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Georgia Industry Environmental Coalition

Per- and Polyfluoroalkyl substances (PFAS) Technical Update

Shalene Thomas, V.P., Global Emerging Contaminants Program Manager Wood E&IS

woodplc.com

Agenda

Overview of Emerging Contaminants

Evolving Technical Challenges
 ✓ Firefighting Foam Transition
 ✓ Ambient Background Levels
 ✓ Waste Dispessioned Treatment

Waste Disposal and Treatment

Summary & Conclusions



Overview of Emerging Contaminants Quick update on Per- and Polyfluoroalkyl substances

Emerging Contaminants

What are they? DoD and EPA definitions generally state:

- Presents potential unacceptable risk
- Has no published standard
- New science, detection, or exposure pathway available^{1,2,3}



DoD Scan, Watch, Action Process

¹ DoD Instruction 4715.18, *Emerging Chemicals of Environmental Concern, September 4, 2019.* Office of the Under Secretary of Defense for Acquisition and Sustainment

² EPA Federal Facilities Restoration and Reuse Office: <u>http://www.epa.gov/fedfac/documents/emerging_contaminants.htm#additional_ec</u>

³ http://toxics.usgs.gov/regional/emc/

List of Emerging Contaminants

US Department of Defense Emerging Contaminants



US EPA Office of Water Contaminants of Emerging Concern

- Pharmaceuticals and Personal Care Products
- Polybrominated diphenyl ethers (PBDEs)
- 1,4-Dioxane
- PFOS and PFOA



PBDEs



PFOA - perfluorooctanoic acid



PFOS - perfluorooctanesulfonic acid

PFAS – A Broad Class of Compounds

PFAS = Per- and Polyfluorinated Alkyl Substances

- 6,000 manmade chemicals discovered in the 1940s
- Carbon chains (alkanes) of various lengths (C3-C20+)
 - Varying amount of fluorine saturation
 - Water-repellant tail and a water soluble head
 - Heat resistant and chemically stable

Ubiquitously used in products Ubiquitously found in the environment











Evolving Technical Challenge Fire-fighting Foam Transition

PFAS and Fire Fighting Foam



- Not all foams contain PFAS
- AFFFs are most widely used fluorinated foams
- ✓ PFAS content and concentration varies
- Class B foams are for flammable and combustible firefighting

Context Around the Issue- It is Complex

For every risk that is prioritized, there is potential for compromise on return

For every type of foam use, each key factor needs to be balanced with:

- Likelihood of occurrence
- Impact of occurrence

Is the use fit for purpose?



Petroleum Environmental Research Forum- PFAS Study

Critical Review of Health and Environmental Hazards for PFAS and Fluorine-free Foams

Fire-fighting
foam

PERF Members – Chevron, ExxonMobil, shell, BP, Phillips 66

Identification of relevant chemicals in AFFF and F3, determination of hazard and fate information, and conceptual site model

In partnership with Integral Consulting, identify limitations of and data gaps in the current studies or data sets to inform risk assessment and risk-based decision-making for AFFF and F3.



Fire-fighting Foam and Florine-free Alternatives Assessment

Decision-Making Tool for Foams

European Chemical Agency/European Commission

https://echa.europa.eu/documents/10162/28801697/pfas_flourinefree_alternatives_fire_fighting_en.pdf/d5b24e2a-d027-0168-cdd8f723c675fa98

PFAS Policy Technical and economic feasibility and socioeconomic impacts of alternatives via analysis of volume of use, functionality of foam, and potential hazards and risks

Assessment of AFFF and Foam Alternatives



Env. Agencies, international Organisations & NGOs





Monitoring data

Information by producers



Scientific publications



Socio-economic impact of substitution

Potential hazards and risks of alternatives

Evolving Technical Challenge Ambient Background Levels

Why is ambient background important?

Ensures costly clean-ups are avoided by:

- defining background concentrations
- Establishing clean-up criteria above ambient background levels.

More sites moving into clean-up in near term

Published clean-up criteria are often very low (ppt)



https://www.sciencedirect.com/science/article/pii/S0269749117352521

Vedagiri, U., Anderson, H., Loso, L., and Schwach, C. 2018. Ambient (Background) Levels of PFOS and PFOA in Multiple Environmental Media. Remediation Journal 28(2):9-51. <u>https://onlinelibrary.wiley.com/doi/abs/10.1002/rem.21548</u>

Brusseau, K.L., Anderson, R.H., and Guo. B. 2020. PFAS Concentrations in Soils: Background Levels vs Contaminated Sites. Science of the Total Environment. Vol: 740. In press, October. <u>https://www.sciencedirect.com/science/article/abs/pii/S0048969720335373?via%3Dihub</u>

Key Considerations for Background

- Increasing understanding for significance of <u>Surface Water pathway</u>
- Increasing understanding for <u>Potential Air</u> <u>Transport</u>
- Large AFFF Sites may have enough disparate contributing sources to consider "Whole Site" as a Source
- Site Construction and Remediation activities may redistribute or change sources



Brusseau, K.L., Anderson, R.H., and Guo. B. 2020. PFAS Concentrations in Soils: Background Levels vs Contaminated Sites. Science of the Total Environment. Vol: 740. In press, October.

https://www.sciencedirect.com/science/article/abs/pii/S0048969720335373 ?via%3Dihub

Case Study - Regional PFAS Fate/Transport in Air

Northeast US



PFAS Releases in Biosolids

Regional impacts from AFFF releases at Fire Training Center

Foam releases in air complete pathway to drinking water receptors radially from site including hydraulically upgradient

PFAS discharges to sewer – biosolids used on > 100 agricultural plots

Groundwater used for drinking water and irrigation



PFAS in Surface Water and Surface Foam

Several states have expressed need for surface water criteria for:

- Protection of human health and biota
- Only two States currently have criteria (MI and FL)
- Twenty states are currently collecting surface water samples and 14 collecting fish/shellfish- ALL are detecting PFAS

PFAS-containing foam above water interface is gaining attention

- Typical to find near release areas
- May also occur some distance away when surface water bodies are connected
- Fate and transport very challenging due to:
 - Variable surface water depth, flow conditions, and cocontaminant mixtures
- Enrichment factor of 3.2 to >32,000x underlying water column



https://www.pca.state.mn.us/waste/pfas-foam-surfacewater



https://dnr.wisconsin.gov/topic/Contaminants/Mari netteFoam.html



https://www.michigan.gov/pfasresponse/0,9038,7-365-88059_91295---,00.html



MPCA- 3M Post Settlement Support

Conceptual Drinking Water Supply Plan, East Metro, MN

Minnesota Pollution Control Agency and Department of Natural Resources

Developed a Conceptual Drinking Water Supply Plan for 14-Community Area that identifies regional safe drinking water solutions for over 170,000 residents over a 150 square mile area of PFAS plume

Established both groundwater and hydraulic models for the entire East Metro area to determine most effective drinking water solutions for municipal and rural community members in 2020 and in 2040.



PFAS DW

Treatment

Evolving Technical Challenge Waste Disposal and Treatment

Planning/Preparation Considerations

Treatment Technology Selection

Balance cost and performance Technology selection depends on

- \checkmark Concentration and flow
- Co-contaminants
- Product water requirements



CONCENTRATION

Example of the spectrum of treatment considerations

Treatment/management options – PFAS Waste

- What we have seen to date: Stabilization and burial Deep well injection Incineration
 - Municipal
 - Hazardous waste
 - Cement kiln

EPA Disposal Plan promised by year end Many clients in holding pattern



https://www.chemistryworld.com/news/pfas-incineration-study-cancelled-by-us-environment-agency/4012375.article

Treatment/management options - Emerging

Other adsorptive media

- Organo-Clays have shown promising results
- Oxidation/destructive technologies-
 - break down longer chained compounds.
 - Not fully proven
- Incineration/plasma arc treatment of water
 - Direct destruction of high concentration streams

Additives

• Effective for reducing PFAS in highly concentrated waste streams





Firewater treatment by Wood at Navy base

Research, Development, and Validation of Technology

U.S. DoD Basic and Applied Research Program and Demonstration and Validation

Strategic Environmental Research and Development Prograwarded: "Combined In Situ / Ex Situ Treatment Train (SERDP) U.S. DoD Basic and Applied Research Program for Remediation of PFAS Contaminated Groundwater"



Environmental Security Technology Certification Program (ESTCP) U.S. DoD Technology Demonstration and Validation

<u>Awarded</u>: "Removal and Destruction of PFAS and Co-Contaminants from Groundwater"

Conclusions

What does it mean to industry? Evolving technical challenges

- ✓ More than <u>6000 PFAS compounds in commerce</u>, and we can only analyze for 40-50 in environmental samples.
- ✓ Most of the PFAS we can test for are not the primary active ingredients in many products.
- ✓ Most of the PFAS we can test for are shared components in multiple different products.
- Product composition is protected as trade secrets, and the fluorinated components are often excluded from SDS.
- ✓ We still see a lot of <u>lab-to-lab variability</u> in results.
- We still see <u>some labs that do not understand</u> PFAS chemistry, so they can produce results that meet method requirements, but may not be reliable.

Develop Risk Management Strategies for PFAS



Questions?





Shalene Thomas, VP

Global Emerging Contaminants Program Manager - Minneapolis, MN

- ✓ >20 years consulting risk assessment/toxicology and regulatory compliance experience
 ✓ PFAS evaluations since 2008
- ✓ Global PFAS Work Group Lead and Technical Lead for PFAS assessments for US, Australia, Canada, and Europe
- ✓ US PFAS projects experience in 20 different states, 9 of the 10 USEPA regions
- ✓ Author of ITRC PFAS Team Proposal, member of risk/regulatory sub-team and co-chair of AFFF sub-team
- ✓ Supporting author for NGWA PFAS BMP document (published 2017) and Risk Communication Fact Sheet (published September 2020)

For more information: <u>Shalene.thomas@woodplc.com</u> 612-490-7606 KING & SPALDING

Per- and Polyfluoroalkyl ("PFAS") Substances: A Regulatory and Legislative Update

Georgia Industry Environmental Coalition Water Resources Webinar October 13, 2020

Adam Sowatzka, Partner

Topics



- Federal Regulation of PFAS
- State Regulatory & Legislative Update
- PFAS Implications in Transactions

Federal Regulation of PFAS

- Toxic Substances Control Act ("TSCA")
- Safe Drinking Water Act ("SDWA")
- Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA")
- Other Federal Programs: Resource Conservation and Recovery Act ("RCRA"); Clean Water Act ("CWA"); Clean Air Act ("CAA")





EPA's PFAS Action Plan Update

February 26, 2020 Update

- Issuing preliminary determinations to regulate PFOA and PFOS in drinking water;
- Issuing a supplemental proposal to ensure that new uses of certain persistent long-chain PFAS chemicals in surface coatings cannot be manufactured or imported into the US without notification and review under TSCA;
- Publishing a new validated method to accurately test for 11 additional PFAS in drinking water, bringing total to 29 PFAS;



EPA's PFAS Action Plan Update

February 26, 2020 Update

- Issuing Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS;
- Announcing funding for new research on managing PFAS in agriculture; and
- Issuing an advanced notice of rulemaking that would allow the public to provide input on adding PFAS to the Toxics Release Inventory toxic chemical list.



EPA's PFAS Regulatory Actions



March 10, 2020

- EPA published a notice in the Federal Register of its Preliminary Regulatory Determinations for Contaminants on the Fourth Drinking Water Candidate List
- Preliminary determination to regulate PFOA and PFOS under the Safe Drinking Water Act
- Notice is "beginning of the [EPA's] regulatory development process, not the end"
- EPA sought comments on:
 - Its preliminary determination to regulate PFOA and PFOS;
 - Other PFAS substances and potential regulatory approaches; and
 - Processes and analyses used for regulatory determinations, supporting information, additional studies or sources of information it should consider



2020 State Regulatory Update—Water

- 24 States with PFAS standards for water (GW/DW/SW)
- 4 states with new or updated water standards in 2020: CO; MA; MI; and NJ
- 7 States with pending new/revised water standards: AK; FL; IL; MA; HI; PA; WA; and WI



Evolution of PFOA Standards



PFOA Drinking Water Advisory/Guideline Levels



2020 State Regulatory Update—Soil

- 16 States with PFAS Human Health Soil screening levels
- Only FL with new standards in 2020
- Soil standards appear to be slowed by COVID



California's Proposition 65



- PFOA and PFOS listed under Prop 65 based on developmental toxicity in 2017
 - Effective November 10, 2018
 - Companies doing business in California required to provide a clear and reasonable warning under Proposition 65 before exposing anyone to PFOS and PFOA
 - Until a safe harbor level is established, Prop 65 permits a private enforcer to issue a Notice of Violation and file lawsuits against companies for any level of exposure, regardless of how minimal, and shifts burden of proving an exposure created no significant risk to companies

California's Proposition 65 Cont'd



May 2020

- National Toxicology Program (NTP) for the U.S.
 Department of Health and Human Services (HHS) recently released a Technical Report
 - Found evidence of carcinogenic activity in laboratory rats exposed to PFOA
 - NTP Technical Report may result in listing of PFOA under California's Proposition 65 as a carcinogen



PFAS Implications in Transactions

- Buy side
 - Asset or Stock deal?
 - Scope of the Phase I and Phase II
 - Data room requests
 - P&S language considerations
 - Lender requirements
- Sell side
 - Do you want knowledge of Phase II results?
 - Is PFAS relevant to transaction (if not push back)?
- Insurance implications

Representations and Warranties

- X.XX <u>Environmental</u>. Except as to matters that would not reasonably be expected to have a Material Adverse Effect:
 - No written, or, to the Knowledge of the Seller, oral notice or request for information has been received during the last five (5) years, and there are no judicial, administrative or other actions, suits or proceedings pending or, to the Knowledge of the Seller, threatened, which allege a Release of Hazardous Materials or a violation of or Liability under any Environmental Law, in each case relating to the Business, Purchased Assets, the Owned Real Property or the Leased Real Property;
 - The Selling Parties have obtained or caused to be obtained all environmental Permits necessary for the operation of the Business, Purchased Assets, the Owned Real Property or the Leased Real Property as currently conducted to comply with all applicable Environmental Laws, and the Selling Parties are, and, for the past three (3) years, have been, in compliance with the terms of such Permits and, with respect to the operation of the Business, Purchased Assets, the Owned Real Property or the Leased Real Property, with all other applicable Environmental Laws;

Representations and Warranties Cont'd

- X.XX <u>Environmental</u>. Except as to matters that would not reasonably be expected to have a Material Adverse Effect:
 - There have been no Releases of Hazardous Materials at the Owned Real Property, the Leased Real Property, or, to the Knowledge of the Seller, any formerly owned, leased or operated property during the period of the Seller's ownership or operation, or otherwise in connection with the Business in amounts or concentrations giving rise to Liability under Environmental Law;
 - No Acquired Subsidiary has retained or indemnified any Person for any Liability under any Environmental Law, including any Releases of Hazardous Materials, in connection with the sale, transfer or other conveyance of any formerly owned, leased or operated properties, operations or businesses, excluding any such obligations that have expired or terminated pursuant to the terms of the relevant agreement conveying said properties, operations or businesses; and
 - The Selling Parties have made available all material Phase I, Phase II and similar site assessments and all material environmental investigations, reports, correspondence and tests in their possession relating to the Business, the Purchased Assets, the Owned Real Property, Leased Real Property or any formerly owned, leased or operated property.

Definitions



 "Hazardous Materials" means any substance, material or waste that is classified, regulated or otherwise characterized under any Environmental Law as hazardous, toxic, a contaminant or a pollutant or by other words of similar meaning or regulatory effect, including petroleum or any fraction thereof, asbestos, per- and polyfluoroalkyl substances (PFAS), polychlorinated biphenyls, and radioactive substances.

Buy Side Diligence



- Consider engaging qualified consultant to conduct:
 - <u>A phase I environmental site assessment</u> of company's real property to identify current or former property uses that likely involved PFAS, any major fires at the property, known regional PFAS concerns and proximity to U.S. Air Force bases or former PFAS manufacturing facilities
 - <u>A limited product review</u>, including a review of available safety data sheets, to identify any products which are likely to include PFAS
 - <u>Review of worker injury claims or litigation</u> involving PFAS
 - <u>Review company's disposal practices</u> (i.e., via landfilling or wastewater discharges) and whether any of its customers or suppliers have been engaged in PFAS litigation if company is using, or has used, PFAS in its manufacturing process
 - <u>Review any contracts with chemical suppliers and customers</u>, prior transactional documents and existing insurance policies for contractual protections or assumptions of risk

Thank You!



Adam Sowatzka Partner *Environmental, Health & Safety* asowatzkal@kslaw.com +1 404 572-3508 Mr. Sowatzka has been practicing for over 23 years and has significant experience in assisting clients in the defense of administrative, civil, and criminal proceedings involving permitting and environmental enforcement matters at the federal and state levels. He also helps lead the firm's EH&S incident response practice, assisting clients with the response to catastrophic explosions, fires, oil spills, and chemical releases throughout the country. Since 2011, Chambers USA Leading Lawyers for Business has recognized Mr. Sowatzka as a leading environmental lawyer in Georgia. According to Chambers, "Adam Sowatzka is an experienced litigator and is particularly noted for his enforcement expertise. Clients call him 'a great communicator who is extremely knowledgeable." Just last week, the Daily Report recognized Adam as a 2020 Georgia Trailblazer for his incident response work. Prior to entering private practice, he was an Associate Regional Counsel with the U.S. Environmental Protection Agency's Southeastern Regional Office and Vice President and General Counsel of a manufacturing and services subsidiary of Axel Johnson, Inc.

KING & SPALDING

PFAS Litigation Update

GEORGIA INDUSTRY ENVIRONMENTAL COALITION WATER RESOURCES SEMINAR October 13, 2020

Douglas A. Henderson King & Spalding LLP Phone: 404-572-2769 Email: <u>dhenderson@kslaw.com</u>

Topics

 Range of PFAS Cases and Disputes
 Two Key PFAS Legal Issues
 Future of PFAS Litigation

Are You a PFAS Plaintiff or a Defendant?



Scope of the PFAS Challenge



Americans with PFAS in blood

>600

US PFAS-contaminated sites

>4000

PFASs used in commerce

6 million

Americans with high PFAS levels in drinking water

https://web.uri.edu/steep/

PFAS Litigation: the Parties

Many Plaintiffs

- Individuals
- States / Counties / Cities
- Stockholders
- Class Actions
- Environmental groups
- All residents in the USA?

For now, Fewer Defendants

- 3M
- DowDuPont
- Chemours (2014)
- Buckeye Fire Equipment Co.
- TYCO Fire Products, L.P.
- National Foam, Inc

PUBLIC HEALTH V. BIG CHEMICALS A CASE OF SOCIAL JUSTICE

Nationally recognized environmental attorney Robert Bilott, "The lawyer who became DuPont's worst nightmare." —New York Times



Bilott is a partner at Taft Law based out of Northern Kentucky. He is a seasoned litigator who has handled environmental issues for more than 27 years, including representing thousands of individuals with serious disease claims due to exposure to PFASs released into their drinking water by DuPont in West Virginia.

COMMUNITIES RESPONDING TO CHEMICAL CONTAMINATION
 LEGAL, REGULATORY, AND SCIENTIFIC CHALLENGES
 LESSONS LEARNED FROM PRIOR LITIGATION
 PROSPECTS FOR FUTURE SOLUTIONS

Thursday, November 15, 2018, 3:00–4:30 PM URI Kingston Campus – Room 215 Beaupre Hall (Chemistry Building) RSVP: superfundsteep@etal.uri.edu Light refreshments provided



More STEEP information: uri.edu/steep

PFAS Litigation: Types of Cases



Types of Lawsuits:

- Trespass
- Nuisance—Private and Public (including inverse condemnation)
- Negligence
- Product Liability (failure to warn, design defect, manufacturing defect)
- Shareholder suits
- Fraud / Voidable Transfers
- Consumer Protection Statutes
- State statutes

Seeking:

- Personal injury damages
- Property damage (cost of repair / devaluation)
- Declaratory actions (agreement interpretation)
- Equitable relief (i.e., remediation, change process, etc.)
- Medical monitoring costs
- Natural resources damages (restoration, damages)

PFAS Litigation—Early, Important Case

Leach v. E.I. DuPont, Case No. 01-C-608 (Wood County W. Va. Cir. Ct., filed 8-31-2014)

- Class action alleging PFOA drinking water impacts
- 70,000 Ohio and West Virginia residents
- Settled 2005 for \$343 Million
- Creation of C-8 Scientific Panel
- Later, additional 3,500 PI claims filed, became MDL
- Defendants paid \$671 Million to resolve MDL

PFOA Emissions from a Teflon Plant in West Virginia



In Re: E.I. duPont de Nemours & Co., C-8 Personal Injury Liability, Case No. 2:13CV00136 (S.D. Ohio)

Take-Away: C-8 Science Panel / Leach case

4	C8 Science Panel	
V		
	Home	
Home		
The Science Panel	The Science Panel Website	
Panel Members	During 2005-2013, the C8 Science Panel carried out exposure and health studies in the Mid-Ohio Valley communities, which had been potentially affected by the releases of PFOA (or C8) emitted since the 1950s from the Washington Works plant in Parkersburg, West Virginia. They then assessed the links between C8 exposure and a number of diseases. The C8 Science Panel has completed its work and no longer exists; this website summarizes the results. The Science Panel consisted of three epidemiologists: Tony Fletcher, David Savitz, and Kyle Steenland, who were chosen jointly by the parties to the legal settlement of a case between plaintiffs and DuPont regarding releases of C8 from the plant. The Panel, its research programme, and links to other sources of information can be found via the links on the left. The main conclusions are in the form of Probable Link reports which summarize in each case whether the Science Panel found or did not find a link between exposure and disease. The detailed science behind the summaries in the Probable Link reports is published in articles in scientific journals. Many articles have been published and a few more are still in the process of publication. Follow the links at the left. For six disease categories, the Science Panel concluded that there was a Probable Link to C8 exposure: diagnosed high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, and pregnancy-induced hypertension.	
C8 Probable Link Reports		
C8 Science Panel Studies		
C8 Study Publications		
C8 Health Project		
Newsletter Archive		
Links		
Contact		
	Last updated January 04, 2017	
	back to top	

PFAS Litigation: Thousands of Cases States



State of New Mexico v. United States, 19CV00178 (D. N.M., filed 3-5-2019)

- Improper disposal of PFAS at Air Force base
- Seeks cost recovery for violations of NM HW Act

New Hampshire v. 3M Co., et al, Case No. 216-2019-cv-445 (N.H. Super. Ct. Hillsborough S.S., filed 5-29-2019)

- Alleges PFAS contamination to all counties
- Seeks compensation for state-wide contamination under "Public Trust"

Vermont v. 3M Co. et al., Super Ct. Chittenden Unit (filed 6-26-2019)

- Protect groundwater resources
- Seeks restoration costs

Minnesota 3M PFAS Settlement



PFAS Litigation: Thousands of Cases

Local Governments

Michigan DEQ v. Wolverine World Wide, Inc., No. 18CV00039 (W.D. Mich).

- Recovery of cleanup costs
- WWW third-party litigation against 3M
- EPA UAO in place

Hampton Bays Water District v. 3M Co. et al., Sup. Ct. of New York, Suffolk County, No. 2018CV603477 (filed 2-21-2018)

Restoration of "sole" aquifer

Suffolk County Water Authority v. Dow Chemical Co., 17CV6980 (E.D.N.Y.)

- Strict product liability
- Public nuisance

PFAS Litigation: Thousands of Cases

Individuals and Others

Yockey v. 3M et al., No. 16CV05553 (E.D. Pa., 10-24-2016)

Seeking personal injury damages

Dykehouse v. 3M and Georgia-Pacific, No. 18CV1225, (W.D. Mich., 11-1-2018)

3,000-member class action seeking personal injury damages

In Re: Teflon Product Liability Litigation, No. 4-06-MD-1733

- (S.D. Iowa, 2006)
 - Rejected certification
 - No traction

Illustrative PFAS Lawsuits

King v. West Morgan-East Lawrence Water and Sewer Auth., No. 17CV1833 (N.D. Ala.,10-31-2017)

- Class action with personal injuries
- Also RCRA count

West Morgan-East Lawrence Water and Sewer Auth. v. 3M Co., No. 5-15CV01750 (N.D. Ala., 10-5-2015)

Seeks restoration costs

Water Works and Sewer Board of the Town of Centre v. 3M Co., et al.,

13CV2017 (Cir. Court of Cherokee Cty., Ala., 5-15-2017)

- Suit against carpet manufactures in Georgia
- Cost recovery for treatment system

Emerald Coast Utilities Auth. V. 3M Co., et al., 09CV361 (N.D. Fla., 7-8-2009)

- Seeking restoration costs for water treatment system remediation
- Dismissed

PFAS "Environmental" Suits



Citizen Suits

Cape Fear Public Utility Authority v. Chemours et al., Notice of Intent to Sue, 8-3-2017

CWA and RCRA citizen suit over GenX

Tennessee Riverkeeper, Inc. v. 3M Co., No. 5:16-cv-01029-AKK, 2017 WL 784991 (N.D. Ala. 2-10-2017)

RCRA citizen suit

Little Hocking v. E.I. Dupont Nemours & Co., 91 F. Supp. 3d 940 (S.D. Ohio, 2015)

- Water supplies impacted
- RCRA ISE / CWA
- Settlement Agreement

PFAS Natural Resource Damage

Grewal (New Jersey DEP) v. DuPont et al., Nos. SLM-L-000057-19, PAS-L-0000936-19, MID-L-002448-19 and GLO-L-00388-19 (filed 3-27-2019)

- NRD and consumer fraud claims for PFAS conditions throughout State
- Followed state-wide order to DuPont and others

Additional AFF lawsuits against 3M et al. on 5-14-2019)



This Directive, Information Request, and Notice to Insurers (hereafter, "Directive") is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection ("Department") by NJ.S.A. 33:10-1 et seq., the Spill Compensation and Control Act ("Spill Act", NJ.S.A. 58:10-23.11 et seq., the Vater Pollution Control Act ("WPCA"), NJ.S.A. 58:10A-1 et seq., the Air Pollution Control Act ("APCA"), NJ.S.A. 26:2C-1 et seq., and the Solid Waste Management Act ("SWMA") NJ.S.A. 13:1E-1 et seq., to Solvay Speciaity Polymers USA, LLC and its predecessor Solvay Solexis, Inc. ("DowDuPont"), DuPont Speciaity Products USA, LLC, The Chemours Company ("DuPont"), DowDuPont, Inc. ("DowDuPont"), DuPont Speciaity Products USA, LLC, The Chemours Company ("SMM") (collectively, "Solvay"), E.I. du Pont de Nemours" & Company ("SMM") (collectively, the "Respondents") to notify them that the Department believes them to be responsible for the significant contamination of New Jersey's natural resources, including the air and waters of the State, with poly- and perfluoroalkyl substances ("PFAS"), including perfluorononancic acid ("PFNA"), perfluorooctannoic acid ("PFOA"), and perfluorooctanesulfonic acid ("PFOS"), and their replacement compounds, including but not limited to "GenX".

PFAS are being discovered in drinking water, groundwater, surface waters, sediments, soils, air, fish, plants, and other natural resources across New Jersey on a near daily basis. These PFAS compounds constitute a substantial threat to human health and the environment and a statewide public nuisance: they are extremely resistant to degradation and thus persist indefinitely in the environment; they bloaccumulate; they are commonly contained in consumer and household products; and contamination from PFAS is now ubiquitous in New Jersey. While Respondents and their predecessors in interest have understood the toxic characteristics of PFAS for decades, regulatory agencies around the world are only now coming to understand the true nature and dangers of these global contaminants. As further detailed below, the Department has expended and will continue to expend tremendous resources to identify and investigate the presence of PFAS in New Jersey's environment, as well as to monitor, treat, clean up, and/or remove PFAS in impacted areas. As a result, the Department has the timperative discussion of the second across of a result of the Department has the monitor, treat, clean up, and/or remove PFAS in impacted areas.

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PFAS Business v. Business Disputes

Chemours Co. v. DowDupont Inc., No. 2019-0351 (Court of Chancery, State of Delaware, filed 5-13-2019)

Who retains PFOS liability for spin-off of Performance Chemicals?

Valero v. 3M Co., No. CJ-19-149, Case 6:19CV00223 (Carter County Dist. Ct., Petition filed 7-11-2019)

Which company should pay for PFOS liability?



PFAS Securities Litigation

Heavy & General Laborers' Locals 472 & 172 *Welfare Fund* v. 3M Co., et al., No. 19CV15982 (D. N.J., 7-29-2019)

- Purchasers of 3M stock /drop
- Allege violation of federal securities laws
- Alleged 3M publicly denied harm from PFOS, but misrepresented harms based on internal documents

Rousseau v 3M Co. et al., No. 19CV17090 (D.N.J., 8-22-2019)

- Class action for violations of federal securities laws
- Stock drop case





PFAS Litigation—Administrative Challenges

Cape Fear River Watch v. NC DEQ, Petition for Judicial Review, Filed 3-7-2018.

- Challenge to GenX under NC Gen'l Statute
- GenX conditions = "general condition" causing "imminent danger to human health and safety"
- Denied because NCDEQ taking action



Centralized PFAS Aqueous Film-Forming Foam (AFF) Cases—MDL

In re Aqueous Film-Forming Foams Product Liability Litigation, MDL No. 2873 (D.S.C.)

- MDL—centralized cases involving AFF
- Common questions to be addressed:
 - Toxicity / Properties / Knowledge / Warnings / Conspiracy / Defenses / Airport Practices
- Excludes certain non-AFFF actions (N.D. Ala., Tenn., N.D.N.Y)
- May drive other PFOS cases

Battisti v. 3M Co., et al., No. 18CV00642 (M.D. Fla, 12-20-2018) (AFF class action)

PFAS Class Actions



The "Big(est)" PFAS Class Action

Hardwick v. 3M Co. et al., No. 18CV1185, Complaint Filed 10-4-2018 (S.D. Ohio)

<u>Definition</u>: "anyone in the United States with detectible PFASs in blood."

Hardwick v. 3M Co., S.D. Ohio, No. 18CV1185, Opinion and Order (9-30-2019)

- Denied Defendants motion to dismiss
- Case can proceed—exposure to PFOS determination can proceed.

PFAS Class Actions—Alabama



W. Morgan-East Lawrence Water & Sewer v. 3M Co.— PFAS Class Actions

- District court certified class of property owners and a municipality alleging property devaluation from PFAS
- But same counsel for Water Authority and putative class, settlement released absent class members' individualized claims for monetary damages (a conflict)
- Class representatives not typical, and settlement not fair, reasonable, and adequate
- Certification reversed

Recent PFAS Class Certification Decisions

Sullivan v. Saint-Gobain Perf. Plastics, 5:16CV00125 (D. Vt. 2019)

- PFOS Class Certified
- 8-23-2019

Burdick v. Tanoga, Inc. (Taconic), 60 Misc. 3d 1212(A) (N.Y. Sup. Ct. 2018):

- PFOA Class Certified
- **7-18-2019**
- PFOS medical monitoring

Giovanni et al. v. U.S. Dep't of the Navy and Palmer et al. v. U.S. Dep't of Navy, 906 F. 3d 94 (3d Cir., 2018)

 Medical monitoring not CERCLA preenforcement review



Key PFAS Legal Issue #1: Medical Monitoring

- Recovery for "exposure" to hazardous substances, but no physical manifestations, injuries or diseases
- Case law varies across jurisdictions
- Recent PFAS trends

(1) Plaintiff has, relative to the general population, been significantly exposed; (2) to a proven hazardous substance; (3) through the tortious conduct of defendant; (4) as a proximate result of the exposure, plaintiff has suffered an increased risk of contracting a serious latent disease; (5) the increased risk of disease makes it reasonably necessary for plaintiff to undergo periodic diagnostic medical examinations different from what would be prescribed in the absence of exposure; and (6) monitoring procedures make the early detection of a disease possible

Parker v. Brush Wellman, Inc., 377 F. Supp. 2d 1290, 1301–02 (N.D. Ga. 2005), aff'd, 230 F. App'x 878 (11th Cir. 2007) (requires injury or disease)

PFAS "Medical Monitoring" Cases

(K8S)

Lindsey v. 3M Co., 2020 U.S. Dist. LEXIS 52159 (N.D. Ala., Mar. 26, 2020)

 PFOS "medical monitoring" claim rejected under Alabama law—"increased risk" not sufficient without present physical injury

Benoit v. Saint-Gobain Perf. Plastics Corp., 959 F. Supp. 491 (2d Cir., 2020)

- Holds NY law does not recognize PFAS "medical monitoring" claim absent present physical injury
- BUT concludes presence of PFAS in blood sufficient to establish physical impacts under NY law

Key PFAS Issue #2: Expert Testimony

- Expert testimony critical for property, environmental, personal injury cases involving PFASs and "emerging contaminants"
- Role of C-8 Science Panel "probable cause" findings
- Advances in detection and measurement, evolution of causation, and role of meta-analysis
- Expertise and experience varies widely
- Other litigation, recent publicity

Scapa Dryer Fabrics, Inc. v. Knight, 788 S.E.2d 421 (Ga. 2016) (rejects cumulative exposure—dose important)

Future of PFAS Litigation



- 1. To date, lawsuits mainly against PFAS *manufacturers*
- 2. Going forward, lawsuits against PFAS users
- 3. Expect non-detect MCL and remediation standards increased testing for PFAS
- 4. Product liability theories—consumer products, packaging
- 5. Reopening CERCLA and state superfund sites
- 6. Reissuance of NPDES permits
- 7. Is PFAS the next legal/science issue to be resolved globally?

Thank You!





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