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Oil Spill, Weak Science: Fifth Circuit Tightens Causation in Ruffin v. BP

The U.S. Court of Appeals for the Fifth Circuit's recent decision in *Ruffin v. BP Exploration & Production, Inc.*[1] offers important guidance on expert testimony in toxic tort cases – particularly those arising from the Deepwater Horizon oil spill. While the court declined to impose a rigid "dosage requirement" for causation, it nonetheless affirmed the exclusion of the plaintiff's expert for analytical gaps, reinforcing the rigor required under *Daubert* and Federal Rule of Evidence 702.

Background: From Oil Spill Cleanup to Cancer Diagnosis

Floyd Ruffin worked as a shoreline cleanup worker for several months following the 2010 Deepwater Horizon spill. Five years later, he was diagnosed with prostate cancer and brought a claim against BP under the settlement's Back-End Litigation Option (BELO), alleging that exposure to oil-related chemicals caused his disease.

Central to Ruffin's case was expert testimony from a molecular epidemiologist who opined that exposure to polycyclic aromatic hydrocarbons (PAHs) – compounds found in crude oil – contributed to the development of prostate cancer.

The Legal Framework: General vs. Specific Causation

The court reaffirmed the well-established two-step framework for causation in toxic tort cases:

- **General causation:** whether a substance is capable of causing the injury in the general population
- **Specific causation:** whether the substance caused the plaintiff's injury

Both must be supported by admissible expert testimony.

The case turned primarily on general causation, as the district court excluded Ruffin's expert and granted summary judgment to BP.

Rejecting a Strict "Dose Requirement"

BP urged the Fifth Circuit to adopt a rule requiring plaintiffs to quantify the minimum level of exposure necessary to cause harm. The court declined.

Importantly, the court clarified that while exposure level matters, *Daubert* does not require precise numerical quantification. Expert testimony need not pinpoint a specific dose, but it must show that a chemical can cause the alleged harm at exposure levels realistically experienced by humans.

This is a meaningful clarification. Prior unpublished Fifth Circuit decisions had been read to suggest a strict "dose requirement," but *Ruffin* confirms that a flexible, scientifically grounded approach remains acceptable.

Why the Plaintiff's Expert Failed

Despite rejecting BP's proposed bright-line rule, the court still affirmed exclusion of Ruffin's expert testimony due to several critical flaws:

1. Mismatch Between Chemical Identified and Chemical at Issue

The expert relied heavily on studies involving benzo(a)pyrene, a specific PAH known to be carcinogenic. However, Ruffin did not show he was exposed to that specific compound. PAHs include over 200 chemicals, and composition varies widely

As the court emphasized, "For general causation, the chemical must be "capable of causing a particular injury" (i.e., the plaintiff's injury) in the general population.[2] As the district court aptly explained, this means that the expert must "establish a link with the specific cancer in which the plaintiff suffers and not cancer generally."[3]

2. Failure to Link the Chemical to the Specific Disease

Even assuming exposure to benzo(a)pyrene, the expert failed to establish that it causes prostate cancer in humans because the evidence showed general carcinogenicity, not prostate cancer specifically and animal studies and generic cancer data were insufficient. The court stressed that causation must connect the substance to the particular disease, not cancer in general.

3. Analytical Gaps in Methodology

The court identified a classic *Daubert* problem: an "analytical gap" between the data and the conclusions. The court's examples included:

1. Reliance on studies without adequate explanation of their application
2. Failure to account for variability in PAH mixtures
3. Lack of a clear link between observed exposure and scientific literature

These fatal flaws undermined both the reliability and relevance of the expert's opinions.

Outcome: Affirmed Exclusion and Summary Judgment

With the expert testimony excluded, Ruffin lacked evidence of causation – an essential element of his claim. The Fifth Circuit therefore affirmed summary judgment in BP's favor.

Key Takeaways for Practitioners

1. There is no bright-line dose requirement

The Fifth Circuit rejected a rigid rule requiring precise quantification of exposure levels. Flexible scientific evidence may suffice – if reliable.

2. But rigor still matters under Daubert. Experts must:

a. Identify the specific chemical at issue.

b. Show it is capable of causing the specific injury alleged.

c. Reliably apply studies to the plaintiff's circumstances.
d. General categories are not enough. Grouping substances (e.g., PAHs) without tying causation to the actual compound exposed can be fatal.
e. Fit is critical.

3. Ruffin reinforces that Daubert is not just about methodology – it is about fit between the evidence and the claim.

Broader Implications

Ruffin sits at the intersection of mass tort litigation, environmental exposure, and expert admissibility. For the wave of Deepwater Horizon BELO cases, the decision signals that courts will not impose unrealistic scientific burdens. That being said, courts will strictly police the logical connection between science and legal claims. In short, to prevail plaintiffs will need more than general scientific associations – they need well-anchored, case-specific expert analysis.

This blog was drafted by Amy Mitchell, an attorney in the Spencer Fane Houston, Texas office. For more information, visit www.spencerfane.com.

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[1] *Ruffin v. BP Expl. & Prod., Inc.,* No. 23-30854, – F.4th – (5th Cir. May 27, 2026)

[2] *Ruffin* at 6 (*Citing Knight v. Kirby Inland Marine Inc.,* 482 F.3d 347, 351 (5th Cir. 2007)

[3] *Ruffin* at 12

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