IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEBRASKA

NADINE BYRD, as the Personal Representative of the Estate of Ronald Byrd, Deceased; Plaintiff, vs. UNION PACIFIC RAILROAD CO., Defendant.	**8:18CV36** **MEMORANDUM AND ORDER**

Defendant Union Pacific Railroad Co. (UPRR) moves to exclude the expert testimony of Dr. Robert Gale (Dr. Gale) and Dr. Joseph R. Landolph, Jr. (Dr. Landolph). (Filing No. 63). UPRR requests a hearing pursuant to Fed. R. Evid. 104(c) to determine the admissibility of the proposed expert testimony of Drs. Gale and Landolph. (Filing No. 63). Plaintiff Nadine Byrd (Plaintiff) moves for an evidentiary hearing on the admissibility of Plaintiff's experts' testimony. (Filing No. 74).

UPRR also moves for summary judgment claiming there are no genuine issues of material fact regarding exposure and causation. (Filing No. 62). The request and motion for hearing on the admissibility of the expert testimony are denied. For the reasons discussed below, the motion to exclude the testimony of Dr. Gale and Dr. Landolph will be granted.

BACKGROUND

Plaintiff Nadine Byrd, as personal representative of the estate of Ronald Byrd, is suing Ronald Byrd's former employer, UPRR, under the Federal Employers Liability Act (FELA) 45 U.S.C. § 51 *et seq.*, alleging workplace exposure

to toxic substances and carcinogens caused or contributed to his development of lung cancer and chronic obstructive pulmonary disease (COPD). (Filing No. 1 at CM/ECF p. 3). Ronald smoked two packs of cigarettes per day for approximately 40 years but quit smoking in 2002. He had a medical history of interstitial lung disease and COPD prior to his lung cancer diagnosis in November 2014. Ronald passed away on February 3, 2015. (Filing No. 66-7 at CM/ECF pp. 3, 11).

Ronald worked for UPRR from 1971 to February 11, 2005 as a fireman/engineer. (Filing No. 1 at CM/ECF p. 2). The Complaint alleges that during Ronald's employment, he was exposed to various toxic substances and carcinogens including but not limited to: defoliants, diesel fuel/exhaust/benzene, creosote, and asbestos/rock/mineral/silica dust and fibers.[1] (Filing No. 1 at CM/ECF p. 2).

During the course of this litigation, Plaintiff hired two experts to offer opinions regarding her claims. Plaintiff designated Dr. Robert Gale as a medical causation expert, "who will testify as to general and specific causation of [Ronald's] injuries" (Filing No. 66-10 at CM/ECF p. 1). Plaintiff designated Dr. Joseph R. Landolph, Jr. as a liability expert, "who will testify, generally, as to notice and foreseeability… including exposure to carcinogens and the railroad industry's knowledge of the hazards of exposure to toxins." (Filing No. 66-10 at CM/ECF p. 1).

Dr. Landolph is a well-qualified, highly credentialed scientist who is a tenured Associate Professor and an active researcher working as a chemist, biochemist, genetic toxicologist, cell and molecular toxicologist, and molecular carcinogenesis researcher. (Filing No. 66-4 at CM/ECF p. 5). He earned a

[1] Plaintiff withdrew the allegations regarding Ronald's exposure to creosote and silica dust in the Brief in Opposition to Defendant's Motion to Preclude the Testimony of Dr. Robert Gale and Prof. Joseph Landolph. (Filing No. 70 at CM/ECF p. 3 n.3). Plaintiff's brief in opposition to UPRR's Motion for Summary Judgment states "Plaintiff has withdrawn the allegations regarding all toxins save for diesel exhaust and its subcomponents." (Filing No. 72 at CM/ECF p. 5).

Bachelor of Science degree with a major in Chemistry and a PhD in Chemistry. (Filing No. 66-4 at CM/ECF p. 5).

According to his report, Dr. Landolph based his opinion on a review of scientific studies, a review of Ronald's medical records, and a review of a one-page summary written and provided to him by Plaintiff's counsel. (Filing No. 67-1 at CM/ECF p. 11). Dr. Landolph opines:

> It is my opinion that diesel particulate matter is capable of causing and/or contributing to the development of lung cancer and many other cancers in humans. It is my opinion that when Mr. Ronald Byrd and other railroad workers inhaled diesel exhaust and the other carcinogens present at the railroad workers work sites, this allowed the diesel exhaust and its benzene, BaP, other PAHs, nitrated PAHs, and 2,3,7,8-TCDD (dioxin), asbestos, crystalline silica and silica dust, and coal dust to penetrate to their oral cavity, nasal cavity, pharyngeal area, and respiratory system, and to cause the induction of non-small cell squamous cell carcinoma of the right upper lobe of the lung that he developed, and that many other railroad workers may develop in the future. Inhalation of 2,3,7,8-TCDD (dioxin) from diesel exhaust by Mr. Ronald Byrd also likely contributed to his development of the non small cell, squamous cell carcinoma of the upper right lobe of the lung that Mr. Ronald Byrd developed, because dioxin is a carcinogen and tumor promoter at many, if not all, organ sites in humans.

(Filing No. 66-4 at CM/ECF p. 38).

Dr. Gale is a well-qualified, highly credentialed expert in multiple areas of the medical field. He has postgraduate medical training in internal medicine, hematology, and oncology, and holds PhDs in microbiology and immunology. (Filing No. 66-2 at CM/ECF p. 1). According to his report, Dr. Gale based his opinion on a review of scientific studies, a review of Dr. Landolph's expert report, and a review of a one-page "descriptor of [Ronald], including age and job titles" provided to him from Plaintiff's counsel. (Filing No. 66-3 at CM/ECF p. 5). He also reviewed "extensive medical records" but he could not recall the content of such

records, which health professionals prepared the records, or whether he reviewed the deposition of the Plaintiff, Ronald's wife. (Filing No. 66-3 at CM/ECF pp. 5-6). Dr. Gale opines Ronald's exposure to diesel engine exhaust particles, benzene, creosote and silica dust in the workplace caused or contributed to his development of squamous cell lung cancer. (Filing No. 66-2 at CM/ECF p. 4). He opined that occupational exposure to other carcinogens such as asbestos "may also have played a role." (Id.)

DAUBERT MOTION

I. Standard of Review

Plaintiff alleges a FELA claim against UPRR, claiming his cancer resulted "in whole or in part from the negligence" of the railroad. 45 U.S.C. § 51. The statute imposes upon employers a continuous duty to provide a reasonably safe place to work. Cowden v. BNSF Ry. Co., 690 F.3d 884, 889 (8th Cir. 2012). The FELA is to be liberally construed, but it is not a workers' compensation statute, and the basis of liability is "negligence, not the fact that injuries occur." Consolidated Rail Corp. v. Gottshall, 512 U.S. 532, 543 (1994). To prevail under the FELA, Plaintiff must prove the elements of a negligence claim: duty, breach, foreseeability, and causation. Crompton v. BNSF Ry. Co., 745 F.3d 292, 296 (7th Cir. 2014); Tufariello v. Long Island R. Co., 458 F.3d 80, 87 (2d Cir. 2006).

The Court applies a relaxed standard of causation under the FELA. CSX Transp., Inc. v. McBride, 564 U.S. 685 (2011); The test is simply whether employer negligence played any part, even the slightest, in producing the injury for which damages are sought. Id. This modified standard of causation does not, however, change the Daubert analysis. See McLaughlin v. BNSF Railway Company, No. 4:18CV3047, 2020 WL 641729, at *4 (D. Neb. Feb. 11, 2020). ("The admissibility of expert testimony under Rule 702 and Daubert is a distinct inquiry from the relaxed causation standard applied to FELA cases."); Steggall v. BNSF Ry. Co.,

No. 7:18CV5000, 2019 WL 1492579, at *3 (D. Neb. Apr. 4, 2019) ("The Daubert standard governs the application of Rule 702 and applies to FELA and non-FELA actions."); In re Conrail Toxic Tort Fela Litig., No. CIV. A 94-11J, 1998 WL 465897, at *6 (W.D. Pa. Aug. 4, 1998) (holding Daubert is properly applied in a FELA case); Hose v. Chi. Nw. Transp. Co., 70 F.3d 968, 972 (8th Cir. 1995) (applying Daubert in a FELA action challenging plaintiff's proposed expert testimony).

The admissibility of expert testimony is governed by Rule 702 of the Federal Rules of Evidence which states:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. The court must assume a gatekeeping function to ensure that "any and all scientific testimony or evidence admitted is not only relevant, but reliable." Daubert, 509 U.S. at 589. To carry out this function, the court must "make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999); see also Am. Auto Ins. Co. v. Omega Flex, Inc., 783 F.3d 720, 722 (8th Cir. 2015).

> A witness can be qualified as an expert by "knowledge, skill, experience, training, or education," Fed.R.Evid. 702, and it is the responsibility of the trial judge to determine whether a particular expert has sufficient specialized knowledge to assist jurors in deciding the specific issues in the case. See Kumho Tire, 526 U.S. at 156, 119 S.Ct. 1167.

Wheeling Pittsburgh Steel Corp. v. Beelman River Terminals, Inc., 254 F.3d 706, 715 (8th Cir. 2001). The party offering the challenged testimony bears the burden of establishing admissibility by a preponderance of the evidence. Lauzon v. Senco Prods., Inc., 270 F.3d 681, 686 (8th Cir. 2001) (citing Daubert, 509 U.S. at 592).

Daubert established a non-exclusive checklist for trial courts to use in assessing the reliability of expert testimony, including whether the theory or technique can and has been tested, whether it has been subjected to peer review, whether there is a high known or potential rate of error, and whether the theory or technique enjoys general acceptance within a relevant scientific community. See U.S. v. Holmes, 751 F.3d 846, 850 (8th Cir. 2014) (citing Daubert, 509 U.S. at 592-94). And for the purposes of evaluating the relevance of expert testimony, the Court must determine whether the expert's reasoning or methodology was applied properly to the facts at issue. Daubert, 509 U.S. at 580. To that end, expert testimony that is speculative, unsupported by sufficient facts, or contrary to the facts of the case, is inadmissible. Marmo v. Tyson Fresh Meats, Inc., 457 F.3d 748, 757 (8th Cir. 2006).

To prove causation in a toxic tort case, a plaintiff must show both general causation, "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;" and specific causation, that the toxin was a cause of the plaintiff's injury. Mattis v. Carlon Elec. Prod., 295 F.3d 856, 860 (8th Cir. 2002). To prove exposure levels, plaintiffs need not produce a "mathematically precise table equating levels of exposure with levels of harm." Mattis, 295 F.3d 856, 860-61. Rather, a plaintiff need only make a threshold showing that he or she was exposed to toxic levels known to cause the type of injuries he or she suffered. Id.

II. Discussion

UPRR claims Dr. Gale's and Dr. Landolph's opinions "fail to meet the requirements of admissibility as set forth in Fed. R. Evid. 702, 703, 705, and Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993)." (Filing No. 63). Defendant asserts Plaintiff has no reliable scientific evidence that UPRR exposed Ronald to harmful levels of toxic substances at his workplace and argues Plaintiff's experts rely on a one-page summary prepared by Plaintiff's counsel, and diesel exhaust exposure projections for diesel exhaust created by a government agency in California, neither of which provide adequate foundation and support for their opinions. (Filing No. 64 at CM/ECF pp. 24-25).

Plaintiff's brief notes that:

> Defendant is not challenging Prof. Landolph's qualifications nor is it challenging Prof. Landolph's analysis of the components of diesel exhaust and their carcinogenicity. It is only challenging the underlying basis of his opinions that to determine the cancer risk to railroaders in general and Robert [sic] Byrd as a member of the engineer class of railroad employees."

(Filing No. 70 at CM/ECF p. 11). Plaintiff argues that Dr. Landolph's opinions covered two main topics: 1) whether or not the chemical agents to which Ronald Byrd was exposed were capable of causing and/or contributing to the development of lung cancer, and 2) the excess cancer risk for railroad diesel mechanics with a 34-year work-related exposure to diesel particulate matter. (Filing No. 70 at CM/ECF p. 11).

In general, Dr. Landolph and Dr. Gale opine that the alleged toxin, diesel exhaust, is capable of causing cancer; however, to meet the burden of establishing general causation, the Plaintiff must show "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." Mattis v. Carlon Elec. Prod., 295 F.3d 856, 860 (8th Cir. 2002), (emphasis added).

Dr. Landolph and Dr. Gale had little information about Ronald's job duties, therefore it would be difficult, if not impossible, for them to accurately determine what his actual level of exposure to diesel exhaust would have been. (Filing No. 66-3 at CM/ECF p. 5, Filing No. 67-1at CM/ECF pp. 10-11, Filing No. 73 at CM/ECF pp. 53-54) The summary provided to the experts states Ronald's job title (engineer/fireman) and his alleged exposure (diesel exhaust, benzene, creosote, silica dust), but does not include his job duties or work location. The experts testified that Plaintiff's counsel provided the summary and that it was prepared by Plaintiff's counsel, but neither knew the source of counsel's information. Neither expert sought further information about Ronald's worksite or his potential exposure. (Filing No. 66-5 at CM/ECF p. 1, Filing No. 66-3 at CM/ECF p. 5)

With regard to Ronald Byrd's level of exposure, Dr. Gale states that he relied upon Dr. Landolph's calculations, which were based on calculations and data from the Office of Environmental Health Hazard Assessment (OEHHA), in California. (Filing No. 66-3 at CM/ECF p. 31, Filing No. 71 at CM/ECF p. 289) UPRR asserts this reliance is improper because his opinion is not based upon knowledge of Ronald Byrd's worksite, equipment, or job tasks. (Filing No. 64 at CM/ECF pp. 5).

Dr. Landolph testified that to calculate the amount of benzene, benzo(a)pryrene, PAHs, formaldehyde, and dioxin to which Ronald Byrd was exposed, he used the "cancer potency factor" that the OEHHA had calculated, and grouped the materials together under the general umbrella of diesel exhaust. (Filing No. 73 at CM/ECF p. 86). Dr. Landolph did not calculate the level or dose of Ronald Byrd's actual exposure: Dr. Gale testified that Dr. Landolph did not need to because the OEHHA calculations are "scientific formulae that allow one to impute values and estimate a person's exposure" when neither the person nor the

work environment was monitored. (Filing No. 66-3 at CM/ECF p. 31). It is unclear how this calculation would be accurate when it does not consider the work location or the specific job duties of the individual for whom the exposure is being calculated.

When asked whether he determined what amount or what exposure to which Ronald Byrd was subjected, Dr. Landolph testified that he "lumped" the components of diesel exhaust, including benzene, benzo(a)pyrene, nitroarenes compound and formaldehyde together and considered them within the general umbrella of diesel exhaust. He then considered the "cancer potency factor that OEHHA has calculated for that." (Filing No. 67-1 at CM/ECF p. 43). He used the "standard amounts that they calculate or appropriate for engineers and mechanics and stuff like that to make the calculation to figure out how much diesel exhaust caused in terms of cancer index." (Filing No. 67-1 at CM/ECF p. 43). Dr. Landolph did not review any material safety data sheets with regard to the diesel fuel used by UPRR during Ronald Byrd's employment. (Filing No. 67-1 at CM/ECF p. 44). He did not do a dose reconstruction to determine the amount of each chemical which may have been inhaled by Ronald Byrd, and he did not determine the amount of exposure to any of the individual chemicals would more likely than not cause lung cancer in humans. (Filing No. 67-1 at CM/ECF p. 45).

UPRR produced an expert report of Christopher M. Long, Sc.D, DABT, a Principal Scientist of Air Quality and Environmental Health who investigates human exposure and the health effects of environmental pollutants, specializing in airborne gases, particles, and fibers. (Filing No. 66-8) Long states that the OEHHA calculations are used by the California Air Districts to determine the pollution risk to the population living in and around those air districts, and that the calculation does not apply to moving equipment such as railroad locomotives. (Filing No. 66-8 at CM/ECF p. 8). Long reports that the method Dr. Landolph used to calculate Ronald Byrd's diesel exhaust risk is not a method recognized by toxicologists or

others in the toxicology field. (Id). Rather, the risk calculation for Ronald Byrd would apply to almost any person living in a California urban area; it does not reflect the exposures of a railroad worker, or the specific exposures experienced by Ronald Byrd while employed by UPRR. (Filing No. 66-8 at CM/ECF p. 9). He states that Dr. Landolph's method is "inaccurate and dubious" because it "does not use [] data which is specific to Mr. Byrd's workplace or job tasks." (Id.)

Based upon the evidence before me, Drs. Landolph and Gale did not use an appropriate method to determine Ronald Byrd's level of exposure, therefore their opinions as to general causation should be excluded. No one questions Dr. Landolph's professional credentials, but opinions based solely on exposure calculations for residents of a different state, or for workers with similar job titles with no useful explanation of how the facts of this case support the opinion, is useless to the jury. See Bland v. Verizon Wireless, (VAW) L.L.C., 538 F.3d 893, 897 (8th Cir. 2008) (affirming the district court's exclusion of a doctor's causation opinion which lacked grounds for determining whether Plaintiff was exposed to a sufficient dose of toxins).

Further, even if Dr. Landolph's calculation of Ronald's potential exposure was accurate, Dr. Gale cannot explain how the described exposure corresponds to a level of exposure that would cause lung cancer. In his deposition Dr. Gale testified:

> Q: What threshold level of exposure to diesel exhaust particulate is harmful to cause lung cancer? …
>
> THE WITNESS: That is not a question I can understand. It seems to assume things that are not in evidence. You say there's a threshold dose. I'm not aware that there is a threshold dose. I don't know of any regulatory agency that considers it a threshold dose.
>
> But there's a clear calculation using the cancer risk potency factor of how many cancers would occur specifically from what is presumed to be Mr.

> Byrd's exposure, and I have that in page 8 – which you cited before – of my report.

(Filing No. 66-3 at CM/ECF p. 33). As this court has found before, an expert cannot with reasonable certainty or probability link an individual's alleged diesel exhaust exposure to his lung cancer if the expert does not know what levels of exposure has been shown to cause lung cancer. See McLaughlin, 2020 WL 641729, at *5. Lack of knowledge about what level of exposure causes lung cancer coupled with lack of actual knowledge about Ronald Byrd's job duties cannot lead to an accurate calculation of his level of actual exposure. Plaintiff's experts lack the facts and data needed to answer the question of whether Ronald Byrd's exposure caused or contributed to his lung cancer. Dr. Gale's and Dr. Landolph's testimony is speculative and unsupported by the facts and is therefore inadmissible. See Marmo, 457 F.3d 757.

Additionally, UPRR asserts Dr. Gale did not follow a recognized scientific method for determining specific causation. Expert testimony is "reliable," when it is based on "methods and procedures of science," rather than "subjective belief or unsupported speculation." Kannankeril v. Terminix Int'l, Inc., 128 F.3d 802, 806 (3d Cir. 1997), as amended, (Dec. 12, 1997); see also Concord Boat Corp. v. Brunswick Corp., 207 F.3d 1039, 1056 (8th Cir. 2000) (stating expert testimony is inadmissible if it is speculative, unsupported by sufficient facts, or contrary to the facts of the case). A district court is not required to "admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert." General Elec. Co. v. Joiner, 522 U.S. 136, 145 (1997). "A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." Id. at 146.

Dr. Gale states that his opinion is based on Bayesian probabilities which consider the interdependence of individual probabilities. This process is sometimes referred to as differential diagnosis or differential etiology. (Filing No. 66-2 at CM/ECF p. 12). The Eighth Circuit has held "a medical opinion about

causation, based upon a proper differential diagnosis is sufficiently reliable to satisfy Daubert." Bland v. Verizon Wireless, (VAW) L.L.C., 538 F.3d 893, 897 (8th Cir. 2008); Turner, 229 F.3d at 1208. "In performing a differential diagnosis, a physician begins by 'ruling in' all scientifically plausible causes of the plaintiff's injury. The physician then 'rules out' the least plausible causes of injury until the most likely cause remains." Glastetter v. Novartis Pharm. Corp., 252 F.3d 986, 989 (8th Cir. 2001).

UPRR disputes that Dr. Gale reliably performed a differential diagnosis because he failed to rule out plausible causes. (Filing No. 79 at CM/ECF p. 13). Gale's report indicates he considered Ronald Byrd's occupational exposures to "known carcinogens," including, but not limited to "diesel engine exhaust, benzene, creosote and silica dust. (Filing No. 66-2 at CM/ECF p. 6). He opined that diesel engine exhaust particulates, benzene, creosote and silica dust cause causes cancer in humans, and after examining relevant data, he opined that exposure to these substances and chemicals are a cause of lung cancer. (Filing No. 66-2 at CM/ECF pp. 8-10).

Dr. Gale's report states he considered all relevant available data about Ronald Byrd's condition, including:

> (1) Plausibility of general causation. . . (2) nature of exposure(s) being considered including but not limited to dose and route; (3) temporal relationships between exposure(s) being considered and disease onset and/or diagnosis; (4) concurrent medical conditions; and (5) modifying factors including variables such as sex, family history, associated diseases, other risk factors and other exposure(s) to agencies convincingly and consistently correlated with a risk of developing squamous cell lung cancer.

(Filing No. 66-2 at CM/ECF p. 13). Dr. Gale also considered variables known and/or suspected to be associated with an increased risk of developing squamous cell lung cancer, including: (1) age; (2) male sex; (3) tobacco exposure; (4) family history of lung cancer; (5) radiation therapy to the lungs; (6) exposure to

radionuclides such as uranium or thorium; (7) chemicals such as arsenic, beryllium, cadmium, vinyl chloride, nickel or chromium compounds; (8) mustard gas or chloromethyl ethers. (Filing No. 66-2 at CM/ECF p. 13). Dr. Gale noted that Ronald Byrd had "substantial exposure to tobacco." (Id.) He opined that "[i]t should not be assumed that because Mr. Byrd had substantial exposure to tobacco smoke this exposure was the sole cause of his developing lung cancer." (Id.) Rather, he stated, it is "more likely than not other factors played a non-trivial role" in his development of cancer. (Filing No. 66-2 at CM/ECF p. 14).

Dr. Gale's deposition testimony shows he does not use the terms "'ruling in' or 'ruling out.'" (Filing No. 66-3 at CM/ECF p. 25). Rather, he asserts he was not asked to apportion causation, he was tasked to opine "whether to a reasonable degree of medical probability his occupational exposures were a substantial contributing factor." (Filing No. 66-3 at CM/ECF p. 23).

Dr. Gale did not have a reliable calculation of Ronald Byrd's actual exposure, nor explain how Ronald Byrd's exposure corresponds to a level of exposure that would cause lung cancer, so he has not reliably ruled it in. Dr. Gale relied on several reports indicating that diesel exhaust causes or can cause lung cancer, but that is not enough to rule in diesel exhaust as a cause of Ronald Byrd's lung cancer: Dr. Gale does not know *how much* diesel exhaust exposure has been found to be a cause or contributing factor in causing lung cancer. Dr. Gale stated that the OEHHA material and Professor Landolph's findings show a clear relationship between diesel exhaust exposure and the probability of excess cancers and that "the greater the dose, the greater the probability of excess cancers which are not trivial." (Filing No. 66-3 at CM/ECF p. 35). While Dr. Gale can say that diesel exhaust may raise the risk for lung cancer, he cannot say that Ronald Byrd was exposed to enough diesel exhaust while working for UPRR that it was likely a cause or contributing factor in causing his lung cancer.

To be clear, the court is not looking for a causation opinion that can say with mathematical certainty the exact level of exposure necessary to cause lung cancer. Nor does the court expect Dr. Gale to have a precise measure of the amount of diesel exhaust Ronald Byrd inhaled during his work for UPRR. But to pass muster under Daubert, Dr. Gale must be able to say more than "Ronald was exposed to diesel exhaust; some unknown amount of diesel exhaust can cause cancer; therefore exposure to diesel exhaust caused Ronald's lung cancer." See McLaughlin. This is the type of opinion that is connected to the data only by the *ipse dixit* of the expert and need not be accepted by the court. Id. Even under the FELA, where diesel exhaust need not be a significant cause, but may merely play any part in Ronald Byrd's development of lung cancer, Gale has not reliably ruled in Ronald Byrd's exposure. See Brown v. Burlington N. Santa Fe Ry. Co., 765 F.3d 765, 774-75 (7th Cir. 2014). Dr. Gale's expert report and deposition testimony show that he did not conduct a true differential diagnosis. He merely offered an opinion as to whether diesel exhaust and other occupational exposures caused or contributed to Ronald Byrd's cancer. (Filing No. 66-2, Filing No.66-3).

Gale also failed to adequately rule out smoking as the sole cause of Ronald's lung cancer. The court understands that cigarette smoking and diesel exhaust each *can be* a cause of lung cancer, but when smoking is raised by the defendant as a possible sole cause, differential etiology requires a medical professional to consider whether smoking alone was the cause. Brown, 765 F.3d at 773-774. Gale used several online calculators to determine Ronald Byrd's chance of developing lung cancer from smoking, but the calculators he used were not disclosed in his report. (Filing No.66-3 at CM/ECF p. 16). Dr. Gale acknowledged that Ronald smoked two packs of cigarettes per day for 40 years and quit smoking in approximately 2002. (Filing No. 66-10 at CM/ECF p. 51). Using these online calculators, Dr. Gale estimated the risk of Ronald developing lung cancer. (Filing No. 66-2 at CM/ECF p. 13-14). Based on that data, Dr, Gale concluded "it is

incorrect to assume Mr. Byrd's smoking exposure was the sole cause of his squamous cell lung cancer." (Filing No. 66-2 at CM/ECF p. 14). Under Daubert's testability factor, the primary requirement is that someone else using the same data and methods would be able to replicate the results. Without knowing the specific calculators used, or the data input for using these calculations, Dr. Gale's calculations would not be replicable, leaving neither the court nor a jury with any ability to find Dr. Gale reliably ruled out smoking as a sole cause of Ronald Byrd's cancer.

Dr. Gale specifically stated his task was to opine whether occupational exposure to diverse substances and chemicals, such as diesel fuel, is more likely than not, to a reasonable degree of medical certainty, a cause or a substantial contributing factor to Ronald Byrd's lung cancer. (Filing No. 66-2 at CM/ECF p. 27). He specifically indicates that his task was not to "apportion causes." (Id.) The relaxed standard of causation under FELA still requires an expert to apply a differential diagnosis to "rule out" alternative causes as the sole cause. See Brown v. Burlington N. Santa Fe Ry. Co., 765 F.3d 765, 773 (7th Cir. 2014); In re Conrail Toxic Tort Fela Litig., No. CIV. A 94-11J, 1998 WL 465897, at *6 (W.D. Pa. Aug. 4, 1998).

Having failed to both properly rule in occupational exposures as a cause of Ronald's lung cancer, and then failing to rule out any other potential sole causes for the cancer, Dr. Gale failed to reliably perform the differential diagnosis. Therefore, Dr. Gale's opinion on specific causation is scientifically unreliable and will be excluded. In re Viagra Prod. Liab. Litig., 658 F. Supp. 2d 950, 959 (D. Minn. 2009) (holding a failure to "rule out" other possible causes will render the differential diagnosis scientifically unreliable).

MOTION FOR SUMMARY JUDGMENT

UPRR moved for summary judgment, arguing Plaintiff cannot make a *prima facie* FELA case without proving causation. The railroad argues the plaintiff must offer expert testimony to support a claim of medical causation, specifically that Dr. Landolph's and Dr. Gale's expert opinions on general causation and Dr. Gale's expert opinion on specific causation are unreliable and inadmissible and as such, UPRR is entitled to summary judgment. (Filing No. 80, at CM/ECF p. 10).

I. Standard of Review

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c)(2). In ruling on a motion for summary judgment, the court must view the evidence in the light most favorable to the non-moving party, giving that party the benefit of all inferences that may be reasonably drawn from the evidence. Dancy v. Hyster Co., 127 F.3d 649, 652-53 (8th Cir. 1997). The court does not weigh evidence in the summary judgment record to determine the truth of any factual issue. It merely determines whether there is evidence creating a genuine issue for trial. Bell v. Conopco, Inc., 186 F.3d 1099, 1101 (8th Cir. 1999).

The moving party bears the burden of showing there are no genuine issues of material fact. Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986). However, "a party opposing a properly supported motion for summary judgment 'may not rest upon the mere allegations or denials of [its] pleading, but must set forth specific facts showing that there is a genuine issue for trial.'" Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986) (quoting First Nat'l Bank of Ariz. v. Cities Serv. Co., 391 U.S. 253, 288 (1968)). Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are left for trial.

"The evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in [its] favor." Anderson, 477 U.S. at 251-52.

II. Discussion

To be successful on the FELA claim, Plaintiff must prove causation. Expert testimony is required to establish medical causation in a FELA case. Brooks v. Union Pac. R. Co., 620 F.3d 896, 899 (8th Cir. 2010). Dr. Gale and Dr. Landolph, the designated experts to testify about causation, have not provided reliable scientific opinions as required by Daubert. As such, the motion for summary judgment will be granted.

Accordingly,

IT IS ORDERED:

1) The motion to exclude expert testimony is granted as to Dr. Gale and Dr. Landolph. (Filing 63).

2) The motion for hearing (Filing 74) is denied.

3) The motion for summary judgment (Filing 62) is granted.

4) Judgment will be entered accordingly.

Dated this 13th day of April, 2020.

BY THE COURT:

s/ Cheryl R. Zwart
United States Magistrate Judge