

# Environmental Litigation and Toxic Torts Committee Newsletter

Vol. 18, No. 4

August 2017

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## MESSAGE FROM THE CHAIRS

Peter Condron and Shelly Geppert

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Dear Members:

Our fourth (and final) newsletter for the 2016–2017 term includes a look at recent key decisions from across the nation. Out West, Whitney Jones Roy and Alison Kleaver review an opinion from the U.S. District Court for the Western District of Oklahoma granting defendants’ motion to dismiss a complaint by Sierra Club alleging that activities by oil and gas extraction companies were increasing the number of earthquakes in Oklahoma. Whitney and Alison also share two opinions from the Ninth Circuit Court of Appeals; one relating to claims brought pursuant to the National Forest Management Act, and the other relating to conditional registration under the Federal Insecticide, Fungicide, and Rodenticide Act. Moving to the Midwest, Sonia Lee discusses two opinions (issued by the Sixth Circuit Court of Appeals and the Indiana Court of Appeals) relating to the exclusion of expert testimony. Further, Ameri Klafeta provides an update on criminal charges relating to the Flint water crisis. In the Mid-Continent, Lisa Cipriano discusses a decision from the Eighth Circuit Court of Appeals reversing summary judgment that had been granted to defendants in a case alleging that fracking waste migrated onto plaintiff’s property. Lisa also looks at a Fifth Circuit Court of Appeals decision affirming dismissal of a complaint brought by the Board of Commissions of the Southeast Louisiana Flood Protection Authority

East asserting that offshore oil exploration and production activities had resulted in damage to coastal lands and increased risk of flooding. Turning to the Southeast, Matt Thurlow and Laura Glickman review a decision from the U.S. Court of Appeals for the D.C. Circuit vacating an EPA rule exempting farms from reporting air emissions under the Comprehensive Environmental Response, Compensation, and Liability Act and the Emergency Planning and Community Right-to-Know Act. Further, Matt and Laura discuss a decision from the U.S. District Court for the Eastern District of Virginia concerning alleged violations of the Clean Water Act, and a decision from the U.S. District Court for the District of Columbia granting plaintiff’s motion for summary judgment and finding that EPA failed to meet its obligation under the Clean Air Act to revise emissions standards for 20 major source categories. Out East, Steven German discusses a precedential opinion by the Third Circuit Court of Appeals approving an environmental class action settlement and fee award. Steven also reviews a complaint filed by the state of Connecticut against EPA and Administrator Pruitt alleging a failure to perform a nondiscretionary duty to timely take action on the state’s Clean Air Act petition, and an order from the Pennsylvania Supreme Court declining to hear an appeal from a landowner seeking to revive his claim that fracking operations near his property resulted in contamination to his private well.

In addition, Russ Abell and Stephen Zemba of environmental consulting firm Sanborn Head &

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Environmental Litigation and  
Toxic Torts Committee Newsletter  
Vol. 18, No. 4, August 2017  
Lisa Gerson and Stephen Riccardulli,  
Editors

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**About the Editors**

**Lisa Gerson** is a partner in the New York office of McDermott Will & Emery LLP. Her practice focuses on product liability, environmental, toxic tort, and commercial litigation. She may be reached at [lgerson@mwe.com](mailto:lgerson@mwe.com).

**Stephen Riccardulli** is a partner in the New York office of Norton Rose Fulbright. His practice focuses on product liability, environmental, and toxic tort litigation. He may be reached at [stephen.riccardulli@nortonrosefulbright.com](mailto:stephen.riccardulli@nortonrosefulbright.com).

**AMERICAN BAR ASSOCIATION  
SECTION OF ENVIRONMENT,  
ENERGY, AND RESOURCES**

**CALENDAR OF SECTION EVENTS**

August 30, 2017  
**Supreme Court Year in Review: The Environmental Cases and A Review of Justice Gorsuch's Environmental Jurisprudence**  
Non-CLE Webinar

October 18-21, 2017  
**25th Fall Conference**  
Baltimore Marriott Waterfront  
Baltimore, MD

March 8, 2018  
**Environmental Policy Symposium**  
The University of Mississippi School of Law  
Oxford, MS

April 16-18, 2018  
**36th Water Law Conference**  
Hilton Bonnet Creek  
Orlando, FL

April 18-20, 2018  
**47th Spring Conference**  
Hilton Bonnet Creek  
Orlando, FL

October 17-20, 2018  
**26th Fall Conference**  
Marriott Marquis San Diego Marina  
San Diego, CA

**For full details, please visit  
[www.ambar.org/EnvironCalendar](http://www.ambar.org/EnvironCalendar)**

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Associates, Inc., offer a primer on per- and polyfluoroalkyl substances (“PFASs”). Russ and Stephen explain what PFASs are; how PFASs are impacting the environment and related response actions undertaken; and the Health Advisory Level set by EPA. If you missed our committee program call on PFASs, please visit our webpage to review a copy of the PowerPoint presented by Russ and Stephen.

We hope to see you at SEER’s 25th Fall Conference, taking place from October 18 to 21, in Baltimore. Confirmed speakers, panels, registration details, and more are available on ABA’s online events calendar. As a reminder, you are eligible for either 12 or 14.4 hours of CLE credit (depending on how your state accounts for CLE credit hours).

Lastly, congratulations to our contributing author Matthew Thurlow, who recently joined Baker Hostetler’s Washington, D.C., office as a partner.

Pete and Shelly

**Peter Condrón** is a partner in the Washington, D.C., office of Sedgwick LLP. His practice focuses on environmental, toxic tort, product liability, and energy litigation. He may be reached at [peter.condron@sedgwicklaw.com](mailto:peter.condron@sedgwicklaw.com).

**Shelly Geppert** is an attorney at Eimer Stahl LLP in Chicago. Shelly concentrates her practice in civil litigation with a focus on environmental, products liability, and toxic tort matters. She may be reached at [sgeppert@eimerstahl.com](mailto:sgeppert@eimerstahl.com).

## CASE LAW HIGHLIGHTS: MOUNTAIN/WEST COAST

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### NINTH CIRCUIT VACATES CONDITIONAL REGISTRATION FOR NANOSILVER-CONTAINING PESTICIDE DUE TO LACK OF EVIDENCE THAT ITS USE IS IN THE PUBLIC INTEREST

Whitney Jones Roy and Alison N. Kleaver

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*Natural Resources Defense Council v. E.P.A.*, \_\_\_ F.3d \_\_\_, 2017 WL 2324714 (9th Cir. May 30, 2017). The Ninth Circuit Court has vacated the conditional registration of the pesticide NSPW-L30SS (“NSPW”)—an antimicrobial materials preservative that uses nanosilver as its active ingredient—on the grounds that the Environmental Protection Agency (“EPA”) failed to provide substantial evidence that the use of the ingredient was in the public interest. *Id.* at \*2.

NSPW is a material preservative manufactured by Nanosilva LLC that, when incorporated into plastics or textiles, can help suppress the growth of bacteria, mold, mildew, and other odor causing organisms. *Id.* The active ingredient in NSPW is nanosilver, a version of “conventional” silver that is engineered to have a much smaller particle size. *Id.* Recognizing the potential benefits of nanosilver, companies began approaching EPA to register the pesticide for sale in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (“FIFRA”). *Id.* Under FIFRA, pesticides may be registered on either a conditional or unconditional basis. *Id.* at \*4. Unconditional registration may be granted when an applicant submits sufficient data to evaluate the environmental effects of the product. *Id.* Alternatively, if the applicant is unable to provide such evidence, EPA may grant conditional registration under specific circumstances. *Id.* If EPA lacks the data required for unconditional registration because “a period reasonably sufficient for generation of the data has not elapsed,” conditional registration may be granted if the product is found to be in the public interest. 7 U.S.C. § 136a(c)(7)(C). A FIFRA panel was convened to discuss the potential hazards

associated with the new pesticide, finding that nanosilver should be treated differently than conventional silvers. 2017 WL 2324714, at \*3. Upon review of the FIFRA panel’s findings, EPA decided to conditionally register NSPW. *Id.* EPA found that NSPW had the potential to reduce environmental loading and silver release, satisfying the public interest requirement, and that Nanosilva LLC had insufficient time to amass the data necessary for unconditional registration. *Id.*

In its petition, the Natural Resources Defense Council (“NRDC”) opposed EPA’s conditional registration of NSPW, arguing that EPA failed to support its findings that (1) the use of NSPW is in the public interest; and (2) that Nanosilva LLC had insufficient time to submit the required data for conditional registration. *Id.* at \*1. Ultimately, the Ninth Circuit sided with NRDC as to the former argument and did not address the latter.

In reviewing EPA’s decision, the court noted that it would sustain the conditional registration if the public-interest requirement was supported by substantial evidence when considered on the record as a whole—defining substantial evidence as more than a mere scintilla, but less than a preponderance. *Id.* at \*3. The court noted that the public-interest requirement reflects an important distinction between conditional and unconditional registration requirements because it allows for the production of a pesticide with less than complete risk data. *Id.* at \*4. Because there had not been a prior decision considering the public-interest requirement and the statute itself does not further define it, the court looked to the legislative history of the act to understand its implications. *Id.* at \*5. Specifically, the court gave weight to statements made by Senator Leahy, who sponsored the bill, indicating that conditional registration “would be reserved to the truly exceptional case” and that the public-interest requirement was “a more stringent test” than required for unconditional registration. *Id.*

EPA had concluded that use of NSPW has the potential to reduce the amount of silver released into the environment. *Id.* While NRDC did

not dispute that reducing the amount of silver released into the environment would be in the public’s interest, they did dispute the underlying assumptions made to support EPA’s conclusion. *Id.* EPA had relied on three assumptions in concluding that NSPW would potentially reduce the amount of silver leached into the environment. *Id.* First, NSPW has a lower application rate (meaning it uses less silver) than conventional silver pesticides. Second, NSPW has a lower mobility rate (meaning it is less likely to release silver into the environment in detectable quantities). Lastly, for the lower application and mobility rate to actually lead to a reduction in silver leaching into the environment, EPA had to assume that current users of conventional silver pesticides would switch to NSPW and/or that NSPW would not be incorporated into new products. *Id.* While the court concluded that the first two premises were supported by substantial evidence, it held that the third premise impermissibly relied on unsubstantiated claims. *Id.*

The Ninth Circuit reasoned that lower application and mobility rates alone were necessary, but not sufficient, to conclude that nanosilver would decrease the amount of silver introduced into the environment. *Id.* at \*7. For this to be the case, EPA would have to also assume that current users of conventional silver pesticides will replace those pesticides with NSPW (“the substitution assumption”) and that NSPW will not be incorporated into new products to the extent that such incorporation would increase the overall amount of silver introduced into the environment (“the no-new-products assumption”). *Id.* Because EPA was unable to provide substantial evidence as to these assumptions, the court sided with NRDC in concluding that EPA’s public-interest requirement was not satisfied. *Id.* at \*8.

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## NINTH CIRCUIT AFFIRMS FOREST SERVICE'S AUTHORITY TO "CHOOSE JOBS OVER WOLVES"

Whitney Jones Roy and Alison N. Kleaver

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*In re Big Thorne Project and 2008 Tongass Forest Plan*, \_\_ F.3d \_\_, 2017 WL 2233755 (9th Cir. May 23, 2017). Plaintiffs, environmental conservation and activist organizations, brought suit against the U.S. Forest Service and Department of Agriculture (collectively, "Forest Service") on behalf of individuals who fish, hunt, and "enjoy" Alaska's Tongass National Forest. *Id.* at \*3. Plaintiffs alleged that the Forest Service violated the National Forest Management Act (the "Act") by approving either the 2008 Tongass Forest Plan or the Big Thorne logging project. *Id.* at \*2. The Ninth Circuit affirmed the district court's summary judgment in favor of the Forest Service, holding that the Forest Service's approval was neither arbitrary nor capricious because the Act expressly grants the Forest Service discretion to balance competing interests, and the Forest Service reached its determination after a thorough analysis rationally supported by the evidence. *Id.* at \*5.

The Big Thorne logging project permits timber harvesting in the Tongass National Forest, which includes rainforest on an island on which the Alexander Archipelago wolf resides. *Id.* at \*2. The rare (but not threatened or endangered under the Endangered Species Act) wolf depends on deer living in the rainforest to survive. *Id.* The Forest Service adopted the Tongass Forest Plan in 2008. *Id.* The Forest Plan included two guidelines recommended by a team of scientists to address concerns regarding the habitat of the Alexander Archipelago wolf. *Id.* The first guideline, known as the "wolf provision," stated that the Forest Service would "[p]rovide, where possible, sufficient deer habitat capability to . . . maintain sustainable wolf populations" and noted that 18 deer per square mile was generally considered to be sufficient habitat capability. *Id.* The second guideline, known as the "road provision," stated that "[t]otal road densities of 0.7 to 1.0 mile per square mile or less may be necessary" to protect the wolves. *Id.*

The Ninth Circuit rejected plaintiffs' claim that the Forest Service's approval of the logging project violated the Forest Plan. *Id.* at 4. Regulations in place at the time the Forest Plan was approved "required that national forests 'be managed to maintain *viable* populations of existing native and desired non-native vertebrate species.'" *Id.* at \*3. Under the regulations, a "viable population" meant one with enough "reproductive individuals to insure its continued existence is well distributed in the planning area." *Id.* Although the "wolf provision" confusingly used the term "sustainable" rather than "viable," the Ninth Circuit determined that the terms need not be parsed because the proper inquiry was whether the Forest Service unlawfully concluded that its Forest Plan would safeguard the continued and well-distributed existence of the Alexander Archipelago wolf. *Id.* The Ninth Circuit further found that the Forest Plan's inclusion of language stating that the Forest Service would "[p]rovide, where possible, sufficient deer habitat capability to . . . maintain sustainable wolf populations" was aspirational, not obligatory. *Id.* Thus, the Ninth Circuit agreed that the guideline gave the Forest Service "flexibility and discretion" to balance competing objectives and did not require them to maintain viability of the wolf population. *Id.*

The Ninth Circuit also rejected plaintiffs' argument that this broad discretion and the failure to set hard viability minimums were itself a violation of the Act. *Id.* at \*4. The Ninth Circuit noted that there is no authority compelling an agency to set specific standards for protecting a species that has not been granted protection under the Endangered Species Act. *Id.* Furthermore, the court explained that the goal of the Act was to permit the Forest Service to "manag[e] competing uses, none to the exclusion of others." *Id.* Thus, the Act could not be fairly interpreted to require the Forest Service to establish set viability minimums that could not be breached. *Id.*

The Ninth Circuit held that the Forest Service met its legal obligation to supply "a rational connection between the facts found and the conclusions made" because the Forest Plan concluded that it will

sustain viable wolf populations, considered various alternatives, and outlined a multipart strategy to achieve its goal consistent with its analysis and discussion. *Id.* at \*5. Accordingly, the Ninth Circuit refused to substitute its judgment for that of the Forest Service in determining the proper balance of competing interests under the Act, stating that “[i]n the end, the Service chose jobs over wolves. We have no authority to second-guess that judgment.” *Id.* The Ninth Circuit rejected plaintiffs’ claim that the Big Thorne logging project was inconsistent with the Forest Plan for the same reason. *Id.*

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### OKLAHOMA COURT DISMISSES FRACKING EARTHQUAKE CASE DUE TO COURT’S LACK OF SCIENTIFIC EXPERTISE

*Sierra Club v. Chesapeake Operating LLC et al.*, \_\_\_ F. Supp. 3d \_\_\_, 2017 WL 1287546 (W.D. Okla. 2017). The Sierra Club filed a citizen suit under the Resource Conservation and Recovery Act (“RCRA”) against Chesapeake Operating LLC, Devon Energy Production Co. LP, Sandridge Exploration and Production LLC, and New Dominion LLC (collectively, “defendants”), alleging that the defendants’ fracking activities increased the number and severity of earthquakes in Oklahoma. *Id.* at \*1. The Sierra Club sought declaratory and injunctive relief from the court requiring the defendants to reduce their wastewater disposal volume, reinforce structures vulnerable to earthquakes, and establish an earthquake monitoring center. *Id.* The defendants moved to dismiss the complaint, contending that the court should decline to exercise jurisdiction under the *Burford* abstention and primary jurisdiction doctrines because the Oklahoma Corporation Commission (“OCC”) has implemented new regulations and water disposal directives in response to increased seismic activity. *Id.* at \*2. The district court granted the defendants’ motion to dismiss, deferring to the OCC expertise on both grounds. *Id.* at \*10.

The court began its analysis by recounting the complicated legal framework and processes

governing fracking in Oklahoma. The court recognized that the OCC has “exclusive jurisdiction, power and authority . . . to promulgate and enforce rules” to regulate injection wells, or Class II wells, used in fracking. *Id.* at \*2. Furthermore, the OCC regulates Class II wells through a comprehensive system of permit adjudication and must approve every Class II well. *Id.* The OCC may suspend, modify, vacate, amend or terminate “an order or permit granting an underground injection application during its term for cause.” *Id.* Additionally, any interested person has the right to apply to the OCC to repeal, amend, modify, or supplement its administrative orders. *Id.* The OCC must consider these applications as expeditiously as possible and any appeal lies with the Oklahoma Supreme Court. *Id.* Finally, the court noted that the OCC may “take whatever action necessary to promptly respond to emergency situations having potentially critical environmental or public safety impact . . . including, but not limited to, seismic activity.” *Id.* at \*2–3.

The court concluded that, under this regulatory framework, the OCC “responded energetically” to minimize the earthquake risk due to fracking activities within the state. *Id.* at \*10. In 2014, the OCC adopted rules requiring a daily recording of well pressure and volume for disposal wells. *Id.* at \*4. In 2015 and 2016, it issued numerous directives to reduce disposal volumes, such as implementing a 40 percent volume reduction plan for over 600 wells, or to stop operations altogether. *Id.* In the aggregate, the reduction plans reduced Class II disposal wells by approximately 800,000 barrels a day and involved about 700 disposal wells. *Id.* This year, the OCC imposed additional limits for wells within the 15,000-square-mile area of interest. *Id.* All of these directives were mandatory and required immediate implementation. *Id.*

With this background in mind, the court addressed defendants’ first request to dismiss the Sierra Club’s RCRA claim pursuant to the *Burford* abstention doctrine. This doctrine, which was enacted to protect complex state administrative processes from undue federal influence, requires

federal courts to decline jurisdiction in situations “where the exercise of federal review of the question in a case and in similar cases would be disruptive of state efforts to establish a coherent policy with respect to a matter of substantial public concern.” *Id.* at \*10. The court determined abstention was appropriate because the OCC was the primary Class II wastewater regulator under both federal and state law and, pursuant to its authority, the OCC had to make a coordinated response to seismicity that encompassed a substantial portion of the state. *Id.* at \*11. Furthermore, seismicity is an area of substantial public concern. Finally, the court determined that timely state court review was available as well. *Id.* at \*11. Accordingly, the court declined review under the *Burford* abstention doctrine. *Id.*

The court also granted defendants’ motion to dismiss on the basis of primary jurisdiction for similar reasons. First, the court found that the Sierra Club’s factual issues are outside the conventional experience of judges. *Id.* at \*17. The court determined that the OCC is “better equipped . . . to resolve the seismicity issue relating to disposal well activities by specialization, by insight gained through experience, and by more flexible procedure.” *Id.* at \*18. Second, the court observed that the defendants “could be subjected to conflicting orders of both the court and the OCC” if the court found for the Sierra Club. *Id.* The court viewed a clear need for uniformity and consistency in addressing seismic activity so it deferred to the OCC. *Id.* Third, although no formal agency proceedings had been initiated, the court found that the OCC “had been taking an escalating series of voluntary measures to curtail injection.” *Id.* at \*19. Fourth, the court determined that the “OCC had demonstrated diligence in resolving these issues.” *Id.* at \*20. Fifth, the Sierra Club requested injunctive relief, which makes the primary jurisdiction doctrine more readily applicable. *Id.* In addition, the requested relief required scientific and technical expertise, which the OCC possesses. *Id.* Consequently, the court found that the OCC had primary jurisdiction. *Id.* Finally, because there is no statute of limitation applicable to the Sierra Club’s

RCRA claim, the Sierra Club would not be unfairly prejudiced or disadvantaged by a dismissal instead of a stay. *Id.* at \*21–22.

**Whitney Jones Roy** is the office managing partner of the Los Angeles office of Sheppard Mullin Richter & Hampton LLP, specializing in complex business litigation and environmental litigation. **Alison N. Kleaver** is University Counsel for the California State University with primary responsibility for the Humboldt State University campus. They may be reached at [wroy@sheppardmullin.com](mailto:wroy@sheppardmullin.com) and [akleaver@calstate.edu](mailto:akleaver@calstate.edu).



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## CASE LAW HIGHLIGHTS: MIDWEST

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### SIXTH CIRCUIT AFFIRMS EXCLUSION OF TOXICOLOGY EXPERT'S TESTIMONY AS UNRELIABLE IN CLASS ACTION INVOLVING ALLEGED HARM TO PROPERTIES CAUSED BY PRESENCE OF CONTAMINANT

Sonia H. Lee

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***Abrams v. Nucor Steel Marion, Inc.*, No. 15-4422, 2017 U.S. App. LEXIS 9323 (6th Cir. May 25, 2017).** On appeal from the U.S. District Court for the Northern District of Ohio, the Sixth Circuit affirmed the exclusion of an expert's testimony as unreliable in an action involving allegations of harm to human health caused by the presence of manganese on plaintiffs' properties. Applying the abuse of discretion standard of review, the Sixth Circuit ruled that plaintiffs' expert's testimony, which sought to establish causation between the manganese levels on plaintiffs' properties and the resulting harm to human health, was properly excluded because the expert failed to proffer "actual proof" to support his opinion, thereby making his testimony unreliable. *Id.* at \*15.

The action found its origin in 2009 and 2010, when the Ohio Environmental Protection Agency ("OEPA") issued several notices of violation to Nucor Steel Marion, Inc. ("Nucor"), for alleged infractions of emissions regulations at Nucor's steel mill located in Marion, Ohio. Nucor resolved the allegations by entering into a negotiated settlement with OEPA, entitled the "Director's Final Findings and Orders" ("DFFO"), in which it disputed the claims and did not admit any fact, violation, or liability. While the DFFO noted that manganese levels in the Marion area were "at elevated levels that are unacceptable for protecting public health[,]," the DFFO did not address the source of the elevated levels of manganese or find Nucor in violation of any regulatory obligation. *Id.* at \*3-4.

In late 2012, numerous Marion property owners filed a class action lawsuit in the Marion County

Court of Common Pleas, alleging nuisance and indirect trespass claims based solely on harm to their property from manganese. Following removal of the action to federal court, the class action was transformed into a bellwether trial, where plaintiffs Randal Bush and Ronald Tolle were designated as the bellwether plaintiffs to test the claims of the class.

Following discovery, Nucor moved to exclude plaintiffs' expert toxicology witness, Dr. Jonathan Rutchik, who was plaintiffs' key witness to establish the alleged damages to plaintiffs' properties. The district court granted Nucor's motion to exclude the expert testimony of Dr. Rutchik and found his opinion inadmissible because Dr. Rutchik failed to "test [his] hypothesis in a timely and reliable manner or to validate [his] hypotheses by reference to generally accepted scientific principles as applied to the facts of the case." *Id.* at \*6.

Plaintiffs challenged several of the district court's findings on appeal, including the district court's exclusion of Dr. Rutchik's testimony. In affirming the district court's ruling, the Sixth Circuit noted that plaintiffs proffered Dr. Rutchik's expert testimony "as the only evidence to 'connect the dots' between the manganese levels on each Plaintiff's property and the alleged likely harm to human health caused by that manganese." *Id.* at \*12. The panel agreed with the district court's finding that "Dr. Rutchik's opinion is conclusory and his assertion that all Plaintiffs have been adversely affected by Nucor's manganese emissions is too broad, general, and vague to be helpful to the trier of fact." *Id.* at \*14. The panel also agreed that "Dr. Rutchik's opinion that Plaintiffs 'will suffer harm to their health' is not based on any examination or testing and does not address the type or degree of harm Plaintiffs will suffer." *Id.* On the latter point, the Sixth Circuit highlighted the fact that plaintiffs, who resided in Marion for over ten years, "do not present any symptoms of illness relating to any alleged manganese exposure." *Id.* at \*15.

Based upon Dr. Rutchik’s failure to validate his hypotheses by reference to generally accepted scientific principles as applied to the facts, the Sixth Circuit determined Dr. Rutchik’s expert testimony to be unreliable and, therefore, inadmissible.

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**TENANT FAILED TO ESTABLISH THAT  
LANDLORD’S ALLEGED NEGLIGENCE IN  
PERMITTING LEAD PAINT HAZARDS ON  
PREMISES CAUSED CHILD’S INJURIES**

Sonia H. Lee

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***Duby v. Woolf*, No. 84A05-1612-CT-2815, 2017 Ind. App. LEXIS 224 (Ind. Ct. App. May 30, 2017).** In a negligence action brought by a tenant against a landlord for injuries to a child allegedly caused by exposure to lead paint, the Indiana Court of Appeals affirmed the trial court’s exclusion of plaintiff’s expert testimony and entry of summary judgment in favor of the landlord.

In January 2004, Myra Duby’s daughter, identified as A.S., gave birth to a child, identified as L.H. During her pregnancy, A.S. had used methamphetamine “daily” and smoked marijuana.

Shortly following L.H.’s birth, beginning in March 2004, L.H. and his older sister began living with their grandmother, Duby, at a rental house owned by defendant Christopher Woolf. In December 2005, a doctor evaluated L.H. and observed “developmental delay, toe walking, blank stares, and speech delay.” *Id.* at \*2. The following month, a separate doctor evaluated L.H. and “felt that he met diagnostic criteria for autism spectrum and began a workup to rule out another etiology for his developmental delay[.]” *Id.* Testing conducted at that time revealed that L.H. had “a negative lead level[.]” *Id.*

In July 2007, a physician determined that L.H. had elevated lead levels in his blood—20 micrograms of lead per deciliter of blood. After a representative from the Vigo County Health Department also discovered the presence of lead paint and lead

dust in Duby’s rental home, Duby and the children moved out.

Duby, as legal guardian of L.H., filed suit against Woolf, alleging his negligence caused L.H.’s lead exposure, which, in turn, had caused “significant and severe physical and cognitive impairments,” including autism. *Id.* at \*3.

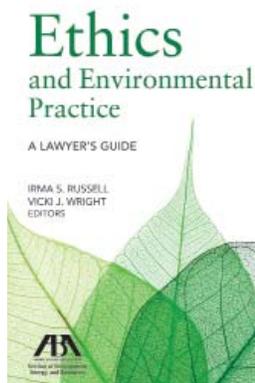
Before trial, Woolf moved to exclude Duby’s expert witness, Angela Boyd, R.N., and moved for summary judgment. The trial court granted both motions. However, after the trial court denied Duby’s motion to correct error, Duby appealed.

Duby first contended that the trial court abused its discretion when it excluded the expert testimony by Boyd that Woolf’s negligence caused L.H.’s autism. On appeal, the court of appeals found that Boyd’s testimony was properly excluded. The court noted that Boyd, a registered nurse with a master’s degree in molecular biology, acknowledged she was not qualified to “diagnose” autism or other health conditions related to lead poisoning. Rather, Boyd merely testified that she based her opinion regarding the cause of L.H.’s autism “on facts and evidence in the State declaration that he was lead poisoned.” *Id.* at \*9. Boyd also conceded she did not physically examine or evaluate L.H. or review L.H.’s medical records. Finally, while Boyd opined that there was “no evidence” of any connection between L.H.’s mother’s methamphetamine use during her pregnancy and L.H.’s autism, Boyd could not identify “the research” to support her opinion beyond stating, “I think it’s like the American Journal of Pediatrics Reviews [sic].” *Id.* at \*9. Accordingly, the court found Duby failed to show that the trial court abused its discretion when it excluded Boyd’s testimony regarding the purported diagnosis and causation of L.H.’s autism.

Duby next contended that the trial court erred in granting summary judgment to Woolf, primarily arguing that, when considered together with other evidence, Boyd’s testimony showed the existence of genuine issues of material fact. Because the court found that the trial court did not abuse its

discretion when it excluded Boyd's testimony on causation, "Duby [could] only prevail on appeal if there [was] other designated evidence showing proximate cause." *Id.* at \*14. However, Duby's reliance on testimony offered by Dr. Philip Reed, who opined that there "could be" a relationship between L.H.'s behavior problems and the high lead levels, that one "would expect" some cognitive problems related to lead exposure, that even low levels of lead "can cause" behavior problems, and that exposure "could" add to the problems L.H. was experiencing, were all "too general and speculative to show causation." *Id.* at \*15. Consequently, Duby could not show that there was a genuine issue of material fact on the element of proximate cause.

**Sonia H. Lee** is an associate in the New York office of Norton Rose Fulbright US LLP. Her practice focuses on product liability, environmental, toxic tort, and complex civil litigation. She may be reached at [sonia.lee@nortonrosefulbright.com](mailto:sonia.lee@nortonrosefulbright.com).



### **Ethics and Environmental Practice: A Lawyer's Guide**

**Irma S. Russell and Vicki J. Wright, Editors**

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## **CASE LAW HIGHLIGHTS: MID-CONTINENT**

### **EXPERT REPORT ESTIMATING SPREAD OF FRACKING WASTE WAS ADMISSIBLE EVEN THOUGH IT EMPLOYED VARIOUS ASSUMPTIONS AND APPROXIMATIONS**

Lisa Cipriano

#### ***Hill v. Southwestern Energy Co.*, No. 15-3458, 2017 WL 2218769 (8th Cir. May 22, 2017).**

Plaintiff property owners brought an action for trespass and unjust enrichment against defendant, a company engaged in hydraulic fracturing ("fracking"), claiming that defendant had disposed of fracking waste near plaintiffs' property, resulting in contamination of plaintiffs' property. *Hill v. Southwestern Energy Co.*, No. 15-3458, 2017 WL 2218769, at \*1 (8th Cir. May 22, 2017). As part of defendant's fracking operations, defendant had to "dispose of chemical-containing wastewater." *Id.* Defendant had attempted to negotiate a lease with plaintiffs to dispose of the waste in "an exhausted and plugged production well" on plaintiffs' property. *Id.* When negotiations were unsuccessful, defendant instead leased a well on the property of plaintiffs' neighbor and "disposed of approximately 7.6 million barrels of fracking waste." *Id.* The plaintiffs "claim[ed] that—based on the volume of disposed waste, the small volume under the leased area, the proximity of the [plaintiff]s' property, and the assumed radial flow—the fracking waste migrated into the subsurface of their property, resulting in trespass and unjust enrichment." *Id.* Of particular note, "[t]here [was] no evidence of surface contamination on the [plaintiff]s' property," and plaintiffs did not obtain any sample through drilling. *Id.* Instead, plaintiffs relied in part on an expert who "calculate[d] the radial flow of the fracking waste." *Id.*

The district court excluded the report of plaintiffs' expert on the grounds that it was unreliable and granted defendant's motion for summary judgment, stating that "a reasonable 'juror would have to speculate to conclude that a trespass by migration actually occurred.'" *Id.* at \*1–2. The district court found that the expert's report, which

“used a simplistic equation to create a rough model . . . was not based on sufficient facts or data.” *Id.* at \*3. The district court also found that the expert’s equation, which “contained ‘many simplifying assumptions,’” suffered from various “methodological problems.” *Id.*

The court of appeals reversed and remanded, holding that the district court had abused its discretion in excluding the expert’s report, and that plaintiffs “present[ed] evidence that could support a reasonable inference that the fracking waste migrated across their property line . . . This reasonable inference creates a genuine issue of material fact, precluding summary judgment.” *Id.* at \*4–5. The court first noted that “[e]vidence based on scientific, technical, or specialized knowledge is admissible if (1) it is relevant—useful to the finder of fact in deciding the ultimate issue of fact; (2) the witness is qualified to assist the finder of fact; and (3) it is reliable or trustworthy in an evidentiary sense, so that, if the finder of fact accepts it as true, it provides the assistance the finder of fact requires.” *Id.* at \*2 (internal quotations and citations omitted). The court found that the expert report was relevant and that the expert was qualified. *Id.* at \*3. With regard to the reliability of the expert’s calculation, the court found that while the expert’s “report (and its equation) may be crude and imperfect, none of the issues cited by the district court make it so unreliable that it should be excluded. It still gives the trier of fact a rough idea of how far the fracking waste would spread under certain conditions.” *Id.* The court stated that “[u]sing widely accepted assumptions and approximations does not mean [expert] started his analysis where he should have ended.” *Id.* (internal quotations omitted).

Finally, the court found that the plaintiffs had submitted sufficient evidence to avoid summary judgment because “[t]he evidence before the district court, even without [the] expert opinion, creates a genuine issue of material fact. The facts found by the district court are (1) a landman who identified himself as working for SWE stated that, in his “lay opinion, the area under the [plaintiff]s’

property would be filled up by the waste injected in the neighbor’s well”; (2) [defendant] “tried to lease the Hillis Heirs well on the [plaintiff]s’ ground first, which creates a reasonable inference of some underground connection . . . ; (3) the close proximity of the Campbell well to the [plaintiff]s’ property line; and (4) a large volume of waste was injected into a small leased area.” *Id.* at \*4. The court noted that experts for both sides had agreed that the volume of waste deposited by defendant “could not possibly fit in the reservoir space directly beneath the leasehold.” *Id.* at \*1. “These facts, while thin, enable a jury to draw a reasonable inference that 7.6 million barrels of waste, poured into an area capable of holding no more than 1.1 million barrels, migrated 180 feet to cross the property line.” *Id.* at \*5.

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## NEITHER FEDERAL ENVIRONMENTAL STATUTES NOR STATE LAWS IMPOSED DUTIES TO PROTECT STATE FLOOD PROTECTION AUTHORITY FROM INCREASED COSTS

Lisa Cipriano

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*Board of Comm’rs of the S.E. La. Flood Prot. Auth. v. Tennessee Gas Pipeline Co., LLC*, 850 F.3d 714 (5th Cir. Mar. 3, 2017). Plaintiff, the Board of Commissioners of a state flood protection authority, filed an action in Louisiana state court against 97 defendant companies, which were engaged in “the exploration for and production of oil reserves off the southern coast of the United States. The Board alleged that defendants’ exploration activities caused infrastructural and ecological damage to coastal lands overseen by the Board that increased the risk of flooding due to storm surges and necessitated costly flood protection measures.” *Board of Comm’rs of the S.E. La. Flood Prot. Auth. v. Tennessee Gas Pipeline Co., LLC*, 850 F.3d 714, 720 (5th Cir. Mar. 3, 2017). Plaintiff specifically “assert[ed] that Defendants’ oil and gas activities—primarily the dredging of an extensive network of canals to facilitate access to oil and gas wells—has caused direct land loss and increased erosion and submergence in the” coastal landscapes protecting

against flooding, “resulting in increased storm surge risk.” *Id.* The Board brought various state law claims against defendants, including, among other claims, for negligence, strict liability, nuisance, and breach of contract. *Id.* The complaint “describe[ed] a longstanding and extensive regulatory framework under both federal and state law that protects against the effects of dredging activities and establishes the legal duties by which Defendants purportedly are bound,” but did not actually include any federal law claims. *Id.* at 720–21 (internal quotations omitted). After the defendants removed the case to federal court, the district court denied the plaintiff’s motion to remand. *Id.* at 720. The district court found that the claims “necessarily raise[d] a federal issue, actually disputed and substantial, which a federal forum may entertain without disturbing the congressionally approved balance of federal and state judicial responsibilities.” *Id.* at 721 (internal quotations omitted). The district court also granted the defendants’ motion to dismiss for failure to state a claim. *Id.* at 720.

The Fifth Circuit affirmed the district court’s decision. *Id.* at 720. Reviewing the district court’s decision de novo, the court of appeals noted that “[a] federal court may exercise federal question jurisdiction over any civil action that arises under the federal constitution, statutes, or treaties. A federal question exists only where a well-pleaded complaint establishes either that federal law creates the cause of action or that the plaintiff’s right to relief necessarily depends on resolution of a substantial question of federal law . . . Only in a special and small category of cases will federal jurisdiction exist when state law creates the cause of action. That limited category of federal jurisdiction only exists where (1) resolving a federal issue is necessary to resolution of the state-law claim; (2) the federal issue is actually disputed; (3) the federal issue is substantial; and (4) federal jurisdiction will not disturb the balance of federal and state judicial responsibilities.” *Id.* at 721 (internal quotations omitted). The defendants had “dispute[d] the Board’s contention that the negligence or nuisance claims could be resolved

solely as a matter of state law,” arguing that the claims actually were based on federal regulatory schemes, in particular the Clean Water Act and the Rivers and Harbors Act. *Id.* at 722. The court found that “Defendants correctly point out that the Board’s complaint draws on federal law as the exclusive basis for holding Defendants liable for some of their actions, including for the unauthorized alteration of federal levee systems and for dredging and modifying lands away from their natural state.” *Id.* (internal quotations omitted). The court stated that “[t]he absence of any state law grounding for the duty that the Board would need to establish for the Defendants to be liable means that that duty would have to be drawn from federal law.” *Id.* at 723. “The Board’s negligence and nuisance claims thus cannot be resolved without a determination whether multiple federal statutes create a duty of care that does not otherwise exist under state law.” *Id.* The court also found that the federal issues were disputed. *Id.* With regard to whether the federal issue was substantial, the court noted that “[t]he substantiality inquiry . . . looks . . . to the importance of the issue to the federal system as a whole,” *id.* (internal quotations omitted), and that “the validity of the Board’s claims would require that conduct subject to an extensive federal permitting scheme is in fact subject to implicit restraints that are created by state law . . . The implications for the federal regulatory scheme of the sort of holding that the Board seeks would be significant, and thus the issues are substantial.” *Id.* (citations omitted). Finally, the court found that “[i]f the federal statutes at issue in this case do create duties and obligations under the laws of various states, then it might be inappropriate for federal question jurisdiction to obtain every time a state-law claim is made on that basis. But where, as here, one of the primary subjects of dispute between the parties is whether the federal laws in question may properly be interpreted to do that at all, the implications for the federal docket are less severe.” *Id.* at 725.

The court also affirmed the dismissal of the claims. *Id.* at 731. Of particular note, the court found that,

with regard to the Board’s negligence and strict liability claims, “[t]he district court was correct that neither federal law nor Louisiana law creates a duty that binds Defendants to protect the Board from increased flood protection costs that arise out of the coastal erosion allegedly caused by Defendants’ dredging activities. Although it is true that this court has often held that violation of a Federal law or regulation can be evidence of negligence, it has declined to do so where the principal purpose of the relevant statutes was not to protect the plaintiff.” *Id.* at 727 (internal quotations omitted).

**Lisa Cipriano** is a commercial litigation attorney at the Chicago office of Eimer Stahl LLP. Lisa’s experience includes environmental and products liability matters, class action securities fraud cases, accountants’ liability cases, and contract disputes. She may be reached at [lcipriano@eimerstahl.com](mailto:lcipriano@eimerstahl.com).

## CASE LAW HIGHLIGHTS: SOUTHEAST

### D.C. CIRCUIT VACATES AIR EMISSIONS RULE FOR FARMS

Matt Thurlow and Laura Glickman

*Waterkeeper Alliance v. EPA*, 853 F.3d 527 (D.C. Cir. 2017). On April 11, 2017, the Court of Appeals for the D.C. Circuit vacated an Environmental Protection Agency (“EPA”) rule exempting farms from reporting air emissions of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) and Emergency Planning and Community Right-to-Know Act (“EPCRA”). *Waterkeeper Alliance v. EPA*, 853 F.3d 527 (D.C. Cir. 2017). Under the 2008 rule, farms were exempt from reporting air releases because EPA determined that a federal response to these emissions was “impractical and unlikely.” *Id.* at 530. Numerous environmental groups objected to EPA’s proposed exemption, arguing that reports of hazardous air emissions from farms furthered the regulatory objections of CERCLA and EPCRA. The D.C. Circuit agreed with petitioners and vacated the rule.

Section 103 of CERCLA requires parties to notify the National Response Center of any release of a hazardous substance above a “reportable quantity.” *Id.* at 531. Similarly, EPCRA requires parties to notify state and local authorities whenever “extremely hazardous substances” are released into the environment. *Id.* Ammonia and hydrogen sulfide are by-products of animal waste considered to be “hazardous substances” or “extremely hazardous substances” under CERCLA and EPCRA. *Id.* EPA has set reportable limits for ammonia and hydrogen sulfide at 100 pounds per day, levels that are routinely exceeded at commercial farms. 40 C.F.R. § 302.4(a); *Waterkeeper Alliance*, 853 F.3d at 531.

In December 2007, EPA proposed a rule exempting farms from CERCLA and EPCRA reporting requirements for animal waste because the agency had never taken action based on air emissions at

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a farm and could not foresee ever doing so. *Id.* at 531–32. EPA issued a final rule in December 2008 exempting all farms from reporting requirements for animal waste, concluding that reporting such emissions was “unnecessary” because “a federal response is impractical and unlikely.” *Id.* at 532. Following pressure from environmental groups, EPA decided to carve out an exemption under EPCRA for combined animal feeding operations (“CAFOs”), farms that have more than 1000 cattle, 10,000 sheep, or 55,000 turkeys. *Id.*

Environmental groups still challenged EPA’s final rule on the basis that EPA did not have the authority to grant reporting exemptions under CERCLA and EPCRA, and the rule was arbitrary because it treated farms more favorably than other sources of hazardous air emissions. *Id.* at 532. The National Pork Producers Council also challenged EPA’s decision to continue to subject CAFOs to reporting requirements under EPCRA. *Id.*

After determining that the challenge to the final rule was properly before the D.C. Circuit, the court held that the environmental groups had suffered an injury and, therefore, had standing to challenge the final rule because it deprived the groups “of information, the public disclosure of which would otherwise be required.” *Id.* at 533–34. The court then evaluated whether the final rule was reasonable under the *Chevron* standard. *Id.* at 534. The court could not find any authority in CERCLA delegated to EPA that would allow the agency to exempt industries from reporting requirements. *Id.* at 535. Finally, the court evaluated whether there was any regulatory benefit to the reporting rule under the *de minimis* doctrine. *Id.* (“The *de minimis* doctrine is an expression of courts’ reluctance ‘to apply the literal terms of a statute to mandate pointless expenditures of effort,’ and is thus a ‘cousin’ of the doctrine permitting courts to avoid absurd results in the face of a statute’s seemingly plain meaning.”). Citing public comments critical of the rule, the court disagreed with EPA’s conclusion that it would be “impractical or unlikely” for the agency to respond to reports of releases of hazardous air emissions from farms. *Id.* at 536–37. The court concluded that EPA’s final

rule exempting farms from CERCLA and EPCRA reporting requirements could not be justified as either a reasonable statutory interpretation or under the *de minimis* doctrine. Accordingly, the court vacated the final rule and also dismissed as moot the Pork Producers’ petition challenging the CAFO carve-out under EPCRA. *Id.* at 537–38.

Judge Janice Rogers Brown filed a concurrence agreeing with the decision, but criticizing the panel’s application of the *Chevron* standard. *Id.* at 538–39. Judge Brown disagreed with the panel’s conflation of the two-step *Chevron* standard into an evaluation of “reasonableness,” arguing that the panel should have first determined if the statute was ambiguous before evaluating the reasonableness of EPA’s interpretation of the statute. *Id.* at 539.

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## VIRGINIA DISTRICT COURT FINDS VIOLATIONS OF CLEAN WATER ACT, BUT DECLINES TO IMPOSE “DRACONIAN” REMEDY

Matt Thurlow and Laura Glickman

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*Sierra Club v. Virginia Electric & Power Co.*, No. 2:15-CV-112, 2017 U.S. Dist. LEXIS 42635 (E.D. Va. Mar. 23, 2017). Following a bench trial, District Court Judge John Gibney found that Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) violated the Clean Water Act following discharges of arsenic from its Chesapeake Energy Center (“Chesapeake”) into groundwater and surface water at the site. *Sierra Club v. Virginia Electric & Power Co.*, No. 2:15-CV-112, 2017 U.S. Dist. LEXIS 42635 (E.D. Va. March 23, 2017). The violations stemmed from the seepage of arsenic from coal ash stored in piles and lagoons at the former power plant site. But the court declined to find that Dominion violated its wastewater discharge permits, opted not to assess civil penalties, and rejected Sierra Club’s “draconian” request for injunctive relief. *Id.* at \*2–3.

The Clean Water Act prohibits the discharge of pollutants into “navigable waters” without a

permit. 33 U.S.C. § 1342(a). Sierra Club argued that Dominion violated its state-issued Clean Water Act permit by discharging arsenic into groundwater that is hydrologically connected to surface waters at the site. Dominion countered that the Clean Water Act does not regulate groundwater, and coal ash at the site did not meet the definition of a “point source” under the Act. *Id.* at \*16.

The court agreed with Sierra Club that the Clean Water Act covers discharges to groundwater that is hydrologically connected to surface water. *Id.* at \*17–18. The court also agreed with Sierra Club that the coal ash ponds and landfill constituted point sources under the Clean Water Act. *Id.* at \*18–19. Because Dominion did not have a discharge permit for the ponds and landfill, it held that Dominion violated the Clean Water Act. *Id.* at \*20.

The court dismissed Sierra Club’s claims that Dominion violated its discharge permits, deferring to the Virginia Department of Environmental Quality’s interpretation of the permits—that they did not apply to discharges to groundwater. *Id.* at \*21. The court also declined to impose civil penalties because “Dominion has been a good corporate citizen, not a chronic violator of water laws” at the facility. *Id.* at \*22.

Dominion’s Chesapeake facility is located near the Southern Branch of the Elizabeth River and Deep Creek. The facility generated electricity between 1953 and 2014, and for much of this period stored coal ash in three unlined settling ponds. In 1984, Dominion received a state permit to construct a lined landfill on top of the settling ponds, and also constructed two unlined ponds. All together the ponds and landfill now contain approximately 3,396,000 tons of coal ash, including an estimated 150 tons of arsenic. *Id.* at \*4. Groundwater sampling of wells at the site revealed detections of arsenic above Virginia’s groundwater protection standards, indicating that arsenic seeped from the landfill and ponds into groundwater at the site. *Id.* at \*5. Groundwater at the site is hydrologically connected to surface water including the Elizabeth River, Deep Creek, and a nearby discharge channel. *Id.* at \*7.

Dominion initially admitted that groundwater is hydrologically connected to the surface water at the site, but later disputed evidence of a hydrological connection in the Sierra Club litigation. *Id.* at \*8–9. The court therefore concluded that “[t]he ponds and landfill convey arsenic directly into the groundwater and, from there, directly into the surface water.” *Id.* at \*9. The court also disagreed with Dominion’s contention that arsenic near the site came from other local industries: “Although some tidal action may move sediments around, it defies logic to argue that an enormous mound of arsenic does not contribute to the arsenic in soil and water right next to it, especially given the evidence of groundwater movement from the mound outward.” *Id.* at \*11. The court concluded that some arsenic was discharged to surface waters at the site, but could not determine how much. However, the court could conclude “that the discharge poses no threat to health or the environment.” *Id.* at \*12.

Notwithstanding the absence of environmental harm, Sierra Club advocated for removal of all coal ash at the site to a municipal landfill. Sierra Club insisted on such a remedy despite not knowing if a landfill might accept the coal ash, how much ash might spill during its transport, or the cost of such a remedy. *Id.* at \*13. Dominion estimated the cost at \$600 million. *Id.*

The court rejected the Sierra Club’s request for “draconian injunctive relief” because of a lack of evidence of irreparable harm to human health or the environment, the high cost of the relief, and Sierra Club’s failure to demonstrate that such relief was feasible. *Id.* at \*23–24. The court also rejected Dominion’s proposed solution of monitored natural attenuation, which “[l]ike the Sierra Club’s proposal, . . . leaves a host of questions unanswered: Does it really work? How long will it take?” *Id.* at \*25. The court instead adopted a “middle course” requiring more extensive monitoring of the Chesapeake site, including sediment and wildlife monitoring for arsenic. *Id.* at \*27. The court also required Dominion to reopen its solid waste permit, and ordered the parties to submit a remedial plan with monitoring locations and a schedule. *Id.*

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## D.C. DISTRICT COURT SETS TIMELINE FOR REVISIONS TO EMISSIONS STANDARDS FOR TWENTY MAJOR SOURCES

Matt Thurlow and Laura Glickman

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*California Communities Against Toxics v. Pruitt*, No. 15-CV-512, 2017 WL 978974 (D.D.C. Mar. 13, 2017). On March 13, 2017, District Court Judge Tanya Chutkan granted environmental plaintiffs' motion for summary judgment, finding that EPA had not met its obligation under the Clean Air Act to revise emissions standards for 29 major source categories. *Cal. Communities Against Toxics v. Pruitt*, No. 15-CV-512, 2017 WL 978974 (D.D.C. Mar. 13, 2017). However, the court rejected both the plaintiffs' and EPA's proposed timelines for completing the overdue rulemakings, and instead imposed a schedule in between the proposed timelines. *Id.* at \*6.

The 1990 amendments to the Clean Air Act required EPA to regulate different types of sources that emit hazardous air pollutants ("HAPs"). *Id.* at \*1. EPA was to publish a list of all categories and subcategories of major sources and area sources of HAPs within a year of the amendments' 1990 passage. *Id.* For each list of categories and subcategories, the amendments required EPA to establish emissions standards for 40 source categories within two years of November 1990; 25 percent within four years; and an additional 25 percent within ten years. *Id.* At least every eight years, EPA must review its emissions standards and, taking into account technological developments, either promulgate new standards or find that new standards are not necessary. *Id.* at \*2 (citing 42 U.S.C. § 7412(d)(6)). The amendments also required EPA to submit a report to Congress within six years on the remaining risk to public health and actual health impact of HAPs, and if Congress did not act, to conduct a residual risk review within eight years to determine whether any changes were needed to protect human health or the environment. *Id.* (citing 42 U.S.C. § 7412(f)(2) (A)). Together, these reviews are known as risk and technology reviews.

Plaintiffs and EPA agreed that more than eight years had passed since the promulgation of emissions standards for the 20 major source categories at issue. *Id.* at \*3. The parties also agreed that EPA had not completed risk and technology review rulemakings for those categories. *Id.* Plaintiffs proposed a timeline that would require EPA to complete the overdue rulemakings within one to two years. *Id.* EPA proposed a five-year timeline to complete the rulemakings. *Id.*

In support of the longer timeline, EPA pointed to the duration of recent risk and technology reviews, and that it was already engaged in seven other rulemakings so had fewer resources available for the 20 risk and technology reviews at issue. *Id.* at \*4. Further, EPA argued that Congress had given EPA eight years to conduct the risk and technology reviews. *Id.* Plaintiffs countered, and the court agreed, that risk and technology reviews were to occur at least every eight years, but that Congress did not contemplate them taking eight years to complete. *Id.* at \*5. EPA also stated that the quality of rules would suffer under plaintiffs' proposed timeline. *Id.* The court agreed that more time would improve the agency's final product, but found that EPA had not met the relevant standard of "impossibility." *Id.* The court found that EPA's justifications for its inability to meet plaintiffs' timeline were too vague. *Id.* However, the court also found that plaintiffs' timeline was "simply too compressed at this stage to afford any reasonable possibility of compliance." *Id.* at \*6 (citation omitted). As such, the court set a completion deadline of three years. *Id.*

**Matthew Thurlow** is a partner at Baker & Hostetler LLP. Matt worked as a trial attorney in the Environmental Enforcement Section at the U.S. Department of Justice from 2008 to 2011, and at Latham & Watkins LLP from 2011 to 2017. He may be reached at [Matthew.Thurlow@bakerlaw.com](mailto:Matthew.Thurlow@bakerlaw.com).

**Laura Glickman** is an associate in the Environment, Land & Resources Department at Latham & Watkins LLP. She may be reached at [laura.glickman@lw.com](mailto:laura.glickman@lw.com).

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## CASE LAW HIGHLIGHTS: NORTHEAST

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### THIRD CIRCUIT APPROVES NEW JERSEY TOXIC TORT CLASS ACTION SETTLEMENT, ATTORNEYS FEES AND INCENTIVE AWARDS; REMANDS ON ISSUE OF “COMMINGLED” EXPENSES

Steven German

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*Halley, et al. v. Honeywell International, Inc., et al.*, Case No. 16-2712 (3d Cir. June 29, 2017). In a precedential opinion, the Third Circuit on June 29, 2017, approved an environmental class action settlement and fee award, but remanded for further findings with respect to the district court’s award of litigation costs.

The case was brought against PPG Industries, Inc., and Honeywell International, Inc., on behalf of three putative classes—A, B, and C—of property owners in three different neighborhoods whose homes were allegedly contaminated by defendants’ chromate production and disposal sites in Jersey City, New Jersey. *Id.* at \*7. Plaintiffs alleged private nuisance, strict liability, trespass, negligence, and civil conspiracy. Plaintiffs sought damages “for loss of property value” and punitive damages. *Id.*

The Class A and C plaintiffs, who lived closest to the Honeywell sites, reached settlement with Honeywell. The Class B plaintiffs, who lived closest to the PPG sites, did not settle with PPG. The district court certified the Class A and C settlement classes under Rule 23(a) and (b), granted final approval of the settlement as fair and reasonable under Rule 23(e), and approved plaintiffs’ counsel’s motion for costs and attorneys’ fees under Rule 23(h). *Id.* at \*9.

Maureen Chandra, a member of the Honeywell settlement class, objected to the settlement and the award of fees and costs. The district court overruled her objection, and she appealed to the Third Circuit. *Id.*

With respect to the settlement approval, Chandra argued that the district court erred in (1) approving

the settlement without a record establishing the extent of contamination on class members’ properties and the best possible recovery; (2) approving a settlement releasing “unknown” and “unforeseen” future claims; and (3) failing to consider the negative reaction of class members at a public meeting. The Third Circuit rejected each of Chandra’s arguments.

The Third Circuit held that it was not necessary for the district court to determine the extent of contamination. Rather, the district court properly weighed the conflicting evidence concerning the contamination as a factor under *Girsh v. Jepsen*, 521 F.2d 153, 157 (3d Cir. 1975), militating in favor of settlement. It likewise rejected Chandra’s assertion that it was duty-bound to determine “the best possible recovery for the class.” *Id.* at \*17. Reiterating that “precise value determinations are not required” in evaluating a class action settlement, the court held that calculations required by the eighth and ninth *Girsh* factors—valuation of the best possible recovery and depreciation of that recovery for the risks of litigation—are case-specific inquiries. *Id.* at \*22. In some cases it may be feasible to make such determination through readily available data. But in other cases, where such valuations are difficult or impossible without expert evidence that has not yet been fully established, “the District Court need not delay approval of an otherwise fair and adequate settlement if it has sufficient other information to judge the fairness of the settlement.” *Id.* at \*23. “To conclude otherwise might risk requiring parties to continue to litigate cases unnecessarily[.]” *Id.*

With respect to Chandra’s challenge over “unknown” and “unforeseen” contamination, citing *In re Prudential Ins Co. of America Sales Practice Litigation (Prudential II)*, 261 F.3d 355 (3d Cir. 2001), the Third Circuit explained it is “not unusual for a class settlement to release all claims arising out of a transaction or occurrence.” *Id.* at \*25. “[A] judgment pursuant to a class settlement can bar later claims based on the allegations underlying the claims in the settled class action.” *Id.* The rule “serves the important policy interest of

judicial economy by permitting parties to enter into comprehensive settlements that prevent relitigation of settled questions at the core of a class action.” *Id.* Presented with a record developed over five years of fact discovery, the Third Circuit deferred to the district court’s determination of the fairness of the settlement vis-à-vis the scope of the release. *Id.* at \*28. Finding that the informal reactions of some people at a public meeting were insufficient to overcome the presumption created by the small number of formal objections and opt-outs after each class member received direct notice of the settlement, the Third Circuit also rejected this objection to the settlement.

Chandra next argued that the district court erred in analyzing the award of attorneys’ fees based on the amount of the recovery before deducting costs, rather than after deducting costs, as required by New Jersey Court Rule 1:21-7. The Third Circuit agreed with Chandra insofar as New Jersey Court Rule 1:21-7 is applicable and acts as a federal procedural rule limiting contingent fee agreements in class actions certified under Fed. R. Civ. P. 23 in the District of New Jersey. *Id.* at \*34. But, as a practical matter, it held that application of the rule had no effect on the district court’s finding that the fee award of \$2,504,250 was fair and reasonable. *Id.* at \*34–35. The fee award was roughly 25 percent of the total fund before deduction of costs, but only slightly more, 28 percent of the fund, after deduction of the costs. The district court expressly found that the 28 percent fee award was also reasonable. The shift from 25 percent to 28 percent did not trigger the need for additional notice, especially since the dollar figure of the award remained the same as in the original notice.

Finally, the Third Circuit addressed Chandra’s objection to the reimbursement of costs incurred in pursuing claims against both Honeywell and PPG. Chandra argued that the expenses, even if indistinguishable, should be apportioned equally between the Honeywell and PPG classes (i.e., class counsel should have been denied reimbursement of expenses pursuing PPG from the Honeywell

settlement fund) and that due process required her to have the opportunity to review itemized expense records. *Id.* at \*41. Plaintiffs argued that the case involved allegations of joint and several liability and conspiracy. As such, up until settlement, the case was litigated in such a way that all costs were necessarily advanced to prosecute claims against Honeywell and PPG jointly. Once settlement was achieved, the majority of case expenses were incurred in pursuing PPG alone and could then be isolated for reimbursement from PPG at a later date. *Id.*

Although the Third Circuit was “not persuaded” that class counsel must provide itemized expense records to objectors or to the class generally to support the award of costs, it found that if an award of costs is approved after in camera review of expense records, “the District Court should provide sufficient reasoning so there is a basis to review for abuse of discretion.” *Id.* The circuit court therefore remanded “so the District Court may articulate why the costs were reasonably incurred in the prosecution of the case against Honeywell and to address the issue of commingled expenses.” *Id.* In doing so, the court declined to articulate a bright-line rule on reimbursement of “commingled costs.”

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## PENNSYLVANIA SUPREME COURT DECLINES FRACKING CASE APPEAL

Steven German

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*Loren Kiskadden v. Pennsylvania Department of Environmental Protection, Case No. 480 WAL 2016 (Pa.)*. On May 2, 2017, the Supreme Court of Pennsylvania issued an order declining to hear an appeal by a landowner seeking to revive his claim that hydraulic fracturing operations near his property caused contamination of his private water well. The justices left standing an October 2016 decision by the Pennsylvania Commonwealth Court finding that Loren Kiskadden’s evidence of alleged pollution from Range Resources’ oil and gas extraction activities at the Yeager Well Site did not outweigh conflicting evidence that the contaminants in his well were naturally occurring.

In December 2009, Range Resources began oil and gas extraction at the Yeager Well Site, located approximately 2900 feet from Kiskadden's property. In 2011, Kiskadden filed a complaint with the Pennsylvania Department of Environmental Protection ("PADEP") seeking an alternative water source because his well water foamed, contained gray sludge-like matter, and had a rotten egg odor. The PADEP investigated Kiskadden's property and the Yeager site, conducted water-quality testing and a hydrogeology study of the area. Range also conducted water quality testing of Kiskadden's water. PADEP concluded that Kiskadden's well was polluted, but not by activities at the Yeager site or any other gas-related activities. Neither the hydrogeological study nor analytic results supported such a connection.

Kiskadden appealed the PADEP's determination to the Pennsylvania Environmental Hearing Board. The Board held a 20-day trial. Acting as fact-finder, the Board weighed the conflicting testimony and evidence and determined that Kiskadden did not prove a hydrogeological connection between his well and the Yeager site.

A three-judge Commonwealth Court panel upheld the Board's dismissal of Kiskadden's appeal in December 2015, and that decision was affirmed in October 2016 following an en banc rehearing by the Commonwealth Court. The en banc panel found that Kiskadden had presented credible evidence showing a possible link between Range's drilling activity and the contamination of his well, but the court ultimately found that Kiskadden did not overcome other evidence casting doubt on whether pollutants could have traveled from the Yeager site to his property: "There was no dispute that Kiskadden's water well is polluted. However, the crux of the matter before the Board was whether the operations at the Yeager Site caused the pollution in Kiskadden's water well, which is Kiskadden's burden to prove."

Specifically, the en banc panel affirmed the Board's key findings including that (1) Kiskadden failed to demonstrate the existence of a hydrogeological

connection between his water well and the gas operations; (2) water sample results indicated the water quality was attributable to natural or background conditions, rather than releases from oil and gas activities; and (3) other constituents detected in Kiskadden's well were not unique to oil and gas activities. The panel also rejected Kiskadden's contention that substantial evidence did not support the Board's factual findings; the Board capriciously disregarded material competent evidence demonstrating a hydrogeological connection between his well and the Yeager site operations; and that the Board relied on speculative evidence.

Because the Board's findings were "supported by substantial evidence," the en banc panel said it "cannot disturb them on appeal." It was Kiskadden's burden to prove a hydrogeological connection between the Yeager site and his water supply. It was not Range's burden to prove its nonexistence. Ultimately, the Board found Kiskadden did not meet his burden.

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## STATE OF CONNECTICUT SUES EPA TO REDUCE POLLUTION FROM PENNSYLVANIA COAL-FIRED PLANT

Steven German

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*Connecticut v. Pruitt et al.*, case no. 3:17-cv-00796 (D. Conn.). On May 16, 2017, the state of Connecticut filed a lawsuit against the U.S. Environmental Protection Agency ("EPA") and Administrator Pruitt, alleging that they failed to perform a nondiscretionary duty to timely take action on the state's Clean Air Act ("CAA") Section 126 petition. The lawsuit seeks an order compelling EPA to hold a public hearing on the state's petition and to either make the requested finding or deny the petition.

At the heart of the lawsuit is the state's interest in curbing pollution from a Pennsylvania coal-fired power plant that is allegedly blowing in the state's direction, contributing to the amount of ozone in Connecticut's air, and causing the ambient

air quality to fall below national standards. The state sent a citizen suit notice on March 9, 2017, notifying EPA of the state's intention to sue if EPA did not act on the Section 126 petition within 60 days.

The state's federal lawsuit alleges that the EPA failed to take timely action on the state's June 2016 Section 126 petition asking EPA to require Talen Energy's Brunner Island Steam Electric Station to reduce air pollution generated from its three coal-fired electric generating units. Brunner Island is a bituminous coal-fired electricity generation facility in York County, Pennsylvania, on the Susquehanna River. The petition requested that EPA make a finding that emissions from Brunner Island are significantly contributing to Connecticut's nonattainment of the 2008 National Ambient Air Quality Standards ("NAAQS"), and/or are interfering with Connecticut's maintenance of the NAAQS. The state also requested that EPA hold the statutorily required public hearing with regard to the petition. The petition, and the technical supporting documents attached to it, demonstrated that interstate transport of emissions from Brunner Island significantly contributes to nonattainment of the 2008 ozone NAAQS in Connecticut, in violation of the CAA. A finding by EPA that Brunner Island is in violation of Section 126 will require Brunner Island, within three months, to either cease operations or to operate subject to an EPA-imposed incremental schedule to come into compliance as expeditiously as possible, but in no case later than three years after the date of the finding. This, according to the lawsuit, will reduce precursor emissions that significantly contribute to

2008 ozone NAAQS nonattainment in Connecticut and will result in a more equitable distribution of the burden of controlling ozone pollution due to interstate transport.

According to the complaint, "[t]he administrator's inaction on the Section 126 petition has harmed and continues to harm the state and its citizens and residents, by delaying action to address the interstate transport of air pollution from Brunner Island, which significantly contributes to nonattainment of the 2008 ozone NAAQS in Connecticut, to the detriment of the health and welfare of the state's citizens and residents."

Section 126 of the CAA, allows states to petition the EPA Administrator for a finding that a stationary source in another state emits or would emit air pollutants in violation of the Act. EPA must either make the requested finding or deny the petition within 60 days after receipt of the petition, and after a public hearing. Once EPA makes a finding, the Act requires that the violating source not operate three months after the finding. The Administrator may allow the source to operate beyond such time only if the source complies with emission limitations and compliance schedules as the Administrator may direct to bring about compliance.

*Steven German is a partner at German Rubenstein LLP in New York where he handles environmental and toxic tort matters. He also teaches environmental and toxic tort litigation at Pace Law School. He may be reached at [www.germanrubenstein.com](http://www.germanrubenstein.com).*



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## CRIMINAL CHARGES IN FLINT WATER INVESTIGATION REACH HIGH-LEVEL MICHIGAN OFFICIALS

Ameri R. Klafeta

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Since first announcing its investigation in January 2016, Michigan Attorney General Bill Schuette's office has brought several rounds of criminal charges in connection with the Flint water crisis. In total there have been 51 criminal charges—37 felonies and 14 misdemeanors—filed against 15 individuals. Defendants include the city of Flint's state-appointed emergency managers, as well as officials from the Michigan Department of Environmental Quality ("MDEQ"), Michigan Department of Health and Human Services ("MDHHS"), and the city of Flint. The charges range from failure to perform official duties to involuntary manslaughter, and defendants include two current members of Michigan Governor Rick Snyder's cabinet.

### Involuntary Manslaughter Charges

In the most recent round of criminal charges, five individuals were charged with involuntary manslaughter for the death of 85-year-old Robert Skidmore. This charge is significant not just for its serious nature, but also because it was brought against current MDHHS Director Nick Lyon, a political appointee and member of the governor's cabinet.

While much of the focus of the Flint water issues has been related to lead, the involuntary manslaughter charges arise out of Legionnaires' disease outbreaks in Genesee County, Michigan. These outbreaks occurred in 2014 and 2015, leaving 12 people dead. By October 2014, according to the attorney general, Genesee County recorded 30 cases of Legionnaires' disease for the previous six months, while in previous years it had recorded only between two and nine cases per year. The uptick in reported Legionnaires' cases occurred after Flint's drinking water source was switched to the more-corrosive Flint River. According to the charges filed against Lyon,

MDHHS was aware of the outbreak in 2014. Lyon was personally notified about the 2014 outbreak in January 2015 and told that Flint's water was a possible source. A few months later, in July 2015, Lyon was purportedly advised of elevated levels of lead in Flint's drinking water. He allegedly directed his staff to provide a "strong statement" that the lead levels were due to seasonal fluctuations. The charges state that in September 2015, a state epidemiologist advised Lyon's administrative assistant of a second wave of Legionnaires' disease in Flint. Mr. Skidmore died in December 2015, and his death was attributed to the disease. The attorney general asserts that the public was not warned of the Legionnaires' disease outbreak until January 13, 2016, when the governor declared a state of emergency in Flint.

Under Michigan law, involuntary manslaughter is defined as the "the unintentional killing of another, without malice . . . during the commission of some lawful act, negligently performed; or in the negligent omission to perform a legal duty." *People v. Mendoza*, 664 N.W.2d 685, 690 (Mich. 2003). The charge against Lyon rests on both of these prongs. The failure to warn the public about the Legionnaires' outbreak is alleged to constitute a negligent omission to perform a legal duty. Lyon is also charged with conducting an investigation of the outbreak in a grossly negligent manner, constituting the negligent performance of an act. Involuntary manslaughter is a felony, punishable by 15 years' imprisonment and/or a \$7500 fine. *See Mich. Comp. Laws 750.321.*

It is unprecedented for a high-ranking government official to be charged for a death based on the failure to warn the public of a problem. One challenge for prosecutors will be establishing a link between Lyon's negligence and Skidmore's death. Even in other cases involving private defendants, such as environmental disasters involving corporate and individual defendants, there is a more direct connection between the defendant and the death. *See Denis Binder, The Increasing Application of Criminal Law to Disasters and Tragedies*, NAT. RESOURCES AND ENV'T (Winter 2016).

Moreover, proving the manslaughter charges will likely involve complicated issues regarding the source of the Legionnaires' disease outbreak that led to Mr. Skidmore's death. Expert testimony will be key on this point. The state of Michigan's investigation has focused on McLaren-Flint hospital, where Skidmore had been a patient, as the source of the outbreak. The Center for Disease Control ("CDC"), however, has identified evidence that suggests otherwise. It compared samples taken from Skidmore to samples collected from a second victim at another hospital. The CDC concluded that there were no known common sources of infection between the two, other than both receiving water at their respective hospitals from the Flint River.

Lyon is also facing charges of official misconduct for his actions with respect to the investigation of the outbreak, in particular directing a health official to discontinue investigating its source. In 2016, Lyon purportedly told a Wayne State University engineering professor who was leading a research team that he could not afford increased surveillance of the outbreak in order to determine its source. According to the charges against him, when told that his decision could cause more people to die, Lyon responded that he "couldn't save everyone" and that people "have to die of something." Lyon allegedly later questioned the value of the study being done and threatened to pull its funding. MDHHS Chief Medical Executive Eden Wells, another cabinet member, has also been charged with obstruction of justice for similarly threatening to cut the independent researchers' funding out of concern that they would notify the public.

## Prior Rounds of Criminal Charges

The previous three waves of criminal charges regarding Flint related more specifically to the decision to use, and not properly treat, water from the Flint River. In the first, MDEQ and Flint water supervisors and an engineer were charged with misleading federal and county officials in violation of their duty to provide clean and safe drinking water and tampering with the Lead and Copper Report and Consumer Notice of Lead

Results. Charges were also brought for improperly manipulating the collection of water samples by, for example, directing residents to pre-flush their taps before samples were collected.

The second set of criminal charges was based on the alleged withholding of information from the public and allowing the continued distribution of corrosive water. Certain MDEQ employees were charged with failing in their duties to ensure the provision of safe drinking water, and keeping the Flint Water Treatment Plant running despite warning signs that it was resulting in the presence of lead in water. MDHHS officials were also charged with suppressing information reflecting elevated blood lead levels for children in Flint. Finally, the third wave of criminal charges was brought against Flint's state-appointed emergency managers and two Flint employees for moving ahead with the decision to switch the source of the Flint water.

\* \* \*

To date, two defendants have accepted plea deals, and are cooperating with the attorney general's investigation. The attorney general's office has issued the Interim Report of the Flint Water Crisis Investigation that summarizes its investigation, which is available at [www.michigan.gov](http://www.michigan.gov).

*Ameri R. Klafeta is an attorney with Eimer Stahl LLP in Chicago. She has broad experience in complex and class action litigation, including environmental and mass tort matters. She may be reached at [aklafeta@eimerstahl.com](mailto:aklafeta@eimerstahl.com).*

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## EMERGENCE OF PFAS: A PUBLIC HEALTH CONCERN?

Stephen Zemba, PhD, PE, and  
Russell Abell, PG, CG

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Per- and polyfluoroalkyl substances (“PFAS”) have been making headlines in certain states and the environmental contaminant world. Considered as an emerging class of contaminants for many years, the Environmental Protection Agency (“EPA”) issued a stringent Health Advisory Level (“HAL”) for PFAS in May 2016. Available data collected in conjunction with the Third Unregulated Contaminant Monitoring Rule (“UCMR3”) indicate more than 2 percent of public water system (“PWS”) wells sampled had detectable PFAS present, and an estimated 6 million Americans served by large PWSs have PFAS present in their drinking water at levels greater than the HAL. (NHDES, 2017, PFOA/PFOS Sampling Results for Public Water Systems in New Hampshire (Updated 5.3.2017) at <https://www.des.nh.gov/organization/commissioner/documents/pfoa-public-water-results-20170503.pdf>; and Hu et al. (2016), *Detection of Poly- and Perfluoroalkyl Substances (PFASs) in U.S. Drinking Water Linked to Industrial Sites, Military Training Areas, and Wastewater Treatment Plants*, 3 (10) *Envtl. Sci. TECH. LETT.* 344–50, at <http://pubs.acs.org/doi/abs/10.1021/acs.estlett.6b00260>). Additionally, PFAS presence in excess of the HAL have been identified in private drinking water wells in several northeastern states around factories that used PFAS, air force bases where firefighting training occurred, and firefighting training areas that used PFAS-containing foams. In response, environmental agencies in New York, New Hampshire, and Vermont are conducting widespread investigations to identify the scope of PFAS contamination in groundwater used for drinking. In addition, several civil matters have been initiated in New York, Pennsylvania, New Hampshire, and elsewhere.

### Background

PFAS are a group of synthetic chemicals. The two-part molecules consist of an alkyl chain in which fluorine atoms fully or partially replace

hydrogen, and a functional group at one end (usually carboxylate or sulfonate) that provides beneficial properties. The fluorocarbon chain resists degradation and affords the unusual and useful property of repelling both water and fats. The functional group typically provides solubility, and when used in aqueous mixtures, PFAS act as surfactants.

PFAS have been used in consumer products and industry since their introduction into commerce in 1949, and applications include:

- Fabric stain protection;
- Fabric waterproofing;
- Chemical/heat-resistant tape;
- Non-stick cookware;
- Grease-proof food packaging;
- Waxes and adhesives;
- Aqueous film forming foams (“AFFF”); and
- Process surfactants.

The most commonly used and studied PFAS are perfluorooctanoic acid (“PFOA”) and perfluorooctane sulfonic acid (“PFOS”). As implied in naming, these compounds are typically found in ionic form in solution, but were often produced as salts for distribution/use. PFOA and PFOS are no longer manufactured in the United States, in part because of environmental contamination found around locations where PFAS were manufactured (e.g., the Dupont Washington Works plant near Parkersburg, W.V., and the 3M manufacturing plant in Cottage Grove, Minn.), the recognition that PFAS bioaccumulate in blood, and suspicion of adverse impacts on health.

### Fate and Transport of Environmental Releases

There is at present significant regulatory attention on PFAS in the northeastern United States that has been accelerated by issuance of the HAL, but the present focus builds upon earlier work in other states. Importantly, groundwater contamination was found to be not solely the result of PFAS releases directly to soil and groundwater. PFAS emissions to air, followed by subsequent deposition

to terrestrial environments, were identified as an equally effective mechanism to contaminate groundwater. Investigations around PFAS sources in West Virginia/Ohio, Minnesota, New Jersey, and more recently New York, New Hampshire, and Vermont, have confirmed the importance of air emissions/deposition as a driver of groundwater contamination.

Recent PFAS investigations in the communities of Hoosick Falls, N.Y., Bennington, Vt., and Merrimack, N.H., which in each case center on textile coating facilities that released PFAS to air, have involved sampling of private drinking water wells up to two miles distant from the factories in all directions. In each of these cases, hundreds of private wells have been sampled, and the detection of PFAS in wells has resulted in the temporary supply of bottled water and installation of point-of-entry treatment systems (“POETs,” in the form of activated carbon filtration) for the well water.

Direct releases of PFAS are also significant. The state of New Hampshire has also presented data that indicate the potential for anthropogenic inputs to groundwater likely related to the presence of PFAS in consumer products. The data indicated that the likely source for concentrations above the HAL in a private well was the property’s septic system, given the absence of other identifiable nearby potential sources. (Kernen, Atwell and Goetz, 2017, New Hampshire’s Experience with Perfluorinated Compounds (PFCs): Milestones Past and Challenges Ahead, NHDES Annual Source Water Protection Conference, May 18.) This finding suggests that PFAS presence in groundwater in some areas may also be attributable to other sources or “background” conditions unrelated to commercial or industrial releases.

Detections of PFAS has led New Hampshire to require sampling for PFAS at a variety of sites, including open and closed landfills, and all hazardous waste disposal sites. Known or suspected sources include:

- Industrial facilities where PFAS were made or used, such as:
  - Production facilities;
  - Waterproof coatings/materials; and

- Chromium plating facilities.
- Wastewater treatment plants:
  - Discharges to surface water; and
  - Land application of sludge (biosolids).
- Landfill leachate;
- Car wash operations;
- Release of aqueous film forming foams (“AFFF”) via firefighting and training;
- Runoff of storm water and street dust; and
- Dust from household products.

As might be expected, PFAS investigations have the potential to be costly and time-consuming, especially in cases where atmospheric transport and deposition may have contaminated groundwater over a large area, requiring potential sampling and mitigation of water supply wells in the vicinity.

## **PFAS Exposure and Risks**

Public concerns over health risks related to PFAS exposure are increasing even though the median concentration of PFAS in human blood serum has decreased by more than twofold since 1999. Data from the National Health and Nutrition Examination Survey indicate that median levels of PFOA in blood have decreased from 5 parts-per-billion (ppb) in 1999 to 2 ppb at present. Given PFOA clearance half-lives of several years, the decrease in blood serum concentrations indicates significant decreases in exposure to PFOA over time, probably the result of the manufacturing phaseout of PFOA/PFOS, but also possibly due in part to consumer awareness regarding items such as food packaging and other consumer products. Diet represents the largest source of exposure to PFAS for most people, but where PFAS are present in drinking water at measurable levels, PFAS levels in blood typically increase markedly over extended exposure periods. Empirical bioaccumulation factors, expressed as the ratio concentrations in blood and drinking water, are of the order of 100, meaning that a 0.010 ppb PFAS concentration in drinking water increases the PFAS concentration in blood by about 1 ppb.

Much of the public concern has been fueled by EPA’s May 2016 issuance of the HAL, which was established at a maximum concentration of 70 parts

per trillion (“ppt”) in drinking water and applies to the sum of PFOA and PFOS. Prior to the 70 ppt HAL, EPA had issued short-term health advisories of 400 ppt and 200 ppt for PFOA and PFOS, respectively, motivated in part by the investigations conducted earlier in the decade around PFAS manufacturing plants.

Studies on PFAS toxicity steadily emerged over time, mostly focused on the so-called C8 compounds (C8 denotes the eight carbon chain contained in both PFOA and PFOS). Growing recognition of the presence of PFAS in public water supplies, as indicated by UCMR3 sampling, led EPA to review PFAS toxicity studies and issue a draft Health Assessment Document (“HAD”). In response to limited peer review comments, the HAD was finalized in 2016 in conjunction with issuance of the 70 ppt HAL.

The 70 ppt HAL has been adopted as a standard or guideline by several state regulatory agencies (e.g., New York and New Hampshire). Some states, notably Vermont (20 ppt) and New Jersey (40 ppt, with 14 ppt proposed), have adopted even lower standards. It is difficult to know whether PFAS are in fact toxic at these low levels. Like all EPA standards and guidelines, the HAL incorporates several compounding safety factors. In addition, when uncertainties about toxicity effects are large, conservative health-protective assumptions are often made using professional judgment. It is thus useful to examine the details underpinning the derivation of the HAL to gain needed perspective on PFAS risks.

As typical for many chemicals, health effects information on PFAS has been gathered from two broad sources. First, epidemiological studies have looked for differences in health effects between groups of people known to have been exposed to elevated PFAS levels and control groups exposed at background levels. Second, laboratory studies have entailed exposing animals to different levels of PFAS in an attempt to derive dose-response relationships. Both types of studies have inherent weaknesses. Epidemiologic studies are difficult to control for confounding factors (e.g., smoking

and alcohol consumption), while the results of animal studies may have limited relevance to humans. In the case of PFAS, this latter factor is further compounded by significant differences in elimination from the body, as PFOA and PFOS have half-lives of several years in people, but only a few days in rats and a few weeks in mice.

Ideally, epidemiological and laboratory animal studies produce similar or consistent results. For PFAS, this is unfortunately not the case. The C8 Panel studies, commissioned as part of a lawsuit settlement, have studied people exposed to high levels of PFOA in the vicinity of the former Dupont manufacturing plant. Statistical associations (termed probable links) have been reported between PFOA exposure and diagnosed high cholesterol, ulcerative colitis (autoimmune disease), thyroid disease, testicular and kidney cancers, and pregnancy-induced hypertension. Associations have not been found with numerous other effects, including liver disease, birth defects, miscarriages and stillbirths, preterm birth and low birth weight, and neuro-developmental effects in children.

The C8 Panel findings, however, are not consistent with EPA’s selection of the critical (most sensitive) study for deriving the reference (safe) dose (“RfD”) that serves as the basis of the 70 ppt HAL. In its draft 2014 HAD, EPA proposed an RfD of 20 ng/kg-d (0.00002 mg/kg-d) based on the finding of increased liver weight in animal studies. Peer review was limited to a select number of invited academicians who criticized this choice as an improper basis for an RfD, as exposure to high doses of many chemicals elicits the response of enlarging the liver (and this is not necessarily an adverse effect). In response, EPA switched the basis for the RfD to a different study while maintaining the same RfD in the final 2016 HAD. The different study was a developmental study in mice in which the pups of mothers exposed to increased levels of PFAS exhibited delayed ossification of their phalanges and hastened male puberty. Some toxicologists would likely disagree with selecting this study as the basis for the RfD as the findings do not represent irreversible, permanent effects. It also should be noted that

EPA's choice of the basis of the RfD was not subject to peer review, but was changed in response to comments on its original proposal without the opportunity for further review and comment. EPA's decision to issue a HAL instead of proposing a federally enforceable maximum contaminant level ("MCL") also eliminated an opportunity for public comment. Along the same lines, the 20 ng/kg-d RfD has not been proposed as part of EPA's Integrated Risk Information System, which would also afford an opportunity for public comment.

Two key exposure assumptions are necessary to translate the 20 ng/kg-d RfD into a drinking water HAL of 70 ppt. The first regards the fraction of the RfD that is allotted to drinking water consumption. The method for deriving HALs recognizes that people receive exposure from numerous sources, and in the absence of contaminant-specific data, the default assumption is that 80 percent of exposure to a chemical derives from non-drinking water sources. Given the knowledge that diet represents the largest source of PFAS exposure, the default assumption appear reasonable, but data suggest that background exposure to PFAS on average accounts for only 3 percent of the RfD. For example, the 40 ppt drinking water standard established for PFAS by New Jersey in 2009 was based on an allowed doubling of background exposure. At a typical adult water consumption rate of 2 l/d, the equivalent background intake of PFAS is  $\frac{1}{2} \times 40 \text{ ng/l} \times 2 \text{ l/d} = 40 \text{ ng/day}$ . For a typical 70 kg adult, the 20 ng/kg-d corresponds to a PFAS intake of 1400 ng/day. Hence, an estimate of typical background exposure as a fraction of the RfD is  $40 \text{ ng/day} \div 1400 \text{ ng/day} = 3\%$ . Therefore, if the remaining 97 percent of the RfD is allotted to drinking water exposure, that would result in an almost fivefold greater HAL.

A second key assumption made by EPA is a drinking water consumption rate of 4.3 liters per day (l/d), which is more than twofold higher than the standard 2 l/d value typically used to derive standards and guidelines. EPA chose this value as appropriate for the high-end (90th percentile) consumption of water by a lactating mother, given the RfD basis on a two-generation (developmental) toxicity study. The appropriateness of this choice is less than clear, however, as PFAS exposure to

the pups in the developmental study occurs during pregnancy and may mainly involve placental transfer of PFAS, while the HAL is based on exposure to the mother after birth in which PFAS must be passed on to the infant during breastfeeding. PFAS transfer rates may differ, and the key developmental life stage (in utero vs. post-natal) during which exposure occurs may be important. These uncertainties have been compounded by the state of Vermont in the derivation of its 20 ppt drinking water standard, as Vermont bases its value on the same developmental toxicity study as the EPA HAL, but evaluates exposure from the perspective of the nursing child, for which the ratio of liquid consumption to body weight is higher.

In its defense, EPA was under considerable pressure from states and other parties to issue guidance on a safe level of PFAS in drinking water. Based on examination of the details of the HAL, it would appear that EPA has imparted conservative, health protective bias. Thus, in understanding and communicating risk, the 70 ppt HAL is arguably health protective (and maybe overly so). In addition, the HAL covers only PFOA and PFOS, and hence not all of the PFAS potentially present in drinking water.

### **PFAS Toxicity Considerations and Impact on Current Response Actions in New Hampshire**

The UCMR3 study results indicated that PFAS were detected in 379 of 4920 public water systems sampled. Of these samples, PFOS had the highest detection frequency above the EPA HAL of 70 ppt at 0.9 percent (46 of 4920) and PFOA was at 0.3 percent (13 of 4920) (USEPA, 2017, The Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary, January, at <https://www.epa.gov/sites/production/files/2017-02/documents/ucmr3-data-summary-january-2017.pdf>). These results are notable because they show that the occurrence of PFAS at concentrations above the HAL are limited based on current PWS data. Further, for reasons noted above, the HAL is arguably more protective than necessary. A HAL based on more reasonable assumptions would

result in a significantly higher advisory level that is arguably still protective of human health and conservative. If regulatory response was then modified to adjust for a higher limit, the potential reduction of response actions would be significant.

For illustrative purposes, assuming the original EPA advisory levels of 200 and 400 ppt (PFOS and PFOA, respectively) were used to determine response actions, the number of drinking water wells requiring action would be significantly lower. In New Hampshire, public water systems have been sampled as part of the UCMR3 study, and for other reasons, and these data are available. To date, there are no detections of PFOS and PFOA greater than 200 ppt and 400 ppt, respectively. The PWS wells in Merrimack, N.H., that are proximal to a former manufacturing facility that used PFAS have a maximum detection of only 130 ppt for PFOA and 11 ppt for PFOS (NHDES, 2017, PFOA/PFOS Sampling Results for Public Water Systems in New Hampshire (Updated 5.3.2017), at <https://www.des.nh.gov/organization/commissioner/documents/pfoa-public-water-results-20170503.pdf>).

A similar result follows for private drinking water wells. Review of available data for private domestic wells in New Hampshire indicates that only 16 private domestic wells (0.9%) contained PFOA above 400 ppt, and only 2 contained PFOS above 200 ppt (0.1%). Comparatively, the number of private domestic wells above 70 ppt (combined PFOA and PFOS) is 221 (12.5%), and wells with any detection (nominally >4 ppt) are 1333 (76%). Using the New Hampshire standard based on EPA's current HAL results in a dramatic increase in the number of drinking water wells requiring alternate water or point-of-entry treatment compared to the original advisory levels.

## Conclusions

PFAS, which received considerable attention two decades ago during the investigation of the Dupont, W.V., facility, have reemerged in prominence in the northeast and across the United States in response to EPA's issuance of its stringent 70 ppt HAL and promulgation of several state drinking water standards at or below 70 ppt. The focus of

regulators is shifting to concern over smaller sites and releases, as well as statewide sampling in some states, which will likely require considerable effort and expense to investigate and mitigate.

The basis for the derivation of EPA's HAL, which has been adopted by some states as a standard, is complicated by arguably inconsistent and overly conservative assumptions. Reviewing available UCMR3 data indicates that 99 percent of all PWS detections were below the current EPA HAL of 70 ppt, and in New Hampshire none of the PWS sampled were above the previous thresholds of 200 and 400 ppt. This raises the question as to the potential health benefits compared to the cost of current regulatory approaches to addressing PFAS impacts to drinking water. It also raises the question as to what threshold is protective and should be adopted in jurisdictions that have not yet embarked on the process of establishing a PFAS standard or guideline to date.

**Stephen Zemba, PhD, PE**, has over three decades' experience nationally as an environmental consulting specialist in the area of health risk assessment. Dr. Zemba's expertise includes assessing the transport and risks of environmental chemicals. He holds a B.S. from Carnegie-Mellon University, and an M.S. and Ph.D. from the Massachusetts Institute of Technology, all in the field of Mechanical Engineering. Dr. Zemba also teaches university-level courses on air quality management and air pollution control. He may be reached at [szemba@sanbornhead.com](mailto:szemba@sanbornhead.com).

**Russell Abell, P.G., C.G.**, has over 20 years of experience nationally focusing on hydrogeology and fate and transport analysis. Mr. Abell experience includes consulting expert roles for fate and transport analysis in retail petroleum sites, product liability matters, and chlorinated solvent plume sites in overburden and fractured bedrock settings. He holds a B.A. in geology from Amherst College and an M.S. in geology from Virginia Tech University. Mr. Abell also serves as a client service area leader at Sanborn Head, managing more the 35 staff servicing clients in the areas of environmental due diligence, site assessment, remediation, and vapor intrusion assessment and mitigation. He may be reached at [rabell@sanbornhead.com](mailto:rabell@sanbornhead.com).

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