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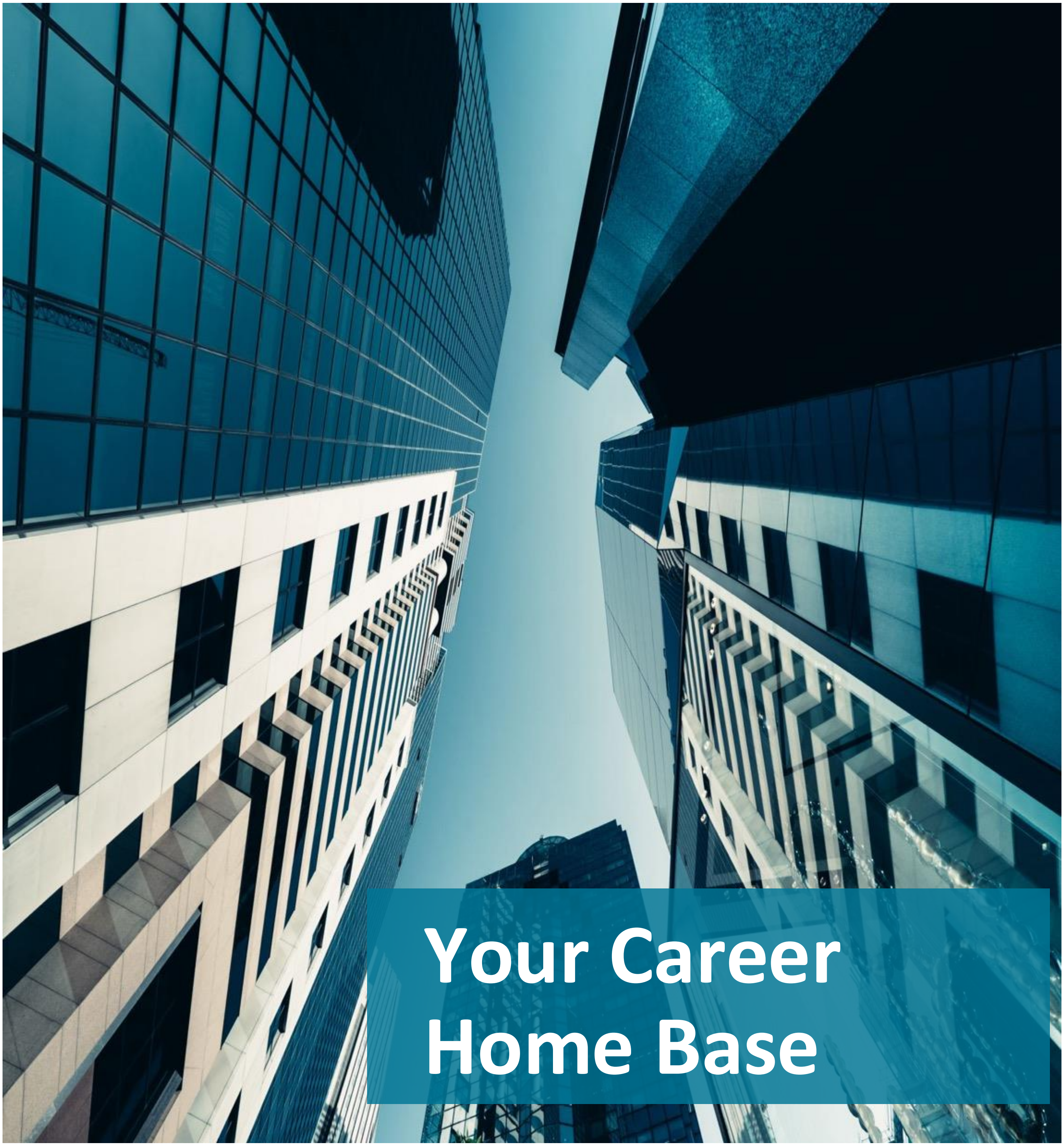

Your Career Home Base

PFAS Was Identified in Your Phase I: Now What?

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The EPA's PFAS Ruling

In April 2024, the EPA issued a final rule to designate two of the most widely used categories of PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate acid (PFOS), and their isomers and salts, as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) also known as Superfund. This rule became effective as of July 8, 2024.

PFAS has now joined other chemicals classified as hazardous substances that could expose real estate investors, developers, owners, and operators to cleanup obligations and costs. Additionally, they may face environmental damages and liability for human health risks from exposure to these substances. This means that to have certain liability protections afforded under CERCLA, prospective purchasers must evaluate PFAS within the scope of the All Appropriate Inquiries (AAI) standard established under the CERCLA Act (42 U.S. § 9601). As a result, PFAS risk is now evaluated in Phase I Environmental Site Assessments (ESAs) in the same manner as other hazardous substances.

PFAS and the Phase I ESA

PFAS can be released into the environment in many ways, including through wastewater and stormwater discharges, accidental releases, use for metal dust suppression, air emissions, and solid waste. Some of the most widely known PFAS-contributing industries include commercial printing, electronics, plating, fabric and textiles, cosmetics manufacturers, fire protection, food packaging, mining, airports, and potentially carwashes, drycleaners, and laundries. The Association of State Drinking Water Administrators publishes a list of NAICS codes identified as PFAS manufacturers, which serves as a great starting point when identifying PFAS risk. However, keep in mind that if an industry is on this list, it does not automatically mean there is a recognized environmental condition (REC) or a release of PFAS.

When evaluating PFAS risk in a Phase I ESA, the following factors are typically considered:

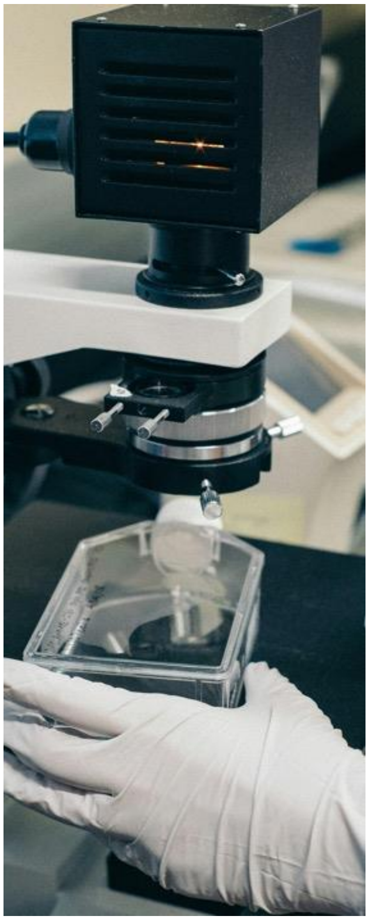
- **Pathways**: Presence of drains, sumps, pits, or other surface and subsurface pathways through which PFAS can enter the environment.
- **Topography**: Transport of PFAS throughout the site or offsite via surface drainage.
- **Waste Discharges**: Discharges that could contain PFAS, impacting surface waters and wastewater treatment systems.
- **Air**: Emissions that could disperse PFAS.
- **Wells**: Groundwater sources used for potable water, industrial uses, and irrigation are potentially impacted by PFAS.

These factors are not exhaustive, and the presence of other PFAS forms as emerging contaminants may also need to be considered based on state-specific criteria and future regulatory changes. In addition to traditional factors used to determine risk in a Phase I ESA, such as groundwater depth, groundwater gradient, and other physical setting features, the property's existing and future use needs to be considered when assessing PFAS risk.

Phase II ESAs

Phase II Environmental Site Assessments (Phase II ESAs) for sites known or suspected to be impacted by PFAS present unique challenges that differentiate them from those performed for other hazardous materials. These challenges include:

- **Cost and Timing**: Phase II ESAs for PFAS are generally more expensive and time-consuming. This is due to the longer analysis time and high cost per sample for PFAS lab tests. Although some recently approved methods take less time, they are not yet widely used.
- **Vapor Intrusion Considerations**: The science and technology around PFAS and vapor intrusion are still evolving. Currently, vapor intrusion assessments are not standard practice for PFAS. Some research suggests that certain forms of PFAS are volatile; however, lab analysis technology and regulatory screening level standards are still in development. As the regulatory environment and analysis methods continue to evolve, the vapor intrusion pathway may become a consideration in the future.
- **Sampling Techniques**: Field sampling techniques for PFAS are unique and require additional measures to prevent cross-contamination, which can occur if the sampler's own PFAS-containing items, such as personal hygiene products, water-resistant clothing, fast food wrappers, and/or cosmetics, come into contact with the samples.
- **Regulations**: In April 2024, the EPA finalized the National Primary Drinking Water Regulation (NPDWR) for six PFAS chemicals, establishing Maximum Contaminant Levels (MCLs) for safe drinking water. Without state-specific regulations, these MCLs often serve as the default regulatory screening levels for Phase II ESAs, even if groundwater is not used for potable use. Note that some states have more conservative MCLs, which would take precedence over the EPA's standards.



So, What's Next?

Evolving Remediation Technology: Due to its inherent chemical stability, PFAS is resistant to many traditional remediation technologies, such as chemical oxidation/reduction or bioremediation, normally used for other common contaminants. This makes "old school" methods like dig-and-haul for soil and pump-and-treat for groundwater the most obvious cleanup options, though both can be expensive. More sophisticated remediation technologies—such as thermal treatment, injection of carbon substrate materials, and supercritical water oxidation—are already on the market and proven effective. However, these technologies are often more expensive, time-consuming, and challenging to implement compared to remediation for other contaminants like volatile organic compounds or petroleum hydrocarbons. Of course, remediation technology is evolving right alongside regulations. The good news is that these PFAS remediation technologies will generally also remediate other common co-contaminants.

Monitoring as a Mitigation Measure: PFAS remediation can be expensive and lengthy due to the current state of remediation technologies and uncertainties with regulatory closure criteria, alternative options may be considered when PFAS is present at a property. One such option is longer-term monitoring of sites with PFAS-impacted groundwater. While full remediation can be costly, monitoring a PFAS groundwater plume to ensure it does not migrate toward water bodies or potable supply wells, along with some limited groundwater injection for transport control, can be an option when performed in conjunction with regulatory agency oversight. Although this approach is not true remediation, it can be considered part of its feasibility analysis.

Wastewater Effluent: Above-ground technologies for managing wastewater streams, treating groundwater as part of a pump-and-treat remediation system, and/or treating private water supplies are well-established. These technologies typically use carbon or other absorptive/adsorptive media to remove PFAS from the waste stream. While effective, they still include disposal costs for the PFAS-impacted waste media, often resulting in significant disposal costs. These methods are typically utilized at sites such as plating facilities, airports, drycleaners and laundries, and sites that use or manufacture PFAS.

Remedial Cost Estimating: Because of PFAS' unique chemical makeup, addressing PFAS as a contaminant cannot be a simple "add-on" to proposed or existing remediation approaches used for other contaminants, such as chlorinated solvents or petroleum hydrocarbons, which are commonly found at dry cleaners, gas stations, or historical industrial sites. When PFAS is a contaminant, it will drive the overall remediation strategy and associated cleanup costs. Due to the rapidly evolving regulatory environment and uncertainty about reaching regulatory closure for PFAS sites, industry professionals can expect a higher level of uncertainty and wider ranges within remedial cost estimates (RCEs).

A major challenge with PFAS is the lack of regulatory closure criteria and precedence for remediating and closing sites with PFAS as hazardous substances under CERCLA. While the EPA has set six MCLs for groundwater and some states have soil and/or groundwater cleanup levels, the overall process (including timing and cost) for achieving No Further Action (NFA) or regulatory closure status for PFAS sites is still largely in development across the United States. Due to PFAS being newly regulated, even at the state level, predicting closure costs presents unique challenges due to the uncertainty surrounding closure criteria.

Insurance: Often, policies without a PFAS exclusion are still attainable. However, factors such as previous use and geographic location may affect the carrier's decision to include or exclude PFAS coverage. When a policy without a PFAS exclusion is available, coverage typically extends to remediation, third-party liability, legal defense, transportation, and non-owned disposal sites. For policies with a PFAS exclusion, it may be possible to limit the exclusion to only certain areas of coverage.

Lender liability policies remain widely available without a PFAS exclusion. These policies are typically underwritten based on the borrower's financials and provide protection solely to the lender. Since these policies are only triggered in the event of default and the discovery of a pollution condition, Environmental Lender Liability policies can be a good option for banks that want to forgo a Phase II ESA and keep the loan on the books.

Moving Forward

Regarding PFAS risk and liability, assembling a team of experts is crucial. It is advisable that you rely on the expertise, guidance, and insights of an experienced environmental consultant, a knowledgeable environmental attorney, and a skilled insurance broker familiar with emerging contaminants. As with other emerging issues, it is of paramount importance to stay abreast of the rapidly changing regulatory environment. In addition, being proactive and engaging with the regulatory community helps understand potential exposures and liabilities. Having a team of trusted advisors is important to help guide you through how the dynamics of this ruling will impact your business, offering expertise in due diligence, monitoring, treatment, cleanup, and other technologies.