

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TENNESSEE
AT KNOXVILLE

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| GREG ADKISSON, et al., |) | |
| Plaintiffs, |) | |
| v. |) | No.: 3:13-CV-505-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | <i>Lead Case Consolidated with</i> |

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|---------------------------------|---|-----------------------------|
| KEVIN THOMPSON, et al., |) | |
| Plaintiffs, |) | |
| v. |) | No.: 3:13-CV-666-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | <i>as consolidated with</i> |

| | | |
|---------------------------------|---|-------------------------|
| JOE CUNNINGHAM, et al., |) | |
| Plaintiffs, |) | |
| v. |) | No.: 3:14-CV-20-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | |

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|---------------------------------|---|-------------------------|
| BILL ROSE, |) | |
| Plaintiff, |) | |
| v. |) | No.: 3:15-CV-17-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | |

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|---------------------------------|---|--------------------------|
| CRAIG WILKINSON, et al., |) | |
| Plaintiffs, |) | |
| v. |) | No.: 3:15-CV-274-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | |

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|--|---|--------------------------|
| ANGIE SHELTON, as wife and next of |) | |
| Kin on behalf of Mike Shelton, et al., |) | |
| Plaintiffs, |) | |
| v. |) | No.: 3:15-CV-420-TAV-HBG |
| JACOBS ENGINEERING GROUP, INC., |) | |
| Defendant. |) | |
| _____ |) | |

JOHNNY CHURCH,)
Plaintiff,)
v.) No.: 3:15-CV-460-TAV-HBG
JACOBS ENGINEERING GROUP, INC.,)
Defendant.)

DONALD R. VANGUILDER, JR.,)
Plaintiff,)
v.) No.: 3:15-CV-462-TAV-HBG
JACOBS ENGINEERING GROUP, INC.,)
Defendant.)

JUDY IVENS, as sister and next of kin,)
on behalf of JEAN NANCE, deceased,)
Plaintiff,)
v.) No.: 3:16-CV-635-TAV-HBG
JACOBS ENGINEERING GROUP, INC.,)
Defendant.)

PAUL RANDY FARROW,)
Plaintiff,)
v.) No.: 3:16-CV-636-TAV-HBG
JACOBS ENGINEERING GROUP, INC.,)
Defendant.)

MEMORANDUM OPINION AND ORDER

These cases are before the undersigned pursuant to 28 U.S.C. § 636, the Rules of this Court, and Standing Order 13-02. Now before the Court is Defendant Jacobs Engineering Group, Inc.’s Motion to Exclude Opinions of Plaintiffs’ Experts on General Causation [Doc. 240 in *Adkisson*, 3:13-CV-505; Doc. 235 in *Thompson*, 3:13-CV-666; Doc. 216 in *Cunningham*, 3:14-CV-20; Doc. 162 in *Rose*, 3:15-CV-17; Doc. 170 in *Wilkinson*, 3:15-CV-274; Doc. 151 in *Shelton*, 3:15-CV-420; Doc. 153 in *Church*, 3:15-CV-460; Doc. 155 in *Vanguilder*, 3:15-CV-462; Doc. 81 in *Ivens*, 3:16-CV-635; and Doc. 77 in *Farrow*, 3:16-CV-636]. On May 17, 2018, Plaintiffs filed a response

in opposition [Doc. 261],¹ and on May 24, 2018, Jacobs Engineering Group, Inc., (“Defendant”) filed a reply [Doc. 264]. The parties have fully briefed the issues presented therein, and on June 15, 2018, the parties appeared before the Court to present oral argument on the motion. The Court finds that the motion is now ripe for adjudication. For the reasons stated herein, the Court will **DENY** the motion.

I. Background

This consolidated action involves a group of individual Plaintiffs who worked, or had spouses or next of kin who worked, on the Tennessee Valley Authority’s (“TVA”) fly ash clean-up, removal, and recovery project at the Kingston Fossil Fuel Plant (“the Site”) following the December 22, 2008 ash spill in Roane County, Tennessee. [See Doc. 59]. Defendant was hired by TVA in 2009 as construction manager of the Site. [Doc. 11-1]. In its role as construction manager, Defendant provided project planning, management, and oversight to assist TVA in the overall recovery and remediation of the Site. [Id. at 4]. Plaintiffs allege that Defendant negligently and recklessly executed its duties and responsibilities, causing Plaintiffs to sustain multiple personal injuries, including pulmonary injuries, leukemia, sinus injuries, and skin problems, as a result of “continuous, unlawful exposure to arsenic, the neurotoxin mercury, barium, strontium, thallium, lead, silica,-quartz, asbestos, radioactive material, selenium, aluminum oxide, iron oxide, calcium oxide, boron and other hazardous substances associated with” fly ash while working at the Site. [Doc. 59 at ¶ 48, 89]. Plaintiffs have asserted claims of negligence, negligence per se, recklessness, fraud, misrepresentation, and strict liability of ultra-hazardous or abnormally dangerous activity. [Id. at ¶ 70-125].

¹ Unless otherwise indicated, citations to the record refer to the docket entries in *Adkisson*, 3:13-CV-505.

While these cases had initially been consolidated for the limited purpose of discovery and motion practice, Chief District Judge Varlan ordered a bifurcated, two phase, trial plan on January 30, 2017. [Doc. 136]. “**Phase I** will involve issues and evidence relating to: (1) whether defendant owed plaintiffs a legal duty; (2) whether defendant breached that duty; and (3) whether defendant’s breach was capable of causing plaintiffs’ alleged injuries,” and “**Phase II** will involve issues and evidence relating to: (1) specific causation with respect to individual plaintiffs; (2) each plaintiff’s alleged injuries; and (3) the extent to which individual plaintiffs are entitled to damages.” [Doc. 136 at 7] (emphasis in original). In sum, Phase I will deal with the issue of general causation while Phase II will deal with the issue of specific causation. [*Id.*]. Phase I of the trial is currently scheduled for October 9, 2018. [Doc. 265].

Plaintiffs were ordered to disclose their expert witnesses on or before May 1, 2017, for Phase I of the trial. [Doc. 138 at 3]. Plaintiffs timely identified nine expert witnesses, including Paul Terry, Ph.D., M.P.G., F.A.C.E., who is the only expert witness at issue in these cases.² Plaintiffs, however, did not disclose a signed written report for Dr. Terry, because they believed he was not an expert witness within the meaning of Federal Rule of Civil Procedure Rule 26(a)(2)(B). [Doc. 162 at 6-7]. Following a discovery conference, the Court found that Dr. Terry was required to produce a written report and ordered Plaintiffs to disclosure such a report if they intended to use Dr. Terry as an expert witness. [*Id.* at 10, 14]. On July 14, 2017, Plaintiffs produced a two-page signed statement from Dr. Terry. [Doc. 237-1 at 2-3]. Dr. Terry stated he would testify “as to how the odds ratios in this matter indicate that the higher incidence of these

² When Plaintiffs filed their response to the instant motion, they withdrew all of their proposed experts for Phase I of the trial with the exception of Dr. Terry. [Doc. 261 at 3]. Therefore, the Court’s discussion of the background and procedural history of these cases is limited in relevance to Plaintiffs’ disclosure of Dr. Terry.

health problems in the workers can be linked statistically to their exposure to fly ash,” that “[t]here was an unusually high occurrence of disease found in the remediation workers that include leukemia, skin problems, lung cancer, other cancers, low testosterone, sinus, heart, pulmonary, breathing problems, neurological, and intestinal problems, including an environmental association of other health conditions and the statistical odds of these conditions caused, aggravated or contributed by fly ash exposure,” and that “the data suggested that the fly ash increased the risk of having these diseases and conditions when compared with data from the population as a whole or a control group of similar workers who were not exposed to fly ash.” [Doc. 237-1 at 2]. Dr. Terry did not describe the type of study he relied upon or the methodology employed, aside from stating that he formed his opinions based on epidemiological healthcare questionnaires, Plaintiffs’ interrogatory responses, pictures, Defendant’s documents, and other discovery material. [*Id.* at 2-3].

During a second discovery conference held by the Court on August 15, 2017, Defendant complained that Dr. Terry’s report was deficient under Rule 26(a)(2)(B) as it failed to set forth with specificity the “basis and reasons” for, or the “facts and data,” supporting his opinions. [*See* Doc. 178 at 3]. Defendant also alleged that the report failed to satisfy Plaintiffs’ burden on general causation. [*Id.*]. In this regard, the parties highlighted their disagreement on the standard of proof for establishing general causation during the hearing. Defendant cited to various case law for the proposition that Plaintiffs’ expert reports failed to identify the level or dose of fly ash exposure that is necessary to cause the injuries alleged, Plaintiffs’ actual exposure level, or whether Plaintiffs’ exposure level is sufficient to cause the injuries alleged, elements that Plaintiffs contended are not necessary to establish general causation.

Defendant formally challenged the merits of Plaintiffs’ expert proof on general causation

less than two months later when it filed its Motion for Partial Summary Judgment on General Causation on October 6, 2017. [Doc. 191]. Plaintiffs responded in turn on October 27, 2017, attaching to their response a second report by Dr. Terry. [Doc. 205-6]. In his second, six-page report, Dr. Terry stated he was conducting an epidemiological study “to estimate the association between exposure and disease” through a “[r]etrospective observational/historical cohort study.” [Id. at 1-2]. Though the study was “incomplete,” Dr. Terry provided preliminary opinions and “anticipated” findings, concluding that “[a]t this point in time, the data suggests that the alleged injuries of the plaintiffs being caused by extended exposure to fly ash is **biologically plausible** because exposed workers have higher occurrence of several diseases and health conditions compared with general population and our control group.” [Id. at 2] (emphasis in original). Dr. Terry did not provide the data he had thus far collected or relied upon in making his preliminary findings, and his report did not address Defendant’s claim regarding the necessity of exposure data in terms of the level or dose of fly ash exposure that must be shown to establish general causation.

On November 9, 2017, Chief District Judge Varlan continued Phase I of the trial and amended certain deadlines. [Doc. 215]. Chief District Judge Varlan denied Defendant’s Motion for Partial Summary Judgment on General Causation without prejudice with leave to refile under the new dispositive motion deadline. [Id.]. Following the continuance order, there was some confusion among the parties whether the order also reset the expert disclosure deadline. [See Docs. 226 and 229]. After conducting a status conference before Chief District Judge Varlan and a second status conference before the undersigned, the Court determined that the expert disclosure deadline had not been reset. [Doc. 230 at 4-5]. Nonetheless, the Court afforded Plaintiffs the opportunity to demonstrate why the expert disclosure deadline should be reopened. [Id. at 6]. Plaintiffs thereafter submitted that they sought to introduce three new expert witnesses, including

another epidemiologist. [Doc. 233 at 5-7]. Although Plaintiffs disagreed with Defendant's theory on general causation, Plaintiffs explained that they needed these new experts "to make sure they meet the Court's expectations for proof of 'general causation' for Phase I" should the Court agree with Defendant's theory on general causation. [*Id.* at 9-10]. On March 9, 2018, the Court determined that Plaintiffs had not acted diligently in seeking an extension of time and therefore they could not demonstrate good cause or excusable neglect for their delay in seeking a modification of the expert disclosure deadline. [Doc. 235].

On March 19, 2018, Defendant filed the instant motion, moving to exclude all of Plaintiffs' expert witnesses for Phase I of the trial, including Dr. Terry. [Doc. 240]. Plaintiffs responded on May 17, 2018, withdrawing all of their previously disclosed expert witnesses except for Dr. Terry. [Doc. 261 at 3]. Attached as an exhibit to their response is a third report by Dr. Terry. [Doc. 261-1]. Dr. Terry's latest report was originally disclosed on April 30, 2018, when Plaintiffs responded to Defendant's renewed Motion for Partial Summary Judgment on General Causation. [Doc. 253-4]. In Dr. Terry's latest, 95-page report, he explains that his current report supplements his two prior reports from July and October 2017 which sought to conduct an epidemiological study that estimated the associations between exposure to coal ash and specific diseases among workers at the Site, including Plaintiffs. [*Id.* at 2]. Dr. Terry explained that his planned study relied on questionnaire responses from exposed coal ash cleanup workers and a control group that consisted of employees in the same industry. [*Id.*]. Because Plaintiffs' counsel could not secure responses from the control group in a timely manner, Dr. Terry states that he was forced to terminate his epidemiological study. [*Id.*].

Dr. Terry goes on to explain that in March 2018, Plaintiffs' counsel requested that he "conduct a far more thorough general causation analysis of the published epidemiological

literature regarding illnesses and physical conditions associated with exposure to coal ash,” thus leading to his third report. [*Id.*]. Dr. Terry’s general causation analysis, which seeks to answer whether “exposure to a chemical or other factor [can] cause a disease,” now employs an extensive literature review methodology to determine whether specific components of coal fly ash reported to be present at the Site—fine particulate matter,³ arsenic, cadmium, chromium, lead, nickel, vanadium, and naturally occurring radioactive materials—are causally associated with the specific diseases reported by Plaintiffs, including hypertension, coronary artery disease, lung cancer, leukemia, non-melanoma skin cancer, allergic contact dermatitis, peripheral neuropathy, asthma, chronic obstructive pulmonary disease, and various respiratory conditions such as cough, sore throat, dyspnea on exertion, chest pain or discomfort, bronchitis, and emphysema. [*Id.* at 4-6]. In sum, Dr. Terry opines that his literature review supports a finding that “a number of the diseases found among one or more [P]laintiffs were determined by general causation analyses to be causally associated with one or more of these components of fly ash” [*Id.* at 5].

Defendant filed its reply on May 24, 2018, objecting to the admissibility of Dr. Terry’s third report on several grounds, including that his report (1) is not a supplementation pursuant to Federal Rule of Civil Procedure 26(e) but is an entirely new opinion that should be excluded under Federal Rule of Civil Procedure 37(c), and (2) should also be excluded under *Daubert* and Federal Rule of Evidence 702 because the opinions expressed in his report are not reliable. [Doc. 264].

II. ANALYSIS

The Court has thoroughly reviewed the parties’ positions in these cases and having considered the arguments raised in their briefs and during the June 15, 2018 motion hearing, the

³ That is, particles having an aerodynamic diameter of 2.5 μ (microns) or less. [Doc. 261-1 at 5].

Court finds that Dr. Terry's latest report disclosed on April 30, 2018, is not a supplementation under Federal Rule of Civil Procedure 26(e). Rather, it is a "new" expert report. However, the Court also finds that Plaintiffs' late disclosure of the new report is harmless, and therefore the report will not be excluded under Federal Rule of Civil Procedure 37(c). Furthermore, the Court finds that Dr. Terry's report is admissible under *Daubert* and Federal Rule of Evidence 702. The Court will address each finding in turn.

A. Federal Rule of Civil Procedure 26

The Court begins its analysis with an overview of the expert disclosure requirements found in Rule 26. Pursuant to Rule 26(a), "if the witness is one retained or specially employed to provide expert testimony in the case," the disclosure "must" include a signed written report that contains the following:

- (i) a complete statement of all opinions the witness will express and the basis and reasons for them;
- (ii) the facts or data considered by the witness in forming them;
- (iii) any exhibits that will be used to summarize or support them;
- (iv) the witness's qualifications, including a list of all publications authored in the previous 10 years;
- (v) a list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition; and
- (vi) a statement of the compensation to be paid for the study and testimony in the case.

Fed. R. Civ. P. 26(a)(2)(B). "A party must make these disclosures at the time and in the sequence that the court orders." Fed. R. Civ. P. 26(a)(2)(D). Rule 26(a)(2)(B) requires a report to "be complete such that opposing counsel is not forced to depose an expert in order to avoid an ambush at trial; and moreover the report must be sufficiently complete so as to shorten or decrease the need

for expert depositions and thus to conserve resources.” *R.C. Olmstead, Inc., v. CU Interface, LLC*, 606 F.3d 262, 271 (6th Cir. 2010) (quoting *Salgado v. Gen. Motors Corp.*, 150 F.3d 735, 742 n. 6 (7th Cir. 1998)). Put another way, “[e]xpert reports must include ‘how’ and ‘why’ the expert reached a particular result, not merely the expert’s conclusory opinions.” *Id.*

Rule 26 goes on to explain the requirement for supplementing expert disclosures:

(e) Supplementing Disclosures and Responses.

(1) *In General.* A party who has made a disclosure under Rule 26(a)--or who has responded to an interrogatory, request for production, or request for admission--must supplement or correct its disclosure or response:

(A) in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing; or

(B) as ordered by the court.

(2) *Expert Witness.* For an expert whose report must be disclosed under Rule 26(a)(2)(B), the party’s duty to supplement extends both to information included in the report and to information given during the expert’s deposition. Any additions or changes to this information must be disclosed by the time the party’s pretrial disclosures under Rule 26(a)(3) are due.

Fed. R. Civ. P. 26(e)(1)-(2).

Here, Plaintiffs’ expert disclosures were due May 1, 2017. [Doc. 138 at 3]. At that time, Plaintiffs identified Dr. Terry but did not disclose a written report until July 14, 2017. [Doc. 237-1 at 2-3]. Dr. Terry provided a second report on October 27, 2017, which clarified that his opinions were still preliminary, as he continued to conduct an epidemiological study. [Doc. 205-6]. Finally,

Dr. Terry provided a third report on April 30, 2018, explaining that he could not complete his epidemiological study and had embarked on “a far more thorough general causation analysis” via literature review that he began in March 2018 at the request of Plaintiffs’ counsel. [Doc. 261-1].

Defendant argues that Dr. Terry’s April 30, 2018 report is not a supplementation to his previous reports because he now “provides new opinions that are based entirely upon a newly-conducted ‘causation analysis.’” [Doc. 264 at 2]. Defendant points out that Dr. Terry never completed his epidemiological study or provided any of the data from that study to Defendant that Dr. Terry purported to rely upon. [*Id.* at 6]. Thus, Dr. Terry’s latest report does not merely offer corrections to his previous reports or fill in the gaps of missing information, but, instead, it offers a new analysis, theories, and basis to support Plaintiffs’ theory on general causation. [*Id.* at 6-7]. Plaintiffs counter that Dr. Terry’s report qualifies as a supplementation. [Doc. 261 at 16-17]. Because Dr. Terry could not secure complete responses from the control group for his epidemiological study, Plaintiffs submit that his earlier reports became “incomplete and incorrect” under Rule 26(e), and the “only other choice for an expert opinion on general causation was to conduct a general causation analysis of the published epidemiologic literature” [*Id.* at 17]. In other words, Plaintiffs argue that supplementation occurred because “the information upon which [Dr. Terry] intended to base his opinions was incomplete.” [*Id.* at 18]. The Court finds Plaintiffs’ position contrary to the requirements of Rule 26.

As an initial matter, the Court reiterates the Sixth Circuit Court of Appeals’ holding that Rule 26(a)(2)(B), which governs the requisite criteria that “must” be included in an expert’s written report, mandates that a report “be *complete* such that opposing counsel is not forced to depose an expert in order to avoid an ambush at trial; and moreover the report must be *sufficiently complete* so as to shorten or decrease the need for expert depositions and thus to conserve resources.” *R.C.*

Olmstead, Inc., 606 F.3d at 271 (quotation omitted) (emphasis added). Here, Dr. Terry never provided a complete report until April 30, 2018, a year after Plaintiffs' expert disclosure deadline had passed and in response to Defendant's motion for partial summary judgment. Dr. Terry's initial two-page report disclosed on July 14, 2017, merely provided conclusory opinions that Plaintiffs' exposure to fly ash at the Site increased the risk of the diseases and conditions alleged by Plaintiffs. The report vaguely described "the basis and reasons" of Dr. Terry's opinions while entirely failing to set forth the "facts or data considered" or the exhibits anticipated to be used in a "sufficiently complete" manner as to provide Defendant fair notice "in order to avoid an ambush at trial." *See* Fed. R. Civ. Pro. 26(a)(2)(B)(i)-(iii); *R.C. Olmstead, Inc.*, 606 F.3d at 271. For example, Dr. Terry stated he relied upon epidemiological health care questionnaires in forming his opinions but such questionnaires have never been produced to Defendant, and as it turns out, they were not completed by the control group. Dr. Terry also stated he relied upon various medical literature and other publications from numerous sources and institutes without precisely identifying the material in any meaningful way as to allow Defendant the opportunity to review the literature. [*See* Doc. 237-1 at ¶2].

While Dr. Terry's second six-page report produced on October 27, 2017, clarified the methodology relied upon in forming his opinions—a retrospective observational and historical cohort study in which the questionnaires would be utilized in collecting data—the report was anything but complete. Dr. Terry conceded that he "intends" to base his opinions on an epidemiological study which remains "incomplete" but he "anticipates" the study will support his conclusion that Plaintiffs' alleged injuries were capable of being caused by fly ash exposure. [Doc. 205-6]. It was only after Dr. Terry issued his most recent, 95-page written report on April 30, 2018, in which he now bases his opinions on an alternative methodology via literature review,

could his report be considered complete under Rule 26.

While Rule 26(e) permits supplementation of an expert's written report "if the party learns that in some material respect the disclosure . . . is incomplete or incorrect," "[i]t is not mere 'supplementation' when a party submits a manifestly incomplete report lacking analysis or a supporting rationale, waits for the summary judgment deadline to pass, and then submits a fuller report that contains actual reasoning." *Ullman v. Auto-Owners Mut. Ins. Co.*, No. 2:05-CV-1000, 2007 WL 1057397, at *4 (S.D. Ohio Apr. 5, 2007). The rule "simply does not contemplate supplying wholly missing information" *Id.* Yet, this is precisely the predicament Plaintiffs find themselves in today.

Plaintiffs had a duty to produce a complete report with actual and supportive reasoning by the deadline imposed by the Court for expert disclosures. *See* Fed. R. Civ. P. 26(a)(2)(D). When no report was produced from Dr. Terry by Plaintiffs' May 1, 2017 expert disclosure deadline, the Court extended leniency to Plaintiffs and afforded them an opportunity to correct the deficiency. Instead, Plaintiffs produced two reports from Dr. Terry—his July and October 2017 reports—that fall short of a Rule 26 expert report. Both reports were preliminary in nature and expressed opinions that were based on an incomplete study, the data available from the study was never produced to Defendant, and the reports offered inconclusive reasoning and limited analysis. *See Wronke v. Champaign County Sheriff's Office*, 132 F. App'x 58, 61 (7th Cir. 2005) ("Among a host of defects, the report lacked any reasoning in support of the purported expert's conclusions. Thus, the district court acted within its discretion in striking it.") (citing Fed. R. Civ. P. 26(a)(2)(B)). It was not until Plaintiffs responded to Defendant's motion for partial summary judgment on April 30, 2018, that a complete and third report was produced from Dr. Terry. However, this report did more than correct incomplete or incorrect information; the report offered

entirely different theories and a new methodology that Dr. Terry began working on in March 2018.

The Court finds no merit in Plaintiffs' contention that Dr. Terry's inability to complete his epidemiological study rendered his prior reports "incomplete or incorrect" within the meaning of Rule 26(e). "Rule 26(e) envisions supplementation when a party's discovery disclosures happen to be defective in some way so that the disclosure was incorrect or incomplete and, therefore, misleading. It does not cover failures of omission because the expert did an inadequate or incomplete preparation." *Akeva L.L.C. v. Mizuno Corp.*, 212 F.R.D. 306, 310 (M.D.N.C. 2002) (citation omitted).

Therefore, Dr. Terry's third report cannot reasonably be said to be a supplementation where his previous reports only expressed preliminary opinions based on an incomplete epidemiological study. This District has previously observed that Rule 26 does not permit what Plaintiffs now seek to do with Dr. Terry's third report—that is, "Rule 26's duty to supplement is not a declaration of open season for experts to undertake new analyses or to evolve their opinions." *Am. Nat. Property & Cas. Co. v. Stutte*, No. 3:11-CV-219, 2015 WL 2095868, at *4 (E.D. Tenn. May 5, 2015) (finding an expert's third report that undertook a different analysis to remedy uncertainties expressed in the first report constituted a new opinion, and the report was therefore excluded as untimely under Rule 26).

Accordingly, the Court finds that Dr. Terry's third report is not a supplementation but a new report. *See Pluck v. BP Oil Pipeline Co.*, 640 F.3d 671, 681 (6th Cir. 2011) (upholding the district court's finding that an expert's report was not a supplementation because it "contradicted his prior causation opinion and attempted 'to introduce an entirely new methodology well after the point at which it would be proper.'"); *Ullman*, 2007 WL 1057397 at *6 ("By seeking to transform a conclusory report via supplementation, Plaintiff is in effect essentially and impermissibly

presenting a new opinion.”). To conclude otherwise would make the disclosure requirements of Rule 26(a)(2)(B) illusory. *See Allgood v. General Motors Corp.*, No. 1:02-cv-1077, 2007 WL 647496, at *3-4 (S.D. Ind. Feb. 2, 2007) (observing that the danger of allowing new reports to come in under the guise of supplementation “would create a system where preliminary reports could be followed by supplementary reports” and “there would be no finality to expert reports. . . . This practice would surely circumvent the full disclosure requirement implicit in Rule 26.”) (quotation omitted).

Having found that Dr. Terry’s third report is a new report, the Court must now determine whether Rule 37(c) requires exclusion of the report.

B. Federal Rule of Civil Procedure Rule 37

“A violation of Rule 26 gives rise to the application of Rule 37(c)(1)” *Eiben v. Gorilla Ladder Co.*, No. 11-CV-10298, 2013 WL 1721677, at *4 (E.D. Mich. Apr. 22, 2013). Rule 37(c)(1) states as follows:

If a party fails to provide information or identify a witness as required by Rule 26(a) or (e), the party is not allowed to use 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.

“Federal Rule of Civil Procedure 37(c)(1) requires absolute compliance with Rule 26(a), that is, it ‘mandates that a trial court punish a party for discovery violations in connection with Rule 26 unless the violation was harmless or is substantially justified.’” *Roberts ex rel. Johnson v. Galen of Virginia, Inc.*, 325 F.3d 776, 782 (6th Cir. 2003) (quoting *Vance v. United States*, No. 98–5488, 1999 WL 455435, at *3 (6th Cir. June 25, 1999)). The party in violation of Rule 26 bears the burden to prove harmlessness. *Id.* “District courts have broad discretion to exclude untimely disclosed expert-witness testimony.” *Pride v. BIC Corp.*, 218 F.3d 566, 579 (6th Cir.

2000).

The Sixth Circuit Court of Appeals has set forth a five-factor test to determine whether a party's late disclosure is substantially justified or harmless:

(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 nondisclosing party's explanation for its failure to disclose the evidence.

Howe v. City of Akron, 801 F.3d 718, 748 (6th Cir. 2015) (quoting with approval *Russell v. Absolute Collection Servs., Inc.*, 763 F.3d 385, 396-97 (4th Cir. 2014)).

With these factors in mind, the Court first considers the surprise to Defendant as a result of Plaintiffs' late disclosure. Plaintiffs do not specifically address this factor. Plaintiffs, however, do contend that the report would not prejudice Defendant [Doc. 261 at 20-21], a consideration the Court finds is more appropriately assessed under the second factor. Defendant maintains that prior to the disclosure of Dr. Terry's new report, which occurred a year after Plaintiffs' expert disclosure deadline had passed, Plaintiffs never provided any indication to Defendant that Dr. Terry may not be able to complete his planned epidemiological study. [Doc. 264 at 10]. During the June 15, 2018 motion hearing, Defendant reiterated that it was never given any indication from Plaintiffs that the study could not be completed and that Dr. Terry had changed the course of his general causation analysis beginning in March 2018. [Doc. 102 at 5]. Plaintiffs responded that they first became aware in mid-December 2017 that Dr. Terry would not be able to complete his study. [*Id.*]. Based on these facts, the Court finds that Dr. Terry's new report was a surprise to Defendant. Despite Plaintiffs knowledge by mid-December 2017 that Dr. Terry would not be able to complete his study, Plaintiffs did not communicate this fact until they disclosed Dr. Terry's new report on April 30, 2018, in response to Defendant's motion for partial summary judgment.

The second factor the Court considers is Defendant's ability to cure the surprise of Plaintiffs' late disclosure. Plaintiffs submit that any prejudice caused to Defendant by the late disclosure can be cured by Defendant's retained expert witnesses, epidemiologist David Hoel, Ph.D., and medical toxicologist, Scott D. Phillips, M.D., who have already responded to Dr. Terry's new report by way of declaration filed with Defendant's reply brief to its motion for partial summary judgment. [Doc. 261 at 20] (citing [Docs. 263-1 and 263-2]). Plaintiffs maintain that it is therefore unlikely that Defendant would need to retain new experts. [Doc. 261 at 20]. And to the extent Dr. Terry's report needs further probing by Defendant, Plaintiffs submit that ample time exists for doing so, including time to depose Dr. Terry. [*Id.*]. The Court agrees with Plaintiffs that Defendant has the ability to cure its surprise without sustaining undue prejudice. At present, trial remains almost three months away, offering Defendant the opportunity to examine Dr. Terry's new report further, either through deposition or further rebuttal proof by its experts, Dr. Hoel and Dr. Phillips.

Defendant argues that it has already incurred additional costs having Dr. Hoel and Dr. Phillips review and respond to Dr. Terry's new report, and additional costs would be incurred if its experts, or potentially new experts, have to draft an entirely new report that analyzes and responds to Dr. Terry's new report. [Doc. 264 at 11]. However, the Court observes that Dr. Hoel and Dr. Phillips have already reviewed Dr. Terry's report and responded to it, opining that the report expresses opinions that are not based on a scientifically valid method and does not address the essential elements that, in the experts' opinions, must be shown to establish general causation. [Docs. 263-1 and 263-2]. Defendant has not demonstrated what is further required of their experts to rebut Dr. Terry's report or why it would require the services of new rebuttal experts.

Defendant also contends that the Court's reasoning in its March 9, 2018 order, which found

that Defendant would be prejudiced by extending the expert disclosure deadline, applies with equal force here. [Doc. 264 at 9-10]. In making its previous finding, the Court was faced with Plaintiffs' request to introduce three entirely new expert witnesses who had only submitted preliminary statements that explained their anticipated methodologies and opinions that were based on studies that had yet to be conducted. [Doc. 235 at 14]. The Court expressed doubt that a whole new round of expert discovery could be completed in a timely manner without disrupting deadlines in the case and without costing Defendant significant time, money, or resources given the preliminary nature of the opinions anticipated to be expressed in the reports. [*Id.*]. These concerns do not present themselves in the instant matter.

Next, the Court considers whether Plaintiffs' late disclosure would disrupt the trial date, which is presently scheduled for October 16, 2018. Given the foregoing arguments by the parties regarding prejudice, and the Court's finding that sufficient time exists for Defendant to cure the surprise, the Court likewise finds that the late disclosure would not disrupt the current trial date.

Fourth, the Court considers the importance of Plaintiffs' late disclosure. Dr. Terry's new report is undoubtedly important to Plaintiffs' Phase I burden on general causation. Dr. Terry remains Plaintiffs' only expert witness. Dr. Terry's testimony is offered to link exposure to fly ash and its constituents with many of the injuries alleged by Plaintiffs. Therefore, this factor also weighs in favor of Plaintiffs.

Finally, the Court considers Plaintiffs' explanation for their late disclosure. Plaintiffs explain in their brief, as well as the June 15, 2018 motion hearing, that they, in good faith, understood the November 9, 2017 continuance order to have also reset the expert disclosure deadline, at which point Plaintiffs began contemplating introducing new expert witnesses in addition to those they had already disclosed. [Doc. 261 at 21]; *see* [Doc. 219] (joint status report

submitted by the parties explaining their disagreement as to whether the expert disclosure deadline had been reset). Although Plaintiffs learned in mid-December 2017 that Dr. Terry would not complete his epidemiological study, Plaintiffs believed they were free to retain new experts to opine on general causation, given the continuance order. [Doc. 261 at 21]. Once the Court ruled on January 8, 2018, that the expert disclosures deadline had not been reset, and subsequently denied Plaintiffs' request to extend the expert disclosure deadline on March 9, 2018, Plaintiffs immediately requested that Dr. Terry conduct a broader general causation analysis. [*Id.*]. Plaintiffs argue that this led to his new report being disclosed the following month, on April 30, 2018. [*Id.*]. Given the parties' confusion as to whether the expert disclosure deadline had been reset when Phase I of the trial was continued, and the procedural history leading up to the Court's March 9, 2018 denial to extend the expert disclosure deadline, the Court finds that Plaintiffs have offered a reasonable explanation for their untimely disclosure. However, this only explains Plaintiffs' delay from mid-December 2017 forward when they first learned that Dr. Terry was unable to complete his epidemiological study. It does not explain, or excuse, Plaintiffs' overall failure to provide a complete Rule 26 expert report in the first instance. Therefore, the Court finds this last factor, at best, is neutral.

Based on the Court's application of the *Howe* factors, the Court finds that the factors weigh in favor of Plaintiffs. Accordingly, the Court concludes that Plaintiffs' late disclosure of Dr. Terry's new report was harmless and shall not be excluded under Rule 37(c). The Court now considers whether Dr. Terry's report is admissible under *Daubert* and Federal Rule of Evidence 702.

C. *Daubert* Standard and Federal Rule of Evidence 702

Federal Rule of Evidence 702 governs the admission of expert testimony. It 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;

(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.

Fed. R. Evid. 702.

The Sixth Circuit Court of Appeals has summarized the rule as requiring three elements. “First, the witness must be qualified by ‘knowledge, skill, experience, training, or education.’ Second, the testimony must be relevant, meaning that it ‘will assist the trier of fact to understand the evidence or to determine a fact in issue.’ Third, the testimony must be reliable.” *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 529 (6th Cir. 2008) (quoting Fed. R. Evid. 702 (2000) (amended 2011)). When evaluating evidence proffered under Rule 702, the district court must act as a gatekeeper, ensuring “that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993). Reliability looks at “whether the reasoning or methodology underlying the testimony is scientifically valid,” while relevance considers “whether the reasoning or methodology properly can be applied to the facts in issue.” *Id.* at 592-93. The *Daubert* standard “attempts to strike a balance between a liberal admissibility standard for relevant evidence on the one hand and the need to exclude misleading ‘junk science’ on the other.” *Best v. Lowe’s Home Ctrs., Inc.*, 563 F.3d 171, 176-77 (6th Cir. 2009).

The Rule 702 inquiry remains “a flexible one,” and the *Daubert* standard does not constitute a definitive checklist or test. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 138-39 (1999) (citing *Daubert*, 509 U.S. at 593). Therefore, “rejection of expert testimony is the exception, rather than the rule.” *In re Scrap Metal Antitrust Litig.*, 527 F.3d at 530 (citing Fed. R. Evid. 702 advisory committee’s note, 2000 amend.). “Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596.

In the end, “a party proffering expert testimony must show by a ‘preponderance of proof’ that the expert whose testimony is being offered is qualified and will testify to scientific knowledge that will assist the trier of fact in understanding and disposing of issues relevant to the case.” *Pride v. BIC Corp.*, 218 F.3d 566, 578 (6th Cir. 2000).

At the outset of its analysis, the Court notes that toxic tort cases are generally divided into “two broad categories: first, those cases in which the medical community generally recognizes the toxicity of the drug or chemical at issue, and second, those cases in which the medical community does not generally recognize the agent as both toxic and causing the injury plaintiff alleges.” *McClain v. Metabolife Int’l, Inc.*, 401 F.3d 1233, 1239 (11th Cir. 2005). The first category of toxic tort cases does not require extensive *Daubert* review regarding the general toxicity of the substance at issue because the substance is medically recognized to cause the type of harm a plaintiff alleges. *Id.* An example of such a substance would be cigarette smoke which is well known to cause cancer. *Id.* Therefore, “the battleground in this first category of cases focuses on plaintiff-specific questions,” *i.e.*, specific causation, which asks, “was plaintiff exposed to the toxin, was plaintiff exposed to enough of the toxin to cause the alleged injury, and did the toxin in fact cause the injury?” *Id.*; see Jerome P. Kassirer et al., *Reference Guide on Epidemiology*, Reference Manual

on Scientific Evidence 627 (Federal Judicial Center, 3d ed. 2011) (defining “specific causation” as “[w]hether exposure to an agent was responsible for a given individual’s disease.”).

While plaintiff-specific questions likewise play a part in the second category of toxic tort cases, the second category of cases also includes an equally important counterpart that must first be addressed: “the general questions of whether the drug or chemical can cause the harm plaintiff alleges.” *McClain*, 401 F.3d at 1239. This is known as general causation. *Id.* General causation addresses “whether the combination of the chemical contaminants and the plaintiffs’ exposure to them had the capacity to cause the harm alleged.” *Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188, 1200 (6th Cir. 1988); *see* Kassirer, *supra*, 623 (defining general causation as “whether an agent increases the incidence of disease in a group and not whether the agent caused any given individual’s disease. Because of individual variation, a toxic agent generally will not cause disease in every exposed individual.”). The distinction between the two types of toxic tort cases highlights the importance that general causation plays in the second category of cases, such as the cases at present in which Phase I of the bifurcated trial plan addresses general causation by assessing “whether defendant’s breach was capable of causing plaintiffs’ alleged injuries.” [Doc. 136 at 7].

In the present matter, Defendant contends that Dr. Terry’s opinions cannot survive *Daubert* scrutiny because he has not conducted a “valid” epidemiological study which, according to Defendant’s expert witness, must address “*Plaintiffs’* alleged exposure to fly ash” and “the essential elements of exposure and dose within the study group, *i.e.*, Plaintiffs.” [Docs. 264 at 13-18 and 263-1 at 4-5] (emphasis in original). These “essential elements” of dose and exposure⁴ are:

⁴ The Court notes that dose and exposure are related but not identical terms. David L. Eaton, *Scientific Judgment and Toxic Torts—A Primer In Toxicology For Judges And Lawyers*, 12 J.L. POL’Y 1, 11 (2003). Dose is “the amount of chemical that enters the body,” while exposure is “the presence of a chemical in a medium (e.g., air, water, food) that allows for direct contact with potential sites of absorption (e.g., gastrointestinal tract, lungs, skin).” *Id.* “Frequency and

(1) the minimum levels at which any of the constituents found in fly ash can cause the types of harm alleged; (2) the doses to which Plaintiffs might have been exposed at Kingston, or the duration of their possible exposure; or (3) the extent to which Plaintiffs' exposure to fly ash equated to the constituents of fly ash.

[Doc. 264 at 16-17]. The failure of Dr. Terry's report to address these elements, Defendant maintains, renders him unqualified to opine on general causation and his report unreliable. Plaintiffs concede that Dr. Terry does not address any of the foregoing elements, but they argue that the lack of quantification of exposure data is not relevant to the question of general causation. [Doc. 261 at 11]. Rather, Plaintiffs argue, it is an issue reserved for Phase II of the trial during which specific causation will be addressed. [*Id.*].

In considering the parties' competing positions as to what role, if any, dose and exposure play within the general causation analysis, the Court begins by examining the case law within this Circuit upon which the parties rely to support their respective positions. Both parties cite to the Sixth Circuit's decision in *Sterling* which, as noted above, defines general causation as "whether the combination of the chemical contaminants and the plaintiffs' exposure to them had the capacity to cause the harm alleged." 855 F.2d at 1200. *Sterling* involved a class action lawsuit in which the plaintiffs alleged injuries resulting from drinking water that had been contaminated by the defendant's chemical waste burial site. *Id.* at 1192-93. The *Sterling* Court emphasized the importance of differentiating between general and specific causation in mass tort litigation. *Id.* at 1200. Although the Court's primary concern on review was whether specific causation had been

duration of exposure are important elements of 'dose.'" *Id.* at 12. For example, "for the vast majority of chemicals and types of responses, there are doses below which no individual will respond (e.g., a "threshold") and doses above which nearly everyone responds." *Id.* "For most types of dose-response relationships following chronic (repeated) exposure, thresholds exist, such that there is some dose below which even repeated, long term exposure would not cause an effect in any individual." *Id.* at 16.

established in individual cases, *id.* at 1199-1201, the Court's decision underscored the burden plaintiffs' face in establishing general causation. Specifically, the plaintiffs had to establish "that the particular contaminants were *capable* of producing injuries of the types allegedly suffered by the plaintiffs." *Id.* at 1200 (emphasis in the original).

The parties cite two different cases from this District to support their competing positions on whether dose and exposure are elements of the general causation inquiry. First, Defendant relies on *In re Tennessee Valley Auth. Ash Spill Litig.*, 805 F. Supp. 2d 468 (E.D. Tenn. 2011) (CJ. Varlan) which involved a consolidated action related to the subject coal ash spill. A number of residents, property owners, and businesses owners within the vicinity of the ash spill brought suit against TVA, alleging various tort law causes of action. *Id.* at 473. Granting TVA's motion for summary judgment, the Court concluded that the plaintiffs could not meet their burden on the question of causation. *Id.* at 482. Defendant, here, cites to the Court's holding to support its position that general causation requires evidence of dose and exposure data:

Viewing this evidence in the light most favorable to plaintiffs, the Court concludes that plaintiffs have not established a genuine issue of fact that *their exposure to the coal or fly ash in the environment equates to an exposure to the potentially toxic constituents bound up in the ash. Plaintiffs have not put forth evidence of a causation link between exposure to the ash and a specific personal injury, respiratory symptom, or emotional distress. Although plaintiffs argue that exposure to the toxic constituents in the ash exists by virtue of the presence of ash in the environment, the mere existence of a toxin in the environment is insufficient to establish causation without proof that the individual was actually exposed to the toxin and at a level sufficient to cause injury or stress. Similar to the plaintiffs in Sterling and Robinson, plaintiffs have not shown actual exposure to the potentially toxic constituents in the ash or brought forth evidence that a plaintiff ingested or used the ash at the requisite level to have resulted in a personal injury or emotional distress. Moreover, plaintiffs have not set forth a minimum level of exposure for personal injury or*

emotional distress, let alone that a certain plaintiff ingested or used enough of the ash to make a claim viable. Furthermore, plaintiffs have not provided toxicological evidence or health reports and screenings that refute the evidence and reports submitted by TVA. Rather, plaintiffs have only provided evidence that the constituents in coal and fly ash may, at certain levels, cause injury and stress.

Id. (emphasis added).

Notably, the Court's analysis focuses on the plaintiffs' failure to put forth evidence of "their exposure." The decision makes clear that the mere existence of exposure to a toxin will be insufficient to establish a causal link between exposure and "a specific personal injury," and that evidence of actual exposure and at a sufficient level to cause the alleged injuries must be shown. There is no holding in the decision that these elements are essential to the general causation inquiry. Rather, they appear to answer the questions posed by specific causation, which asks, "was plaintiff exposed to the toxin, was plaintiff exposed to enough of the toxin to cause the alleged injury, and did the toxin in fact cause the injury?" See *McClain*, 401 F.3d at 1239. Moreover, in making its finding, the Court relied on *Sterling's* specific causation analysis for guidance. *In re Tennessee Valley Auth. Ash Spill Litig.*, 805 F. Supp. 2d at 473 (citing *Sterling*, 855 F.2d at 1200 (observing that it is "the responsibility of each individual plaintiff to show that his or her specific injuries or damages were proximately caused by ingestion or otherwise using the contaminated water" and that "generalized proofs will not suffice to prove individual damages")). The Court's emphasis on the similarities between the plaintiffs in that case with the *Sterling* plaintiffs further suggests to this Court that Defendant's reliance on *In re Tennessee Valley Auth. Ash Spill Litig.*, is misplaced.

The second case cited, and relied on by Plaintiffs, is *Downs v. Perstorp Components, Inc.*, 126 F. Supp. 2d 1090, 1095 (E.D. Tenn. 1999), *aff'd.*, 26 F. App'x 472, 200 WL 22000, at *1 (6th

Cir. 2002). [Doc. 261 at 13]. *Downs* involved a products liability case in which the plaintiff alleged he sustained certain personal injuries following skin contact and inhalation exposure to Rubiflex. 126 F. Supp. 2d at 1093. In granting the defendant’s motion to exclude expert testimony, the Court found that the expert’s opinions were “essentially based upon his determination, without any scientific basis, that all injuries which occur after exposure to a chemical compound must be causally related to and result from the individual’s exposure to chemicals.” *Id.* at 1128. Plaintiffs in the present cases rely on the following excerpt for the proposition that dose is an issue reserved for specific causation:

To establish general causation, an expert either performs scientific tests on the chemical to see if it can cause the condition in animals or humans, analyzes the existing scientific literature to determine whether other scientists have performed these tests and what their results were, or does both. To establish specific causation, an expert must first complete the general causation analysis, and then must establish, at a minimum:

...

- Dose–Response. The individual had contact with the chemical (exposure), and the amount of chemical absorbed into the body (dose) was of sufficient magnitude and duration to be capable of producing the alleged effect.

Id. at 1095.

The quoted passage, however, is not a finding made by the Court. Rather, it is a summarization of the defendants’ position as to what it believed were the elements of specific causation. *See id.* at 1093-99 (summarizing the “Positions of the Parties,” including “Defendants’ Assertions,” at the outset of the opinion). Although the Court agreed with the defendants that the plaintiff’s expert proof was not reliable under *Daubert*, the Court did not make any finding that explicitly adopted the defendants’ position on specific causation or distinguished the role dose-response played in general versus specific causation.

The parties have not cited, nor has the Court found, any controlling precedent in this Circuit that has held that evidence of dose, or the level of exposure at which a chemical causes harm, are requisite elements in establishing general causation in a toxic tort case. That is not to say that dose and exposure do not matter. Indeed, several circuit courts appear to confirm that dose and exposure analysis is necessary to establish general causation. For example, the Eleventh Circuit in *McClain* excluded an opinion on general causation where the expert's opinion neglected "the hallmark of the science of toxic torts—the dose-response relationship." 401 F.3d at 1240. The "dose-response relationship" is "a relationship in which a change in amount, intensity, or duration of exposure to an agent is associated with a change—either an increase or a decrease—in risk of disease." *Kassirer, supra*, at 622.

McClain involved four plaintiffs who claimed they sustained personal injuries after taking an herbal weight-loss supplement called Metabolife 356. 401 F.3d at 1236. While the expert opined on the supplement's toxicity, his failure to offer any testimony regarding "how much is too much," signaled a methodology problem for the court:

In toxic tort cases, "[s]cientific knowledge of the harmful level of exposure to a chemical plus knowledge that plaintiff was exposed to such quantities are minimal facts necessary to sustain the plaintiff's burden" *Allen v. Pennsylvania Eng'g Corp.*, 102 F.3d 194, 199 (5th Cir. 1996). Or, as the Court of Appeals for the Tenth Circuit explained in *Mitchell v. Gencorp*, 165 F.3d 778, 781 (10th Cir. 1999), to carry the burden in a toxic tort case, "a plaintiff must demonstrate 'the levels of exposure that are hazardous to human beings generally as well as the plaintiff's actual level of exposure to the defendant's toxic substance before he or she may recover,'" (quoting *Wright v. Willamette Indus., Inc.*, 91 F.3d 1105, 1106 (8th Cir.1996)); *see also Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 278 (5th Cir. 1998) (excluding expert testimony which "offered no scientific support for his general theory that exposure to toluene solution at any level would cause RADS.").

Although Plaintiffs can testify about how much Metabolife 356 they took, O'Donnell could not provide any opinions about the general

dose-response levels for Metabolife’s toxicity, i.e., the dose or level of exposure at which it causes harm. O’Donnell opined that any level is too much, but this statement conflicts with the importance of individual responses to toxins—“[b]ecause of individual variation, a toxic agent generally will not cause disease in every person exposed.”

McClain, 401 F.3d at 1241 (quoting Kassirer, *supra*, at 623). The court cautioned that “[t]he expert who avoids or neglects this principle of toxic torts without justification cast suspicion on the reliability of his methodology.” *Id.* at 1242

As indicated in *McClain*, other circuit courts have echoed the importance of the dose-response relationship in the general causation inquiry. *See Mitchell*, 165 F.3d at 781; *Wright*, 91 F.3d at 1106; *Allen*, 102 F.3d at 199; *see also Bland v. Verizon Wireless*, (VAW) L.L.C., 538 F.3d 893, 898 (8th Cir. 2008) (upholding the district court’s decision to exclude an expert’s opinion on general causation that demonstrated a “lack of knowledge as to [] ‘what amount of exposure to [the] difluoroethane-containing Freon causes, or involves an appreciable risk of causing, asthma’”); *In re Hanford Nuclear Reservation Litig.*, 292 F.3d 1124, 1133 (9th Cir. 2002) (“[W]e believe the appropriate understanding of generic causation is the one plaintiffs assert: whether exposure to a substance for which a defendant is responsible, such as radiation at the level of exposure alleged by plaintiffs, is capable of causing a particular injury or condition in the general population,” and concluding that “Plaintiffs’ expert evidence is . . . consistent with their claimed understanding of generic causation, since plaintiffs would have to show exposure to more than de minimis emissions to establish generic causation.”); *Bonner v. ISP Techs., Inc.*, 259 F.3d 924, 928 (8th Cir. 2001) (general causation requires a showing “that the alleged toxin is capable of causing injuries like that suffered by the plaintiff in human beings subjected to the same level of exposure as the plaintiff”).

While mindful of these decisions from outside the Sixth Circuit, the Court concludes that

it need not determine whether general causation requires evidence of dose and exposure for *Daubert* purposes. [Doc. 261-1 at 4]. What Plaintiffs are required to prove in order to establish general causation is a legal question that is central to Defendant's motion for partial summary judgment currently pending before Chief District Judge Varlan. The only questions this Court need presently answer are: (1) whether Dr. Terry is qualified to opine on general causation in a toxic tort case, and (2) whether his opinion that specific components found in fly ash at the Site—fine particulate matter, arsenic, cadmium, chromium, lead, nickel, vanadium, and naturally occurring radioactive materials—are capable of causing hypertension, coronary artery disease, lung cancer, leukemia, non-melanoma skin cancer, allergic contact dermatitis (skin allergy), peripheral neuropathy, asthma, and chronic obstructive pulmonary disease, is relevant and reliable. *See In re Scrap Metal Antitrust Litig.*, 527 F.3d at 529. Thus, whether Dr. Terry's report satisfies Plaintiff's burden on general causation is a separate and distinct question that is appropriately addressed through summary judgment.

Accordingly, the Court first considers whether Dr. Terry is qualified to offer opinions in the general field of epidemiology. "Epidemiology is the field of public health and medicine that studies the incidence, distribution, and etiology of disease in human populations." Kassirer, *supra*, 551. The focus of epidemiology addresses "the question of general causation (i.e., is the agent capable of causing disease?). . . ." *Id.* at 552. "Whether a proposed expert's experience is sufficient to qualify the expert to offer an opinion on a particular subject depends on the nature and extent of that experience." *See United States v. Cunningham*, 679 F.3d 355, 379 (6th Cir. 2012).

Dr. Terry is an epidemiologist and Fellow of the American College of Epidemiology who has over 15 years of experience in the field. [Doc. 261-3]. He currently serves as an Associate Professor for the Department of Medicine, Graduate School of Medicine, at the University of

Tennessee Medical Center. [*Id.* at 3]. Dr. Terry holds a medicine doctorsexamen from the Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden, and a Ph.D., in Epidemiology from the Department of Epidemiology, Columbia-Presbyterian Medical Center. [Doc. 261-3]. Dr. Terry’s contribution to research projects, lectures, and publications in the field of epidemiology are too numerous to list. [*Id.* at 11-29]. Based on Dr. Terry’s training and experience in the field of epidemiology, the Court finds he is qualified to render opinions on whether exposure to a particular chemical is capable of causing a particular disease.

Turning to the reliability of Dr. Terry’s report, Defendant argues that Dr. Terry’s report is unreliable because it does not address the “minimum level” of dose or exposure in which fly ash creates an appreciable risk of harm. [Docs. 264 at 13-18 and 270 at 39-55]. However, as the Court observed above, the failure of Dr. Terry’s methodology to quantify dose or exposure goes to the issue of whether Plaintiffs have met their burden on general causation and not to the admissibility of Dr. Terry’s report. *See United States v. L.E. Cooke Co.*, 991 F.2d 336, 342 (6th Cir. 1993) (“[W]eaknesses in the factual basis of an expert witness’ opinion . . . bear on the weight of the evidence rather than on its admissibility.”); *Spears v. Cooper*, No. 1:07-cv-58, 2008 WL 5552336, at *5 (E.D. Tenn. Nov. 17, 2008) (“[C]redibility attacks, such as the use of incorrect or incomplete data in formulating an opinion, are intended for cross-examination.”).

Defendant also complains that the literature Dr. Terry relies upon undermines the reliability of his report because very few of the cited articles address exposure to fly ash and the few that do fail to conclusively support a finding that exposure to fly ash causes a particular health issue. [Doc. 264 at 18-19]. Moreover, Defendant asserts that the report fails to establish that the exposures and doses that are addressed in the literature are similar to the conditions that Plaintiffs experienced at

the Site. [*Id.* at 19-20]. The Court, however, concludes that Dr. Terry does not opine that *fly ash exposure* is capable of causing Plaintiff's particular health issues; rather, he seeks to answer whether "specific components" that have been identified within the fly ash at the Site are capable of causing specific diseases reported by Plaintiffs. [Doc. 261-1 at 5]. This distinction is important because it highlights the focus of Dr. Terry's proposed testimony, and it demonstrates why dose and fly ash exposure are not particularly relevant to determining the admissibility of Dr. Terry's report under *Daubert*.

Sterling merely directs a plaintiff to put forth evidence that a chemical is "capable" of causing the harm alleged for purposes of general causation. Under this framework, the Court finds Dr. Terry's report is reliable and relevant. First, Dr. Terry's report is reliable because for each component identified within the fly ash that is asserted to be capable of causing a specific disease, Dr. Terry cites and discusses corresponding epidemiological literature, identifies and summarizes the type of studies, and conclusions therein, conducted within the cited literature, and discusses the bioavailability, biologic plausibility, and biologic mechanisms of cause and effect. Second, Dr. Terry's report is relevant because it offers opinions in the field of epidemiology which, as noted above, focuses on the question of general causation. Thus, Dr. Terry's report will most certainly assist the trier of fact in Phase I of the trial.

Under *Daubert*, the "overarching subject is the scientific validity—and thus the evidentiary reliance and reliability—of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." 509 U.S. at 594-95. Based on the foregoing, the Court finds that the principles and methodology utilized by Dr. Terry is scientifically valid. Dr. Terry's professional experience and knowledge within the field of epidemiology, along with the literature review he has conducted, satisfies the

Court that Dr. Terry is not only qualified to opine on whether specific components found within fly ash at the Site are capable of causing particular diseases, but said opinion is also relevant and reliable for purposes of assisting the trier of fact in assessing “whether defendant’s breach was capable of causing plaintiffs’ alleged injuries.”

V. Conclusion

For the reasons stated herein, Defendant Jacobs Engineering Group, Inc.’s Motion to Exclude Opinions of Plaintiffs’ Experts on General Causation [**Doc. 240** in *Adkisson*, 3:13-CV-505; **Doc. 235** in *Thompson*, 3:13-CV-666; **Doc. 216** in *Cunningham*, 3:14-CV-20; **Doc. 162** in *Rose*, 3:15-CV-17; **Doc. 170** in *Wilkinson*, 3:15-CV-274; **Doc. 151** in *Shelton*, 3:15-CV-420; **Doc. 153** in *Church*, 3:15-CV-460; **Doc. 155** in *Vanguilder*, 3:15-CV-462; **Doc. 81** in *Ivens*, 3:16-CV-635; and **Doc. 77** in *Farrow*, 3:16-CV-636] is **DENIED**.

IT IS SO ORDERED.

ENTER:


United States Magistrate Judge