted, phased approach that includes staggered hazardous waste listings and compliance deadlines based upon scientific and technological advancements, and which is coordinated and integrated with other implicated environmental requirements.

- First, since RCRA provides an opportunity to narrow the scope of which wastes are considered hazardous (which in turn limits which wastes are considered hazardous substances under CERCLA), EPA could focus on the PFAS waste streams of greatest concern and for which there is the greatest amount of information and understanding. A focused first phase such as this would allow regulators to determine the impacts that such a listing would have on disposal capacity and on the regulatory consequences under other environmental programs. EPA could begin by only listing PFAS waste streams associated with AFFF, the concentrate of which contains PFOA and PFOS. The State of New Mexico's petition references particular concern with impacts associated with the use of AFFF, PFOA and PFOS. Concern related to AFFF, PFOA, and PFOS contamination appears widespread, and these are some of the most researched PFAS compounds. Consequently, a narrow listing of these waste streams would be a logical starting point.
 - In addition to listing AFFF as a hazardous waste under RCRA, the EPA, in conjunction with the U.S. Department of Defense, should consider developing a legacy firefighting foam collection and disposal program.
- Next, EPA could follow the initial phase by listing additional PFAS waste streams or compounds as the research and disposal capacity sufficiently advances. This would allow for uncertainties to be addressed, and for a thoughtful, targeted, effective and integrated cleanup process to be

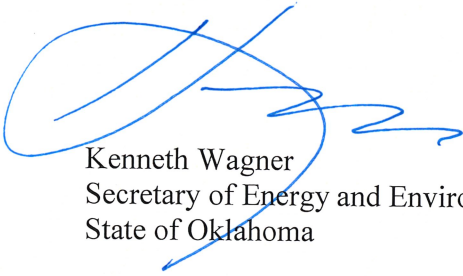
¹ It is important to recognize that essential uses of PFAS compounds may be necessary to protect public health and safety.

developed. Such an approach would also help avoid vast amounts of resources from being diverted to efforts that would likely not be as effective in addressing the long-term impacts of PFAS contamination on human health and the environment.

- Lastly, when listing PFAS compounds, EPA should consider developing a corresponding regulatory exemption for public water supplies and publicly owned treatment works, as well as an exemption for other functions deemed essential for human health that may also be implicated. Any such exemption(s) could include provisions necessary and appropriate to mitigate impacts from PFAS contamination.

ODEQ is not suggesting that other PFAS compounds not be listed under RCRA at some point in the future if truly necessary. As EPA is well aware, the prolific past and present use of PFAS compounds and their ubiquitous nature, could require that an enormous amount of resources be redirected from other efforts and the potential for wide ranging impacts is greater if this challenge is not addressed appropriately.

Sincerely,



Kenneth Wagner
Secretary of Energy and Environment
State of Oklahoma