

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF SOUTH CAROLINA  
CHARLESTON DIVISION

JOHN E. HASKINS, and MARY L. HASKINS,	)	
	)	
	)	
Plaintiffs,	)	
	)	No. 2:15-cv-02086-DCN
vs.	)	
	)	<b>ORDER</b>
3M Company, <i>et al.</i> ,	)	
	)	
Defendants.	)	
	)	
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JAMES WILLSON CHESHER and CHERYL ANN CHESHER,	)	
	)	
	)	
Plaintiffs,	)	
	)	No. 3:15-cv-02123-DCN
vs.	)	
	)	
3M Company, <i>et al.</i> ,	)	
	)	
Defendants.	)	
	)	

This matter is before the court on defendant Air and Liquid Systems Corporation’s (“Air and Liquid Systems”) motion to exclude, Case No. 2:15-cv-02086-DCN, ECF No. 176, and defendant Crane Co.’s (“Crane,” together with Air and Liquid Systems, “defendants”) motion in limine, Case No. 2:15-cv-2123-DCN, ECF No. 197.<sup>1</sup> Although the two motions arise in separate actions, they present very similar issues and can therefore be decided together. For the reasons stated below, the court grants in part and denies in part defendants’ motions.

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<sup>1</sup> The court cites to the record by ECF Number. However, because this order addressed motions in separate cases, it is necessary to designate which Case Number the cited ECF entry relates to. When citing to records in Case No. 2:15-cv-02086-DCN, the court will refer to the “Haskins ECF No.” When citing to records in Case No. 2:15-cv-2123-DCN, the court will refer to the “Chesher ECF No.”

## **I. BACKGROUND**

### **A. Haskins**

From 1953 to 1956, John E. Haskins (“Haskins”) served in the U.S. Navy as a fireman aboard the USS Coney. Haskins ECF No. 176-2, Haskins Report 1. Haskins was diagnosed with a form of cancer known as mesothelioma in November of 2014. Id. Haskins and his wife, Mary L. Haskins (together with Haskins, the “Haskins Plaintiffs”), allege that Haskins’ mesothelioma was caused by his cumulative exposure to asbestos during his time on board the USS Coney, including his work with and around asbestos-containing products manufactured or otherwise distributed by Air and Liquid Systems. Haskins ECF No. 1-1, Haskins Compl. ¶¶ 4–7. On April 17, 2015, the Haskins Plaintiffs filed an action in the Court of Common Pleas in Charleston County, bringing claims against Air and Liquid Systems and other suppliers of the asbestos-containing products Haskins allegedly encountered during his Naval career. Id. ¶¶ 3–5. The action was later removed to this court.

### **B. Chesher**

From 1968 to 1989, James Willson Chesher (“Chesher”) served as a machinist mate and a commissioned officer in the U.S. Navy. Chesher ECF No. 1-1, Chesher Compl. ¶ 32. For a significant portion of his career, Chesher conducted or oversaw maintenance and repair work on various types of asbestos-containing equipment, including valves and de-aerating feed tanks. Chesher and his wife, Cheryl Ann Chesher (together with Chesher, the “Chesher Plaintiffs”),<sup>2</sup> allege that Chesher developed

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<sup>2</sup> While this order addresses two cases, and thus, two sets of plaintiffs, it will occasionally be appropriate to collectively refer to both sets of plaintiffs—such as when the Haskins Plaintiffs and Chesher Plaintiffs offer the same arguments. In such instances,

mesothelioma as a result of his exposure to this equipment. *Id.* ¶¶ 33–35. On April 15, 2015, the Chesher Plaintiffs filed an action in the Court of Common Pleas in Charleston County, bringing claims against Crane and other suppliers of the asbestos-containing products Chesher allegedly encountered throughout his Naval career. *Id.* ¶ 30. This action was later removed to this court.

### C. Bedrossian's Opinions

Both sets of plaintiffs offer the opinions of Carlos Bedrossian, MD (“Bedrossian”) to provide evidence of specific causation. Bedrossian’s opinions in each case are essentially identical. In each expert report, Bedrossian outlines certain activities from Haskins and Chesher’s respective work histories which exposed them to asbestos fibers. Haskins Report 1–2; Chesher ECF No. 181-1, Chesher Report 1–2. Bedrossian later explains that “all [asbestos] fiber types . . . cause lung cancer and [mesothelioma], and as such should be treated with the same level of concern due to their well-established carcinogenicity.” Haskins Report 4; Chesher Report 4. Bedrossian then asserts that “[m]ost cases of [mesothelioma] occur in occupational groups subjected to ‘downstream exposure’ in trades that include working in . . . the shipbuilding industries,” and discusses the increased asbestos exposure associated with work aboard U.S. Navy ships. Haskins Report 4–5; Chesher Report 5–6.

When discussing the causal link between asbestos exposure and mesothelioma, Bedrossian asserts that:

[Malignant mesothelioma] is invariably the result of repeated, routine and direct handling of [asbestos containing material] . . . or of being present in close vicinity of others doing so over a period of time which may vary according to the individual susceptibility of the exposed person. The

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the court will simply use the word “plaintiffs.” For the same reason, the court will occasionally refer to Air and Liquid Systems and Crane, collectively, as “defendants.”

carcinogenic effect of asbestos is cumulative, regardless of the source of the exposure, which can be occupational, non-occupational or environmental in nature. Total cumulative dose has been consistently found to be the best indicator of risk . . . .

Haskins Report 5; Chesher Report 5–6. Both reports offer very similar conclusions. In Haskins’s case, Bedrossian concludes that the “total and cumulative exposure<sup>3</sup> to asbestos, from any and all products, containing any and all fiber types, was a significant contributing factor to [Haskin’s] risk of premature death from complications of his asbestos related cancer.” Haskins Report 6. In Chesher’s case, Bedrossian concludes that “each of the defendants’ products which contained asbestos added to the total cumulative dose of Chesher’s asbestos exposure, and therefore, constituted the contributing factor to the development of his [mesothelioma], and his risk of premature death from complications from this lethal form of occupational malignancy.” Chesher Report 8.

On March 4, 2016, Crane filed a motion in limine to preclude Bedrossian from offering specific-causation testimony in the Chesher case. Chesher ECF No. 181. The Chesher Plaintiffs filed a response on April 4, 2016, Chesher ECF No. 224, and Crane filed a reply on April 14, 2016. Chesher ECF No. 229. In the Haskins case, Air and Liquid Systems filed a motion to exclude Bedrossian’s specific causation opinions on November 4, 2016.<sup>4</sup> Haskins ECF No. 176. On November 9, 2016, the Haskins Plaintiffs filed a response, Haskins ECF No. 179, and Air and Liquid Systems filed a

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<sup>3</sup> Bedrossian and the parties refer to both the “total cumulative dose” and “total cumulative exposure.” The court uses these terms interchangeably to refer to the total amount of asbestos a person has encountered in his lifetime.

<sup>4</sup>Air and Liquid Systems’s motion actually addresses multiple experts, but plaintiffs have clarified that Bedrossian is the only expert who will offer specific causation testimony in both cases.

reply on November 21, 2016. Haskins ECF No. 185. The court held an evidentiary hearing on February 28, 2017, where it took testimony from Bedrossian.<sup>5</sup> The motions are now ripe for the court's review.

## **II. STANDARDS**

### **A. Rule 403**

Federal Rule of Evidence 403 empowers the court to "exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence." Fed. R. Evid. 403. Courts are afforded broad discretion in deciding evidentiary matters, particularly under Rule 403, which "requires an 'on-the-spot balancing of probative value and prejudice, potentially to exclude as unduly prejudicial some evidence that already has been found to be factually relevant.'" Sprint/United Mgmt. Co. v. Mendelsohn, 552 U.S. 379, 384 (2008) (quoting 1 S. Childress & M. Davis, *Federal Standards of Review* § 4.02, p. 4–16 (3d ed. 1999)).

### **B. Rule 702 and Daubert**

Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;

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<sup>5</sup> The official transcript for this hearing was filed on April 6, 2017. Haskins ECF No. 212; Chesher ECF No. 311.

- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

District courts serve as gatekeepers for expert testimony. The court has a “special obligation” to ensure that expert testimony is relevant and reliable. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147 (1999).

Pursuant to Daubert v. Merrell Dow Pharm., Inc., the court must address two questions: first, whether the expert’s testimony is based on “scientific knowledge”; and second, whether the testimony “will assist the trier of fact to understand or determine a fact in issue.” 509 U.S. 579, 592 (1993). The first question is answered by assessing “whether the reasoning or methodology underlying the testimony is scientifically valid.” Id. at 592–93. Several factors should be considered when determining the reliability of a particular scientific theory or technique: whether it (1) can be and has been tested; (2) has been subjected to peer review and publication; (3) has a known or potential rate of error; and (4) has attained general acceptance in the pertinent scientific community. See id. at 593–94. In considering these factors, the focus “must be solely on principles and methodology, not on the conclusions that they generate.” Id. at 595. These factors are not exclusive; what factors are relevant to the analysis “depends upon the particular circumstances of the particular case at issue.” Kumho Tire, 526 U.S. at 150.

The second inquiry “goes primarily to relevance.” Daubert, 509 U.S. at 591. Relevance is determined by ascertaining whether the testimony is sufficiently tied to the facts of the case such that it will aid the jury in resolving a factual dispute. Id. at 593. “A review of the caselaw after Daubert shows that the rejection of expert testimony is the exception rather than the rule.” Fed. R. Evid. 702 advisory committee’s note to 2000

amendments. “Daubert did not work a ‘seachange over federal evidence law,’ and ‘the trial court’s role as gatekeeper is not intended to serve as a replacement for the adversary system.’” Id. (quoting United States v. 14.38 Acres of Land Situated in Leflore Cnty., 80 F.3d 1074, 1078 (5th Cir.1996)).

### **III. DISCUSSION**

Defendants first argue that Bedrossian should not be permitted to offer any specific causation testimony because he never specifically discusses plaintiffs’ exposure to asbestos from defendants’ products in his expert reports, much less explained how such exposure caused plaintiffs’ mesothelioma. Haskins ECF No. 176 at 8–9; Chesher ECF No. 181 at 7. Defendants next argue that to the extent Bedrossian has offered any specific causation opinions, they are necessarily based on the “every exposure theory” of causation, and are therefore inadmissible under Rule 403 and Rule 702. Haskins ECF No. 176 at 9–19; Chesher ECF No. 181 at 7–15. The court will address each argument in turn.

#### **A. Failure to Disclose Opinion in Expert Report**

Defendants argue that, because Bedrossian’s reports fail to address Haskins and Chesher’s exposure to any specific products, Bedrossian is precluded from opining that exposure to defendants’ products contributed to plaintiffs’ mesothelioma. Haskins ECF No. 176 at 8–9; Chesher ECF No. 181 at 7. Defendants rely on Federal Rule of Civil Procedure 26(a)(2), which governs the disclosure of expert witness testimony.

Pursuant to Rule 26(a)(2)(b), parties must provide a report for each expert witness that contains “a complete statement of all opinions the witness will express and the basis and reasons for them.” If a party fails to provide such a report, Federal Rule of Civil

Procedure 37(c)(1) prohibits that party from using “that information or witness to supply evidence on a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless.” Courts have “broad discretion to determine whether a nondisclosure of evidence is substantially justified or harmless for purposes of a Rule 37(c)(1).” Wilkins v. Montgomery, 751 F.3d 214, 222 (4th Cir. 2014) (quoting S. States Rack And Fixture, Inc. v. Sherwin-Williams Co., 318 F.3d 592, 597 (4th Cir. 2003)). In exercising this discretion, the court’s analysis should be guided by the following factors:

(1) the surprise to the party against whom the evidence would be offered; (2) the ability of that party to cure the surprise; (3) the extent to which allowing the evidence would disrupt the trial; (4) the importance of the evidence; and (5) the non-disclosing party’s explanation for its failure to disclose the evidence.

Id. (quoting Southern States, 318 F.3d at 597). However, the court need not conduct a rigid, factor by factor analysis. Id. (“[T]he district court was not required to tick through each of the Southern States factors.”) (emphasis in original).

The court finds that Bedrossian’s failure to specifically address each defendant in outlining his causation opinions was harmless. As defendants recognize, Bedrossian’s basic theory of causation requires very little information about specific exposures. Thus, it is questionable whether Bedrossian even needed to include a defendant-specific analysis in his report in order to provide a “complete statement” of his opinions, as required by Rule 26(a)(2)(b). In any event, it is clear that defendants understand the nature of Bedrossian’s opinions and how plaintiffs intend to present them at trial—namely, by having Bedrossian explain the causal principles outlined in his report and answer hypothetical questions based on Haskins and Chesher’s experiences with defendants’ specific products. See Haskins ECF No. 179 at 9–10 (discussing Bedrossian’s “cumulative exposure” opinion and highlighting deposition testimony

addressing Haskins's exposure to specific products); see also Chesher ECF No. 311, Hr'g Tr. 69:3–73:2 (Chesher Plaintiffs' counsel asking Bedrossian about various hypotheticals). Air and Liquid Systems even predicts this method of proof in its motion to exclude. Haskins ECF No. 176 at 10 n.18. Moreover, one of defendants' main criticisms of Bedrossian's opinions is that they are not dependent on any meaningful defendant-specific analysis. Chesher ECF No. 181 at 4 ("Notwithstanding . . . [his] lack of reliance upon case-specific facts, [] Bedrossian's . . . report[] indicate[s] that plaintiffs may seek to elicit testimony . . . that Crane Co. products are a specific cause of Mr. Chesher's mesothelioma under the theory that all of Mr. Chesher's individual exposures to asbestos throughout his career were substantial contributing factors to his development of mesothelioma."); Haskins ECF No. 176 at 6 (arguing that Bedrossian's opinions are "especially troubling opinions are especially troubling because Dr. Bedrossian demonstrated at his deposition that [] he is not familiar with the underlying exposure facts in this case . . ."). The very fact that defendants were able to highlight this aspect of Bedrossian's opinions indicates that they were able to accurately anticipate his testimony on the subject of specific causation.

Therefore, the court finds that, for the purposes of these two cases only, any failure on plaintiffs' part to comply with Rule 26(a)(2) was harmless under Rule 37(c).<sup>6</sup>

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<sup>6</sup> As discussed in greater detail below, the court ultimately finds that Bedrossian's opinions must be excluded because they are not sufficiently probative of the issue of specific causation when that issue is viewed through the appropriate legal standard. This conclusion is based, in part, on the court's understanding of the substance and character of Bedrossian's opinions. The court pauses here to note that, if the court's understanding of Bedrossian's opinions were found to be inaccurate, it would be necessary to reevaluate whether Bedrossian's actual, accurately-characterized opinions were properly disclosed under Rule 26(a)(2)(b).

## B. “Every Exposure” Theory

Defendants next argue that Bedrossian’s specific causation opinions should be excluded as unfairly prejudicial, confusing, and misleading under Rule 403, and unhelpful and unreliable under Rule 702. Defendants’ arguments are premised on their assertion that Bedrossian’s opinions rely on what is known as the “every exposure” theory of causation. The “every exposure” theory posits “that each and every exposure to asbestos by a human being who is later afflicted with mesothelioma, contributed to the formation of the disease.” Smith v. Ford Motor Co., 2013 WL 214378, at \*1 (D. Utah Jan. 18, 2013); see also Yates v. Ford Motor Co., 113 F. Supp. 3d 841, 846 (E.D.N.C. 2015) (describing the “each and every exposure theory” as “the theory that ‘each and every exposure to asbestos products results in injury to the person so exposed’” (quoting Krik v. Crane Co., 76 F. Supp. 3d 747, 749–50 (N.D. Ill. 2014))), reconsideration denied, 143 F. Supp. 3d 386 (E.D.N.C. 2015). Plaintiffs dispute this characterization of Bedrossian’s opinions, arguing that Bedrossian will simply opine that “low dose exposure to asbestos can cause mesothelioma.” Haskins ECF No. 179 at 3; see also Chesher ECF No. 224 at 25 (“Dr. Bedrossian will opine that Mr. Chesher’s cumulative exposure to asbestos was the cause in fact of his disease and that each non-trivial exposure to asbestos above background levels . . . would have contributed to the overall dose that was responsible for the development of the mesothelioma.”).

While the “every exposure” label carries no legal significance in and of itself, it is obviously necessary to examine the precise nature of Bedrossian’s opinions in order to determine their admissibility. Bedrossian explains that mesothelioma is closely tied to asbestos exposure, Hr’g Tr. 29:19–30:5, and that there is a dose-response relationship

between an individual's cumulative lifetime exposure to asbestos and the risk of developing the disease, meaning that a person's risk of developing mesothelioma increases as the cumulative dose increases. Id. at 60:14–61:7. Thus, Bedrossian asserts that an individual's "total cumulative dose" is the "best indicator" of an individual's risk of developing mesothelioma, e.g. Haskins Report 5–6, and views the "total cumulative dose" as the "cause" of Haskins and Chesher's injuries. Hr'g Tr. 62:3–8 ("Q. What was the cause of Mr. Haskins'[s] mesothelioma? A. It was the total cumulative dose that they accumulated from various products that they worked on. Q. How about for Mr. Cheshire? (sic) A. Same thing."). The dose-response relationship also impacts the "latency period" of the disease—i.e., the time between an individual's exposure and the manifestation of the disease. Id. at 61:18–20. "The higher the intensity [of the exposure], the less the latency needed. So high intensity over a short period of time can be as great as low dose over a long period of time." Id. Bedrossian further explains that mesothelioma may result from very small exposures, citing a number of authorities that have concluded that "there is no safe level of asbestos exposure." Id. at 35:7–37:22. This is all fairly uncontroversial, and the court is convinced that these basic principles find enough support in the scientific literature that any attempt to challenge them would not disturb their reliability. See DAIL & HAMMAR'S PULMONARY PATHOLOGY, VOL. II: NEOPLASTIC LUNG DISEASE 587 (Joseph P. Tomashefski, Jr., et al., eds., 3d ed. 2008) ("[W]hen there are multiple asbestos exposures, each contributes to cumulative exposure and hence to the risk and causation of [mesothelioma], within an appropriate latency interval."); see also Haskins ECF No. 6 n.7 (collecting authorities).

The trouble with Bedrossian's opinions is his application of these principles to conclude that, because Haskins and Chesher's exposures to the defendants' asbestos-containing products were—by definition—part of their respective “cumulative doses,” such exposures significantly contributed to their development of mesothelioma. Hr'g Tr. 63:22–64:3 (“[E]very occupational exposure to asbestos can cause injury or disease, and every occupational exposure to asbestos contributes to the risk of getting an asbestos-related disease, meaning it is the cumulative exposure that increases the risk of the patient developing a condition related to asbestos.”); Hr'g Tr. 109:3–7 (“We can say that the different exposures contribute to the total and we can say that the total is responsible for the complex sequence of events that end up in cancer, but we cannot blame one fiber.”).

Plaintiffs argue that Bedrossian does not claim that every exposure contributes to the cumulative dose—or, at least, he does not opine that every exposure contributes to the cumulative dose in a way that can be considered causative. Instead, plaintiffs claim that Bedrossian only considers exposures to be causative if they reach “non-trivial,” “above background,” or “occupational” levels. Haskins ECF No. 179 at 11, 13; Chesher ECF No. 224 at 25. But Bedrossian never defines what level of exposure he considers significant and openly admits that he did not even need to know Haskins or Chesher's actual level of exposure to defendants' products in order to render his opinions. Hr'g Tr. 79:16–22 (“Q. . . . [Y]ou haven't performed any calculations, formed any opinions about the cumulative dose of asbestos that Mr. Haskins might have received from working with any specific defendant's product, correct? A. Correct. And the reason I didn't is because it's not necessary.”). Instead, it appears that Bedrossian assumes that, because every “occupational” exposure contains exponentially more fibers than any background

exposure, every “occupational” exposure significantly contributes to the total cumulative dose. Id. at 89:5–10 (“[A]n occupational exposure -- exposed patient accumulates billions of fibers in the same period of time that a person exposed to air with the normal concentration, which is less than .0005 accumulate fibers.”). Thus, in Bedrossian’s view, whenever the total cumulative dose results in mesothelioma, every “occupational” exposure should be considered causative, no matter how small.

Regardless of whether this is sound science, it is inconsistent with the law. In a products liability action under maritime law,<sup>7</sup> the plaintiff must show “that (1) he was exposed to the defendant’s product, and (2) the product was a substantial factor in causing the injury he suffered.” Lindstrom v. A-C Prod. Liab. Trust, 424 F.3d 488, 492 (6th Cir. 2005) (emphasis added). This analysis must be conducted on a defendant-by-

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<sup>7</sup> There appears to be some confusion over the applicability of maritime law in this case. The parties occasionally reference the “frequency, regularity and proximity test” announced in Lohrmann v. Pittsburgh Corning Corp., 782 F.2d 1156, 1163 (4th Cir. 1986), and adopted by the Supreme Court of South Carolina in Henderson v. Allied Signal, Inc., 644 S.E.2d 724, 727 (S.C. 2007). There does not appear to be any significant difference between the specific causation requirements of maritime law and the Lohrman test. In fact, one court has explicitly noted the similarity between the Lohrman test and the substantial factor test under maritime law. Krik v. Crane Co., 76 F. Supp. 3d 747, 753 (N.D. Ill. 2014). Nevertheless, to the extent any such conflict exists, the court wishes to make clear that the instant motions are governed by maritime law.

The court has admiralty jurisdiction over both cases, as Haskins and Chesher’s claims both arise from exposure which occurred on, and in the course of servicing a U.S. Naval vessel, while they were primarily sea-based workers. See Jerome B. Grubart, Inc. v. Great Lakes Dredge & Dock Co., 513 U.S. 527, 534 (1995) (explaining that a court has federal admiralty jurisdiction over a tort claim if conditions of location and “connection with maritime activity” are met); Conner v. Alfa Laval, Inc., 799 F. Supp. 2d 455, 466 (E.D. Pa. 2011) (explaining that that products-liability claims “involving plaintiffs who were sea-based Navy workers” satisfy the location-and-connection test when the “the allegedly defective product was produced for use on a vessel”). “With admiralty jurisdiction comes the application of substantive admiralty law.” E. River S.S. Corp. v. Transamerica Delaval, Inc., 476 U.S. 858, 864 (1986).

defendant basis.<sup>8</sup> Id. “‘Minimal exposure’ to a defendant’s product is insufficient.” Id. (quoting Stark v. Armstrong World Indus., Inc., 21 F. App’x 371, 375 (6th Cir. 2001)).

The Lindstrom court specifically rejected the “every exposure” theory of causation, reasoning that such a theory “would permit imposition of liability on the manufacturer of any product with which a worker had the briefest of encounters on a single occasion.” Id. at 493. The expert testimony at issue in Lindstrom was strikingly similar to the testimony at issue here. Like Bedrossian, the expert in Lindstrom failed to conduct any defendant-specific analysis and relied heavily on the principle that “there is no safe level of asbestos exposure” to conclude that “[e]ach of [] Lindstrom’s occupational exposures to asbestos aboard ship to a reasonable degree of medical certainty were (sic) a substantial contributing factor to his development of mesothelioma.” Id. at 493 (internal quotations omitted). Thus, the instant matter requires very little analysis. Bedrossian’s opinions fly in the face of Lindstrom’s rejection of the “every exposure” theory—a position that has been reaffirmed in subsequent decisions applying maritime law. McIndoe v. Huntington Ingalls Inc., 817 F.3d 1170, 1177 (9th Cir. 2016) (citing to Lindstrom and rejecting plaintiff’s reliance on expert testimony which “did not speak to the severity of [the decedent’s] own asbestos exposure beyond the basic assertion that such exposure was significantly above ambient asbestos levels,” and “did not speak to the severity of [the plaintiff’s] exposure to [the defendant’s product]”); Krik, 76 F. Supp. 3d at 753 (citing Lindstrom to reject plaintiff’s reliance on

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<sup>8</sup> The court does not see how Bedrossian’s opinion in the Chesher case could ever satisfy this requirement after the following exchange: “Q. You don’t know specifically whether any of those three, Crane, Leslie or Valin, specifically those brands, contributed to Mr. Cheshire’s cumulative exposure, do you? A. I don’t have the facts to answer that question.” Hr’g Tr. 158:7–10. Nevertheless, because the Haskins case presents a closer question, the court proceeds with its analysis.

the “every exposure” theory); see also Mortimer v. A.O. Smith Corp., 2015 WL 1606149, at \*1 (E.D. Pa. Jan. 6, 2015) (relying on Lindstrom to set forth the standard for causation under maritime law). Because Bedrossian’s opinions evaluate causation in a manner that is inconsistent with the appropriate legal standard, they are essentially irrelevant, and any probative value they may have is easily outweighed by their tendency to confuse or mislead the jury.

Even if Bedrossian’s opinions could be distinguished from the “every exposure” opinion offered in Lindstrom and regarded as “low exposure” opinions—which they cannot—the court would reach the same result, as Bedrossian has failed to offer a viable explanation for why plaintiffs’ exposures to defendants’ products can be considered substantial causes, while lower-level exposures cannot. First, as outlined above, it is very difficult to determine what criteria Bedrossian uses to determine when a particular exposure is causative. Bedrossian purports to equate causation with “contribution” to the total cumulative level of exposure. Hr’g Tr. 108:25–109:6 (“You cannot pinpoint the exposure. Neither can you exonerate them. And that is the reason why the scientific evidence speaks of cumulative dose. We can say that the different exposures contribute to the total and we can say that the total is responsible for the complex sequence of events that end up in cancer . . .”). But a person’s cumulative level of exposure necessarily includes all of his or her individual exposures. Therefore, all forms of exposure can be said to “contribute” to the total cumulative dose, and Bedrossian’s logic must necessarily include all exposures. However, Bedrossian does not regard background exposure as a “cause” of mesothelioma, even in the scientific sense. Hr’g Tr. 132:19–22 (“Q. When you are looking at cumulative exposure, you exclude or include background levels? A.

Background level exists, but by itself is not a cause of mesothelioma.”).<sup>9</sup> Thus, the mere fact that “occupational” or “above-background” exposures contribute to the total cumulative dose fails to explain why Bedrossian views them as more causative than non-occupational or below-background exposures.

Neither the plaintiffs nor Bedrossian offer a precise explanation on this point. However, plaintiffs’ arguments and Bedrossian’s reliance on authorities that have found “no safe level” of asbestos exposure, Hr’g Tr. 35:7–37:22, suggest that Bedrossian considers all “occupational” or “above background” exposures to be distinguishable from lower level exposures because “occupational” or “above background” exposures can independently cause mesothelioma. See ECF No. 179 at 5–6 (pointing out studies showing that low levels of asbestos exposure are sufficient to induce mesothelioma); ECF No. 224 at 20 (arguing that Bedrossian’s “opinions regarding the cumulative nature of asbestos diseases and the significance of exposures at occupational levels, i.e., levels reported in the medical and scientific literature as placing workers at an increased risk of disease, . . . are generally accepted medical facts . . . ”). Thus, for Bedrossian’s opinion to have any legal significance, the court must accept the proposition that each exposure can be considered a “substantial cause” of mesothelioma if it could have independently caused the disease. But this approach would be problematic from both a factual and legal perspective. Every exposure to asbestos could cause mesothelioma, but lower levels of exposure carry lower risk. Hr’g Tr. 87:18–23. Therefore, Bedrossian’s logic quickly

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<sup>9</sup> Bedrossian’s position on this issue is not entirely clear, but suffice it to say, if Bedrossian is willing to consider background exposure to be a cause of mesothelioma, he is most certainly offering an “every exposure” opinion within the meaning of Lindstrom. The court therefore assumes, for the sake of argument, that he does not consider background exposures to be “causes” of mesothelioma.

devolves into the sort of “every exposure” liability that was specifically rejected in Lindstrom, and leads to the bizarre conclusion that any exposure that carries any chance of causing mesothelioma—however minuscule—constitutes a “substantial cause,” regardless of the other exposures that may have contributed to the total cumulative exposure.<sup>10</sup>

If the total cumulative exposure causes mesothelioma, the court fails to see how a single exposure or set of exposures could be considered a “substantial cause” of the disease unless that exposure or set of exposures had a substantial impact on the total cumulative exposure. The Supreme Court of Texas, in one of the more thoughtful opinions addressing the “every exposure” theory, explored the concept of substantial causation in the multiple defendant context. Bostic v. Georgia-Pac. Corp., 439 S.W.3d 332, 350–51 (Tex. 2014). The court recognized that:

[S]ubstantial factor causation ‘denote[s] the fact that the defendant’s conduct has such an effect in producing the harm as to lead reasonable men to regard it as a cause, using that word in the popular sense, in which there always lurks the idea of responsibility, rather than in the so-called philosophic sense, which includes every one of the great number of events without which any happening would not have occurred.’

Id. (quoting Restatement (Second) of Torts § 431 cmt. a (1965)). The court likened the “philosophical” connection between a plaintiff’s harm and “every one of the great number of events without which [the harm] would not have occurred” to the similarly tenuous connection between a plaintiff’s harm and the actions of a defendant who makes only a “trivial” contribution to a set of multiple, independently sufficient causes. Id. at

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<sup>10</sup> Alternatively, if plaintiffs were willing to accept that there are some levels of exposure that are not independently sufficient to cause mesothelioma but, taken together, could cause mesothelioma, their logic would preclude a showing of substantial causation whenever a person’s total cumulative exposure was comprised exclusively of such exposures.

351 (“Along the same lines, the Restatement Third recognizes that a defendant’s trivial contribution to multiple causes will not result in liability.”); see also Restatement (Third) of Torts: Phys. & Emot. Harm § 36 (2010) (“When an actor’s negligent conduct constitutes only a trivial contribution to a causal set that is a factual cause of harm under [the section dealing with multiple sufficient causes], the harm is not within the scope of the actor’s liability.”). This reasoning led the Bostic court to conclude that the level of exposure necessary to establish “substantial causation” in a multiple defendant asbestos case may depend on the other defendants’ contributions to the total exposure. Id. This court agrees. A brief, low level exposure may not be substantial if the plaintiff was also subjected to longer, more substantial exposures on a more frequent basis. However, the same brief, low level exposure would appear to be quite substantial if it was one of only a few exposures that made up the plaintiff’s total cumulative exposure. Thus, the court is convinced that a robust concept of “substantial causation” should account for the broader context in which a particular exposure occurs—including the defendant’s relative contribution to the overall exposure, rather than an assessment of whether its contribution was sufficiently harmful in the abstract.

Perhaps there is some level of exposure at which substantial causation may be presumed, regardless of the nature and extent of the plaintiff’s other exposures. The Lindstrom opinion does not appear to require the sort of contextual analysis described above, and the comparable Lohrmann standard simply looks to the nature, extent, and frequency of a plaintiff’s exposure to the defendant’s product.<sup>11</sup> 782 F.2d at 1162–63

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<sup>11</sup> The court notes that there were points during the evidentiary hearing when Bedrossian defined an “occupational” exposure as an exposure that is “close to the source of the asbestos, frequent and repeated.” Hr’g Tr. 135:14–15. Thus, one might argue that Bedrossian is simply opining that all exposures that fit within these criteria are substantial

(“To support a reasonable inference of substantial causation from circumstantial evidence, there must be evidence of exposure to a specific product on a regular basis over some extended period of time in proximity to where the plaintiff actually worked.”). But even if a plaintiff may show substantial causation by establishing some particular level of exposure in a vacuum, it is clear that this threshold level cannot be defined as the level of exposure that may cause mesothelioma. This would render the substantial causation rule meaningless, as any level of exposure may cause mesothelioma. Cf. Krik, 76 F. Supp. 3d at 752 (“[T]he notion that it is theoretically possible that any amount of exposure could cause injury is different from an opinion that the particular level of dosage experienced by a plaintiff was sufficient to cause his or her particular injury.”); Smith, 2013 WL 214378, at \*3 (“Just because we cannot rule anything out does not mean we can rule everything in.”).<sup>12</sup> Because Bedrossian’s opinions are premised on his conclusion—

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causes, not that all exposures that happen in the workplace are substantial causes. But this interpretation causes a whole new set of problems: Is Bedrossian simply offering a legal conclusion? Does the jury need Bedrossian’s help to evaluate the intensity, frequency, and regularity of a particular set of exposures? After all, this testimony is quite reminiscent of the Lohrmann test.

If the court were convinced that Bedrossian was using some sort of science-based intensity, frequency, and regularity-test to evaluate causation, this may be a different case, but the court finds that he is not. As discussed above, Bedrossian does not explain what level of intensity, frequency, and regularity is needed to establish causation. Moreover, he emphasizes scientific evidence that there “there is no safe level of asbestos exposure.” Id. at 35:7–37:22, 48:1–8, 53:14–54:5. Lastly, he showed very little knowledge of, or interest in, Haskins and Chesher’s actual exposures to defendants’ products. For instance, Bedrossian was unable to discuss Chesher’s level of exposure to different brands of gaskets. Id. at 157:14–158:10; see also id. at 79:17–19 (admitting that “[Bedrossian had not] performed any calculations, formed any opinions about the cumulative dose of asbestos that Mr. Haskins might have received from working with any specific defendant’s product”). Given all of this, the court is convinced that Bedrossian’s opinions are not based on a meaningful, defendant-specific analysis of intensity, frequency, and regularity of Haskins and Chesher’s exposures to defendants’ products.

<sup>12</sup> Although courts have highlighted various rationales in rejecting the “every exposure” theory, many have emphasized the distinction between risk and causation. The court pauses to note that risk and causation are logically related concepts. Thus, in this

scientifically sound as it may be—that Haskins and Chesher’s exposures to asbestos from defendants’ products could have independently caused their mesothelioma, his opinions cannot be used to support a finding of substantial causation. Thus, the probative value of Bedrossian’s testimony is outweighed by its tendency to confuse and mislead the jury, and it must be excluded under Rule 403.<sup>13</sup>

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court’s view, information about risk should at least be able to inform the substantial causation analysis—especially in the mesothelioma context, where a single cause can rarely be identified. However, for the reasons described above, the court agrees that it is important to recognize the distinction between risk and causation. See Smith, 2013 WL 214378, at \*3 (holding that the every exposure theory “seeks to avoid not only the rules of evidence but more importantly the burden of proof”).

<sup>13</sup> For many of the same reasons Bedrossian’s opinion must be excluded under Rule 403, it would likely fail to assist the jury on the issue of specific causation under Rule 702. See Daubert, 509 U.S. at 591 (explaining that “Rule 702’s ‘helpfulness’ standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility”).

Alternatively, if the court believed that Bedrossian was offering an opinion that was actually relevant under the appropriate legal standard, it would have serious concerns about the analytical gap between that opinion and the data Bedrossian relies on. Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997) (“A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.”). However, the court is convinced that the better characterization of this case is that Bedrossian’s is offering an opinion that finds support in the relevant scientific literature, but is simply not probative of the legal issue of specific causation.

#### **IV. CONLCUSION**

For the foregoing reasons, the court **GRANTS** defendants' motions to the extent they seek to exclude Bedrossian's testimony. The court **DENIES** defendants' motions as to all other experts identified in their motions, as plaintiffs have conceded that those experts will not offer an opinion on specific causation.

**AND IT IS SO ORDERED.**

A handwritten signature in black ink, appearing to read "DAVID C. NORTON".

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**DAVID C. NORTON**  
**UNITED STATES DISTRICT JUDGE**

**July 21, 2017**  
**Charleston, South Carolina**