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Fourth Circuit Issues Key Decision Impacting Ethylene Oxide and Other Chemical-Exposure Claims

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On August 18, 2025, in a 2-1 split decision and over the dissent of its Chief Judge, the United States Court of Appeals for the Fourth Circuit reversed the district court's grant of summary judgment and exclusion of expert witness testimony in *Sommerville v. Union Carbide Corp.*, No. 24-1491, 2025 WL 2383496 (4th Cir. Aug. 18, 2025). The Fourth Circuit concluded that a plaintiff has Article III standing to bring a no-injury medical monitoring claim under West Virginia law only by alleging exposure to a substance that could cause a future harm. The court also reversed the District Court's exclusion of an air modeling expert on the grounds that the criticisms of the expert opinion went to weight, not admissibility—despite recent revisions to Fed. R. Evid. 702. The reversal may encourage the plaintiffs' bar to pursue scientifically frivolous, no-injury medical monitoring cases related to ethylene oxide (EtO) exposure claims and, potentially, claims related to other alleged chemical exposures. The decision has serious practical implications for corporate defendants challenging claims seeking medical monitoring as a result of alleged chemical exposure, including plaintiffs' ability to rely on essentially *de minimis* levels of exposure and dubious exposure calculations by paid experts.

The case arises from a West Virginia resident (Sommerville) and her neighbors filing a class action lawsuit against Union Carbide Corporation (UCC), claiming UCC's sterilization facility in South Charleston, West Virginia negligently emitted EtO into the surrounding community. Plaintiffs did not allege that they experienced any illness or injury; instead, they claimed only that, due to their alleged exposures, they were at an increased risk of developing cancer and that UCC should pay for periodic diagnostic medical examinations to help with early diagnosis of cancers allegedly caused by UCC's emissions.

Sommerville's air modeling expert, Dr. Ranajit Sahu, calculated Sommerville's purported exposure by inserting UCC's self-reported EtO emissions data into a United States Environmental Protection Agency (EPA) air modeling system. *See Sommerville v. Union Carbide Corp.*, No. 2:19-CV-00878, 2024 WL 1204094, at *15–16 (S.D.W. Va. Mar. 20, 2024). Defendants, in turn, moved to exclude the expert's opinions under Rule 702, arguing that the expert added emissions from another EtO sterilizer irrelevant to Sommerville's exposure and did not "validate" UCC's overestimated reported EtO emissions data. *See Sommerville*, 2024 WL 1204094, at *4.

The District Court excluded Sommerville's expert opinions, holding that his calculations were unreliable because he used speculative data premised on assumptions that misrepresented operations at the UCC sterilization facility. *See Sommerville*, 2024 WL 1204094, at *19. The court concluded that, without a reliable air model demonstrating Sommerville's alleged exposure to EtO, Sommerville could not claim she was at an increased risk of developing cancer that would support the need for medical monitoring under the West Virginia Supreme Court's decision in *Bower v. Westinghouse Elec. Corp.,* 206 W. Va. 133 (1999). *See Sommerville*, 2024 WL 2139394, at *7.

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In reaching its decision, the District Court primarily relied on *TransUnion LLC v. Ramirez*, 594 U.S. 413 (2021), in which the United States Supreme Court held that, to establish Article III standing, a plaintiff must show that she suffered a concrete injury-in-fact, which implicates requirements of particularization, actual or imminent harm, and concreteness. *Id.* at 423-24. Given its exclusion of the expert air modeling testimony, the District Court held that Sommerville failed to satisfy the actual or imminent harm and concreteness requirements. *See Sommerville*, 2024 WL 2139394, at *6-9.

On the issue of Article III standing, the Fourth Circuit ruled that the District Court misstated Sommerville's injury for her medical monitoring claim—the injury was the exposure to EtO, not an increased risk of developing cancer. *See Sommerville*, 2025 WL 2383496, at *5. According to the Fourth Circuit, although the EtO exposure allegedly caused by defendants may cause cancer at an unspecified later date, Sommerville must presently begin periodic medical testing to mitigate her increased risk of cancer. *Id.* The Fourth Circuit explained that the expensive and not generally accepted nature of the medical monitoring examinations Sommerville sought met the concreteness requirement under *TransUnion*. *See id.* at *6. The circuit's willingness to accept mere exposure to an alleged environmental toxin in and of itself as an injury-in-fact is alarming because it gives speculative injuries equal weight as concrete injuries for purposes of satisfying Article III standing.

The Fourth Circuit then went on to address *Beck v. McDonald,* 848 F.3d 262 (4th Cir. 2017), a previous Fourth Circuit case involving the requirements for Article III injury-in-fact. In *Beck*, plaintiff was a patient at a Department of Veterans Affairs (VA) hospital whose medical records were stolen. *Sommerville*, 2025 WL 2383496, at *7. The patient sued the VA, claiming that he was at an increased risk of future identity theft, but conceded he had not suffered any concrete injury to date. *Id.* The patient's claim was dismissed for lack of standing because the plaintiff's claimed injury was too speculative. *Id.* Distinguishing *Beck*, the Fourth Circuit majority ruled that Sommerville's injury was not speculative because it already existed in the form of EtO exposure that required present medical testing to mitigate an increased risk of illness. *Id.*

In his dissent, Chief Judge Diaz, author of the majority opinion in *Beck*, interpreted the *Sommerville* majority's opinion to mean that the injury-in-fact suffered by Sommerville was the cost of medical monitoring, not the alleged exposure to EtO, which creates the need for those costs. *See id.* at *13. Judge Diaz wrote that, for Article III standing purposes, a plaintiff must show that the future harm is imminent, which Sommerville failed to do because she sought medical monitoring for a harm that may never actually occur. *Id.* at *14. According to Chief Judge Diaz's dissent, the possibility of the harm never occurring renders the claim speculative, as was the case in *Beck*, and precludes Sommerville's alleged harm from being considered injury-in-fact. *Id.*

The Fourth Circuit also reversed the District Court's decision to exclude Sommerville's air modeler's expert testimony on the grounds that the District Court improperly conducted a credibility analysis instead of an admissibility analysis. *See Sommerville*, 2025 WL 2383496, at *9. The Fourth Circuit majority noted that the air modeler used a well-established scientific methodology to conduct his modeling and that the District Court focused on the data quality, an issue which goes to the weight of the evidence, not admissibility. *Id.* The Fourth Circuit majority found that the arguments between the parties regarding the appropriate dataset are a fact issue for the jury, not the court. *See id.* Relatedly, the Fourth Circuit majority disagreed with the District Court's holding that the air modeler should have validated the assumptions in his calculations. *Id.* The Fourth Circuit pointed to the lack of case law cited by the District Court in requiring validation and the practical challenges the air modeler would face in validating his assumptions. *Id.* Lastly, the majority opinion held that any issues with the emission data could be addressed through vigorous cross-examination, citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

In his dissent, Chief Judge Diaz disagreed with the majority's decision to reverse the exclusion of Sommerville's air modeler. *Sommerville*, 2025 WL 2383496, at *15. Judge Diaz conceded that *Daubert* directs courts to focus on "principles and methodology, not on the conclusions that they generate," but emphasized that experts who insert unreliable data into a scientifically reliable model should not be able to use the model as a shield against *Daubert*. *See id.* at *16. Chief Judge Diaz reasoned that the majority should have determined whether the air modeler's inputs and assumptions were supported by "scientifically valid" reasoning or methodology, not just whether the system itself is scientifically valid. *Id.* Scrutinizing the inputs and assumptions made by an expert is part of the court's gatekeeping responsibility, according to the dissent. *Id.*

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The Fourth Circuit's opinion cuts against the recent amendment to Rule 702, which Congress added in 2023, so that an expert's opinion reflects a reliable application of the principles and methods to the facts of the case. The opinion further emboldens the plaintiffs' bar to bring no-injury medical monitoring cases, signaling that paid experts can survive challenges under Rule 702 when they use generally accepted scientific methodologies but employ inaccurate and exaggerated data. Likewise, in finding that plaintiffs who allege mere exposure to environmental toxins have a cognizable injury, the Fourth Circuit seemingly has opened the floodgates to no-injury medical monitoring claims in a wide variety of chemical exposure contexts. Although the Fourth Circuit's opinion should not necessarily be interpreted to mean that no-injury medical monitoring lawsuits will ultimately prevail at trial, it does provide the plaintiffs' bar with some comfort knowing that there is standing for exposure claims and that their experts are more likely to survive a Rule 702 challenge. As a result, companies may face an increased likelihood of expending significant capital and resources defending specious claims of environmental chemical exposures.

