Tennessee.

2. Purpose of Affidavit. This Affidavit is offered for four purposes: (1) to provide information about the need to assess a worker's level of exposure as a fundamental component of industrial hygiene methodology; (2) to provide information about the standard scientific methods that an industrial hygienist uses to assess workers' levels of exposure to asbestos and diesel exhaust; (3) to provide my opinion about whether sufficient data exists to permit a dose-based assessment of Mr. Payne's exposure to asbestos and diesel exhaust during his CSXT career; and (4) to provide my opinion as to whether the asbestos and diesel exhaust opinions offered by Dr. Leonard Vance are the product of sound industrial hygiene methodology.

3. Materials Reviewed. I have reviewed the following documents which were provided to me by counsel for CSXT in connection with this case: (1) Complaint; (2) Answer to Complaint; (3) Plaintiff's Request for Production of Documents; (4) Defendant's Response to Plaintiff's First Interrogatories and Request for Production of Documents; (5) Defendant's Response to Plaintiff's Second Request for Production of Documents; (6) Plaintiff's Combined Rule 26 Expert Disclosure and Supplemental Answers and Responses to Defendant's Interrogatories and Request for Production of Documents; (7) Report of Richard Clapp; (8) Two Reports of Dr. Arthur Frank; (9) Report of Daniel Mantooth; (10) Two Reports Dr. William Stewart; (11) Two Reports and Affidavit of Dr. Leonard Vance; (12) Trial Testimony of Dr. Leonard Vance of 11/17/2010; (13) Federal Register, Vo. 77, No. 68, Monday, April 9, 2012 DOT and FRA 49 CFR 229, Locomotive Safety Standards, Final Rule Section N, page 21323; (14) Mr. Payne's Two Depositions; (15) Mr. Payne's Railroad Personnel File; (16) Mr. Payne's RRB File; (17) Deposition of Mark Badders of 8/31/2009; (18) Deposition of Don Carringer; (19) Deposition of Walter Cooper; (20) Deposition of Bobby Lewis; (21) Deposition of Paul Maynard; (22)

Deposition of Leonard Vance; (23) Deposition of Terry Rhodes; (24) Deposition of Willford Ward; (25) Deposition of Donald Witt; (26) numerous air and bulk sampling asbestos surveys of railroad facilities; (27) numerous studies of diesel exhaust levels in locomotive cab environments and other railroad workspaces; and (28) voluminous additional documents pertinent to industrial hygiene matters in the railroad industry.

4. **Summary of Opinion.** It is my opinion, to a reasonable degree of scientific certainty, that an industrial hygienist, pursuant to standard scientific methodology, must account for a worker's level of exposure as part of any assessment of whether said worker has been harmfully exposed to asbestos, diesel exhaust, or another other workplace agent. It is further my opinion, to a reasonable degree of scientific certainty, that sufficient data exists in this case from which to render, using standard scientific methods, an assessment of Mr. Payne's exposures to asbestos and diesel exhaust during his railroad career. I further believe, to a reasonable degree of scientific certainty, that Dr. Vance's opinion that Mr. Payne was exposed to unsafe levels of asbestos and diesel exhaust at CSXT is not based on acceptable methods of industrial hygiene, given that, as Dr. Vance admits, he does not know, and made no effort to ascertain, what Mr. Payne's levels of exposure were to asbestos or diesel exhaust.

5. **Retrospective Analysis as Standard Scientific Methodology for Assessing Dose.** The essence of industrial hygiene is the scientific estimation of employee exposure to chemical and physical agents in the workplace. An industrial hygienist cannot properly assess the presence or extent of health risks in a workplace without undertaking a dose-based assessment of the levels of exposure to the workers at issue. Because it is impossible to specifically measure the exact dose of each individual at every work site, industrial hygienists often use retrospective analysis to arrive at a reasonable quantitative estimate of a worker's likely level of exposure. For

example, it is standard industrial hygiene practice to utilize Similar Exposure Groups (SEGs) or Homogenous Exposure Groups (HEGs) to quantify exposure profiles or distributions.[2] HEGs are groupings of workers expected to have the same or similar exposure profiles or distributions.[3] The process of grouping workers into SEGs can be based on job descriptions, similarity of tasks, or chemicals used. Placing individuals and their operations in the appropriate SEG requires knowledge of and experience in the industry and/or operations where they work. Given the proper familiarity with the industry at issue, SEGs can permit an industrial hygienist to reasonably quantify an employee's potential for exposure. Retrospective studies are a routine part of industrial hygiene.[4] I have used retrospective analysis while investigating various industrial hygiene issues, and given testimony in numerous jurisdictions utilizing the same techniques used in this case.

6. **Role of Personal Monitoring Devices and Data.** Another tool of industrial hygiene is to measure data on an individual employee by having the employee wear a personal monitoring device in the workplace. It is impossible to monitor every individual in every workplace for every possible occupational hazard, nor is it necessary to have personal monitoring data for a specific individual in order to assess that individual's levels of exposure. Through the proper use of retrospective dose analysis and other standard modes of industrial hygiene practice, it is

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[2] Mulhausen, J.R., J. Damiano, Comprehensive Exposure Assessment, Chapter 15 in *The Occupational Environment—Its Evaluation and Control*, AIHA Press, 1997.

[3] Hawkins, N.C., S.K. Norwood, J.C. Rock; A Strategy for Occupational Exposure Assessment, 1991.

[4] Proceedings of the International Workshop on Retrospective Exposure Assessment for Occupational Epidemiologic Studies, in Applied Occupational And Environmental Hygiene, 1991; Garshik, E. et al, A Retrospective Cohort of Lung Cancer and Diesel Exhaust Exposure in Railroad Workers, Am. Rev. Respir. Dis. 135 (1980); Woskie, S.R. et al. Estimation of the Diesel Exhaust Exposures of Railroad Workers: II. National and Historical Exposures. Am. Journ. Ind. Med. 13 (1988).

possible to assess a worker's exposure levels without any need for an individual's personal monitoring data. In practice, the vast majority of industrial hygiene analyses, programs and studies are undertaken without the benefit of individual personal monitoring data.

7. **Existence of Available Data to Assess Mr. Payne's Railroad Exposures to Asbestos and Diesel Exhaust.** Mr. Payne worked for CSX and its predecessors as an agent operator (for a few months), dispatcher (for one year) and trainman from 1962 until 2002, and claims he was exposed to excessive levels of asbestos and diesel exhaust. Over the past 33 years, the majority of my professional focus has been on the railroad industry and its operations. I have directed, participated in, and/or reviewed numerous industrial hygiene studies in railroad facilities documenting the potential for exposure to asbestos and diesel exhaust. Assuming as true Mr. Payne's exposure scenarios as descried by him and his coworkers, it is possible to utilize the substantial amounts of data from these studies, using standard industrial hygiene methodology, so as to conduct a dose-based analysis of Mr. Payne's level of exposure to asbestos and diesel exhaust while at CSXT.

8. **The Presence of Asbestos in Mr. Payne's CSX Workspaces.** Mr. Payne claims he was exposed to asbestos from the application of railroad brake shoes, from pipe wrap inside locomotive cabs, from gaskets found in railroad brake systems, from the panels on diesel locomotives and from the heat shield on certain cabooses. I will assess the levels of his exposure as to each. At the outset, however, it is important to note that trainmen such as Mr. Payne do not have any duties that require them to work directly with asbestos-containing materials ("ACMs"). While he may have been around some materials that contained asbestos, simply being around ACMs, even when vibration is heavy, does not create an exposure. This fact

has been documented extensively.[5] OSHA states "If the material is undisturbed, there is no exposure.[6] A study of buildings by the EPA found that there is no difference in airborne levels of asbestos in outdoor air, in buildings with ACMs in good condition, and in buildings containing damaged asbestos-containing material.[7] Further, Mr. Payne worked during the era of diesel locomotives, which have few asbestos-containing components, and the majority that do exist are non-friable, meaning that the asbestos-containing material cannot be easily broken apart or otherwise dislodged. The Federal Railroad Administration (the "FRA"), an agency within the U.S. Department of Transportation with primary regulatory oversight of the railroad industry, has studied whether ACMs on locomotives pose a health risk to railroad workers and has concluded, that " . . . there is no evidence that the presence of asbestos poses a problem. . ."[8]

9. **Asbestos-Containing Brake Shoes.** The potential release of asbestos from railroad brake shoes has been studied extensively. These studies, including those that I participated in, have consistently shown that minimal or no asbestos fibers are released during changing or application of railroad brake shoes.[9]

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[5] Beckett, R.R. Report of Industrial Hygiene Testing Aboard US Navy Ships at Sea, Naval Regional Medical Center, Bremerton, Washington, approximately 1977; Ford Motor Company, Industrial Hygiene Surveys of Rouge Steel Company Boats, October 9, 1997; TechCon Industrial Hygiene Surveys at former Conrail Facilities, 1999-2000; Crump, K.S. and D.B. Farrar, Statistical Analysis of Data on Airborne Asbestos, Regulatory Toxicology and Pharmacology, 1989.

[6] 29 CFR 1910.1001 Appendix J.

[7] Crump, K.S. and D.B. Farrar, Statistical Analysis of Data on Airborne Asbestos, Regulatory Toxicology and Pharmacology, 1989.

[8] U.S. Department of Transportation, Federal Railroad Administration, Locomotive Crashworthiness and Cab Working Conditions, Report of Congress 1996.

For a period of time primarily in the 1970s, some railroad brake shoes were manufactured with some chrysotile asbestos in the wear stock. There were three brands of composition asbestos-containing brake shoes: Comet, Cobra and Anchor. Cobra was the most common composition brake shoe, while many others were made of cast iron. The Duluth Missabi & Iron Range Railway Company estimated in 1973 that 35% of the national rail car fleet used composition brake shoes.[10] As such, the use of asbestos-containing composition railroad brake shoes was never universal. Asbestos-containing brake shoes were rather short lived, with the Comet being replaced by an asbestos-free Tiger shoe in 1975. The most popular composition brake shoe, Cobra, was asbestos free in 1980 followed by the Anchor shoe in 1982.

The railroad industry acted responsibly in consultation with the manufacturers and others in assessing the potential hazard from brake shoes, and its investigation continued until the asbestos was eliminated from the brake shoes. The Association of American Railroads and individual railroads initially asked the brake shoe manufacturers if any potential hazards existed from asbestos in the brake shoes.[11] The initial response from the manufacturers was that the asbestos content was small.[12] This was followed up by more specific information that any

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[9]Liukonen, L. R. Report of Industrial Hygiene Testing, 1979; Thompson, R.N., Air Quality in Baltimore and Ohio Trains Descending the Altamont-Piedmont Grand in West Virginia, An Investigation for the Federal Railroad Administration conducted by the FAA Aeronautical Center Industrial Hygiene Section 1972; Duluth Missabi and Iron Range Railroad tests, 1973-1974; J. F. Quealy and J. M. Wandrisco, U.S. Steel Corp. For the FRA, 7/1978, "Asbestos Emissions from Railroad Brake Shoes."

[10] Birk, J.N. memo to N.C. Nolden, subj: Asbestos Emissions for Composition Brake Shoes, 10/17/1973.

[11] AAR ltr to Abex Corporation, 4/21/1971; AAR ltr to Johns Manville, 4/21/1971; AAR ltr to Amsted, 4/21/1971; AAR ltr to Griffin Wheel, 4/21/1971; AAR ltr to Westinghouse Air Brake, 4/21/1971.

[12] Cabbie, G.M., Westinghouse Air Brake ltr to W. J. Harris, AAR, 5/4/1971; deGaugue, C.L.E., Johns-Manville ltr to W. J. Harris, AAR, 5/4/1971; Berg, N.A., Griffin Wheel ltr to W. J. Harris, AAR, 5/11/1971; Farrell, A.W., Abex ltr to W. J. Harris, AAR, 5/26/1971.

asbestos given off by braking was converted to forsterite, a non-asbestos material.[13] These tests were followed up by testing sponsored by the FRA, which detected no airborne asbestos fibers during the braking process.[14] The FRA reviewed additional studies in 1978, none of which found any risk from railroad brake shoes (1971 Wabco Dynamometer Tests, June 1977 Johns Mansville Study of MTBA, January 1978 Ryckman, Edgerly, Tomlinson and Associated Study of Anchor Brake Shoes at ASF at Granite City, IL and February, 1978 U.S. Steel Dynamometer Tests).[15] The FRA concluded that ". . . it appears highly unlikely that train crews are subjected to adverse asbestos levels." Further, the U.S. Steel study referred to by the FRA (which was actually sponsored by the FRA) concluded ". . . the airborne asbestos concentration emitted during simulated severe railroad drag braking by each of the brake-shoe compositions tested were negligible."[16]

Regardless of the brake shoes used, the potential release of asbestos from asbestos-composition railroad brake shoes has been studied extensively and it has been shown that they do not create significant exposure to asbestos.[17] That is true even while brake shoes are being

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[13] Pundsack, F.L, Johns-Manville ltr to W. J. Harris, AAR, 6/25/1971; Pundsack, F.L, Johns-Manville ltr to W. J. Harris, AAR, 11/1/1971.

[14] Thompson,R.N. Air Quality in Baltimore and Ohio Trains Descending the Altamont-Piedmont Grade in West Virginia. An Investigation for the Federal Railroad Administration conducted by the FAA Aeronautical Center Industrial Hygiene Section, 1972.

[15] FRA memo. Chief Rail Vehicle Safety Research Division to Director Office of Rail Safety Research, 4/19/1978.

[16] Quealy, J.R. and J.M. Wandrisco, Asbestos Emissions from Railroad Brake Shoes, 1978.

[17] Lynch, J.R. Brake Lining Decomposition Products, ACGIH 1968; Liukonen, L.R. Report of Industrial Hygiene Testing, 1979; Thompson, R.N. Air Quality in Baltimore and Ohio Trains Descending the Altamont-Piedmont Grade in West Virginia. An Investigation for the Federal Railroad Administration conducted by the FAA Aeronautical Center Industrial Hygiene Section, 1972; Anderson, A.E., R.L. Gealer, R.C. McCune, and J.W. Sprys, Asbestos Emissions from

changed.[18] In one study, air sampling revealed that no fibers were released during the handling of an Anchor brand brake shoe by a technician wearing a personal sampler on his shoulder to collect airborne dust.[19] In another simulation study, a Cobra brand railroad brake shoe was tested for asbestos fiber release in a working rail yard in a manner simulating the daily work activities of a railroad carman. Numerous sampling devices were placed in the subject worker's breathing zone and a personal sampling device was placed on the carman, who then changed brake shoes repeatedly over a period time in order to simulate a typical work day. The scientists conducting the study compared the air sample test results with the 8-hour maximum permissible exposure limit set by the Occupational Safety and Health Administration ("OSHA"). There was only one asbestos fiber detected and it was too small to be counted under OSHA methodology.[20] Finally, in a related study of Cobra brand railroad brake shoes, researchers placed an abraded brake shoe under a laboratory air exhaust hood and collected air samples while the shoe was handled, turned, and rubbed. The air samples showed no asbestos fiber release from the brake shoe.[21]

Brake Dynamometer Tests, Society of Automotive Engineers, 1973; Jacko, M.G., R.T. DuCharme, and J.H. Somers, Brake and Clutch Emissions Generated Durmg Vehicle Operation, Society of Automotive Engineers, 1973.

[18] Farrar, A.C. Reproduction of Work Performed on Cobra Brake Shoe by MVA, Inc, Report MVA 0900, May 13, 1994; September 22, 1994; Farrar, A.C. Worker Simulation Study: A Railroad Carman's Potential Exposure to Asbestos from a Cobra Brake Shoe; January 20, 1995; Farrar, A.C. Worker Simulation Study: A Railroad Carman's Potential Exposure to Asbestos from a Cobra Brake Shoe; September 22, 1994; Farrar, A.C. Optical Microscopic Examination of a Cobra Brake Shoe; January 20, 1995; Keels,C., Industrial Hygiene Report, City of Philadelphia, 1979.

[19] A. E. Anderson, *Asbestos Emissions from Anchor Tread Brake Shoes, A Review of 1987 Brake Tests.*

[20] *See Worker Simulation Study: A Railroad Carman's Potential Exposure to Asbestos from a Cobra Brake Shoe*, Sept. 22, 1994, Clayton Environmental Consultants.

In sum, all reliable studies show that asbestos-containing railroad brake shoes emitted minimal, if any, amounts of airborne asbestos. In contrast, there is no scientifically reliable study which shows that handling, using, repairing or replacing asbestos-containing railroad brake shoes, or that proximity to those who are handling, using, repairing, or replacing composition railroad brake shoes, causes a release of respirable asbestos fibers in any amount which approached, much less exceeded, applicable Threshold Limit Values (TLVs) or reasonable exposure levels.

As a trainman, Mr. Payne did not work directly with brake shoes. He did not handle, use, repair or replace asbestos containing railroad brake shoes. His proximity to railcars and engines during the application of asbestos-containing brake shoes, or when brake shoes were changed by others, did not result in an unsafe exposure to asbestos. He was never exposed to levels of asbestos during his railroad employment that would have exceeded the then-existing TLVs or otherwise acceptable exposure levels.

10. **Pipes Wrapped in Asbestos-Containing Insulation.** Some of the pipes on diesel locomotives were wrapped with a non-friable woven asbestos-containing tape. The pipes that were wrapped with this tape were typically air compressor discharge lines and hot water lines that are outside of the locomotive cab.[22] I, or technicians under my supervision and control, have

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[21] *Optical Microscopy of a Cobra Brake Shoe*, Jan. 20, 1995, Clayton Environmental Consultants.

[22] Liukonen, L.R., Industrial Hygiene Investigation of a Norfolk Southern Raiload GP15-1 Locomotive, 2003; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's GP38 Locomotives, 2003; Liukonen, L.R., Industrial Hygiene Investigation of a Norfolk Southern Railroad GP38-2 Locomotive, 2003; Liukonen, L.R., Industrial Hygiene Investigation of a Norfolk Southern Railroad GP38AC Locomotive, 2003; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's GP40-2 Locomotives, 2003; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's SD38 Locomotives, 2003; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's SD40-2 Locomotives, 2003; Liukonen, L.R., Industrial Hygiene Investigation of

sampled for airborne asbestos on locomotives that have asbestos-containing tape. This sampling was conducted under normal working conditions and was done in the cab as well as in the air compressor compartment next to the asbestos-containing tape. These tests have shown that no measurable exposure to asbestos exists from this material (<0.001 f/cc).[23] Similar tests have been done by others with similar results.[24] Studies have also been done that demonstrate that little exposure to asbestos occurs even when this tape is handled.[25] While Dr. Vance's report of 9/7/2008 states that Mr. Ward would put his feet on insulated pipes in the locomotive cab, Mr. Payne testified he never actually touched any of these pipes and Mr. Rhodes testified that it was not possible to put your feet on any insulated pipes in the locomotive.

Mr. Payne did not have a significant exposure to asbestos from the pipes in the railroad shops were he worked, even though some of those pipes may have been wrapped with asbestos-containing insulation. Simply being around those materials, even when vibration is heavy, does not create significant exposure. Multiple scientific studies and literature,[26] including OSHA

Norfolk Southern Railroad's SD45-2 Locomotives, 2003; Liukonen, L.R., Industrial Hygiene Investigation of a Norfolk Southern Railroad SWIOOI Locomotive, 2003; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad SW1500 Locomotives, 2003.

[23] Liukonen, L.R., Exposure to Airborne Asbestos Fibers on Diesel Locomotives, 1999; Liukonen, L.R. Limited Industrial Hygiene Survey, 1/2000; Liukonen, L.R. Limited Industrial Hygiene Survey, 5/2000; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's Locomotives, 2003.

[24] Khuri, R.K. ATSF Letter to D.P. Valentine, 4/1985; Nokso-Koivisto, P. and E Pukkala, Past exposure to asbestos and combustion products and incidence of cancer among Finnish locomotive drivers, OccEnvMed 51:330-334, 1994.

[25] Liukonen, L.R. Industrial Hygiene Survey Report, 1992; Badders, M.E. Airborne Fiber Counts Associated with Repair of Hot Water, Oil Cooler, and Air Compressor Discharge Lines on Locomotives with Woven Asbestos Insulation Wrap in Fibers/cc, 1986; Environ EMD F7A Locomotive Asbestos Study Data, Conducted 7/2011.

[26] Beckett, R.R. Report of Industrial Hygiene Testing Aboard U.S. Navy Ships at Sea, Naval Regional Medical Center, Bremerton, Washington, circa 1977; Ford Motor Company, Industrial Hygiene Surveys of Rouge Steel Company Boats, October 9, 1997; TechCon Industrial Hygiene

publications, state that "if the material is undisturbed, there is no exposure."[27] For these reasons, the wrapped pipe in the restroom of the West Knox Yard Office which Mr. Payne claims was insulated with asbestos, would not result in significant, if any, exposure to asbestos. Nor was Mr. Payne significantly exposed to asbestos from his brief and intermittent presence in the West Knox roundhouse or car shop.

11. **Asbestos-Containing Gaskets.** Asbestos-containing gaskets were used to seal internal diesel engine parts. Mr. Payne would have had no unsafe exposure, if any, as a bystander to the gaskets used in railcars. The use and handling of asbestos-containing gaskets does not produce an exposure to asbestos above the normal background level of asbestos exposure to the person using or handling the gaskets or to bystanders.[28] Several studies have demonstrated that even when working with gaskets, no significant exposure to asbestos exists.[29] As Dr. Vance states,

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Surveys at former Conrail Facilities, 1999-2000; Crump, K.S. and D.B. Farrar, Statistical Analysis of Data on Airborne Asbestos, Regulatory Toxicology and Pharmacology, 1989.

[27] 29 C.F.R. 1910.1001 Appendix J.

[28] Liukonen, L.R., R.R. Beckett and K.R. Still, Asbestos Exposure From Gasket Operations, Naval Regional Medical Center, Bremerton, Washington, 1978; Cheng, R.T. and H.J.McDermott, Exposure to Asbestos from Asbestos Gaskets, Appl.Occup.Environ.Hyg., 1991; Beem,D.M. Top Rail Gasket Replacement Exposure Monitoring memo to D. Corbin, 1996; Liukonen, L.R. and F.W. Weir, Asbestos exposure from gaskets during disassembly of a medium duty diesel engine, Regulatory Toxicology and Pharmacology 41(2005) 113-121; Paustenback, D.L. et al, Chrysotile asbestos exposure associated with removal automobile exhaust (ca. 1945-1975) by mechanics: Results of a simulation study, JEAEE (2005) 1-16; Mangold, C., K. Clark, A. Madl and D. Paustenbach An Exposure Study of Bystanders and Workers During the Installation and Removal of Asbestos Gaskets and Packing, JOEH, 2006.

[29] Liukonen, L.R., R.R. Beckett and K.R. Still, Asbestos Exposure From Gasket Operations, Naval Regional Medical Center, Bremerton, Washington, 1978; Cheng, R.T. and H.J. McDermott, Exposure to Asbestos from Asbestos Gaskets, Appl.Occup.Envhon.Hyg., 1991; Beem, D.M. Top Rail Gasket Replacement Exposure Monitoring memo to D. Corbin, 1996; Liukonen, L.R. and F.W. Weir, Asbestos exposure from gaskets during disassembly of a medium duty diesel engine, Regulatory Toxicology and Pharmacology 41(2005) 113-121; Paustenbach, D.L. et al, Chrysotile asbestos exposure associated with removal automobile exhaust (ca. 1945-1975) by mechanics: Results of a simulation study, JEAEE (2005) 1-16; Mangold, C, K. Clark,

gaskets typically do not pose an asbestos health risk.[30]

12. **Metal Paneling, Electrical Heat Shields and Electrical Components.** There are no metal panels on diesel locomotives that are insulated with asbestos-containing material and, as demonstrated by studies conducted by others and me, any asbestos-wrapped exposed pipes as described by Mr. Payne, would not create any asbestos exposure that would have exceeded then-existing Threshold Limit Values (TLVs) or reasonable exposure levels.[31] Cabooses may have had an asbestos-containing heat shield behind the stove. Any such material was generally non-friable and covered by metal. Therefore, while there may have been an asbestos-containing heat shield in the caboose, Mr. Payne would never have come into contact with it and would have had no occasion for exposure. Further, some electrical components on diesel locomotives such as arc chutes and dynamic brake cooling grids contained some asbestos. These parts are very hard and non-friable. I and others have conducted tests during the removal and replacement of these parts,

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A. Madl and D. Paustenbach An Exposure Study of Bystanders and Workers During the Installation and Removal of Asbestos Gaskets and Packing, JOEH, 2006; Liukonen, L.R. Industrial Hygiene Survey of CSX Transportation's Waycross, Georgia Locomotive Shop, February 19-23, 1990; Liukonen, L.R. Limited Industrial Hygiene Investigation of CSX Transportation's Waycross, Georgia Locomotive Heavy Repair Facility, Oct. 12 and Dec. 12, 1990; Boelter, F., C. Simmons and P. Hewett, Exposure Data from Multi-Application, Multi-Industry Maintenance of Surfaces and Joints Sealed with Asbestos-Containing Gaskets and Packing, JOEH, 3/2011; Environ EMD F7A Locomotive Asbestos Study Data, Conducted 7/2011.

[30] (Vance 11/17/10 Trial Testimony at 645-55.)

[31] Liukonen,L.R., Exposure to Airborne Asbestos Fibers on Diesel Locomotives, 1999; Liukonen,L.R. Limited Industrial Hygiene Survey, 1/2000; Liukonen,L.R. Limited Industrial Hygiene Survey, 5/2000; Liukonen, L.R., Industrial Hygiene Investigation of Norfolk Southern Railroad's Locomotives, 2003; Khuri,R.K.ATSF Letter to D.P.Valentine,4/1985; Nokso-Koivisto, P. and E Pukkala, Past exposure to asbestos and combustion products and incidence of cancer among Finnish locomotive drivers, OccEnvMed 51:330-334, 1994.

and studies indicate that no exposure to asbestos occurs, even during these activities.[32]

13. **The Levels of Mr. Payne's Exposure to Diesel Exhaust at CSXT.** Mr. Payne's alleges exposure to diesel exhaust while riding on and inside locomotive crew cabs while switching local industry out of the West Knox Yard. Much of the time, particularly while servicing the Witherspoon Scrap Yard, the train would proceed via a shove move, wherein Mr. Payne would primarily work on the last gondola car, which was the lead car during the switch. As such, his work was in front of the diesel engines, lessening his exposure to any diesel exhaust. On occasion he was in the cab of the locomotive, but would not have been significantly exposed to diesel exhaust, given that I have seen no evidence to suggest that any of the locomotives he rode in had a defect in the exhaust stacks or elsewhere in the exhaust system. Mr. Payne also worked the Etowah to Corbin line, which he claimed involved passing through six tunnels, where his potential for exposure was presumably highest. As forth below, however, when the exposures Mr. Payne and his coworkers described are analyzed in light of the years of comprehensive testing onboard active locomotives, including in tunnels, one is able to make a dose-based assessment of his exposure to diesel exhaust and conclude to a reasonable degree of scientific certainty that he was not harmfully exposed.

Because the direct measurement of diesel exhaust is not possible, various surrogates to determine exposure must be used. Historically, the prime surrogates used were gases such as nitrogen dioxide.[33] Later studies focused on some portion of the particulate fraction, which has

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[32] Liukonen, L.R. Industrial Hygiene Survey Report, 1990; Beem, D.M. Asbestos Exposure From Arc Chutes, memo to T.E. Greenwood, 1996.

[33] National Institute for Occupational Safety and Health (NIOSH): Health Hazard Evaluation/Toxicity Determination, Union Pacific Railroad, Pocatello, Idaho by A. A. Apol (NIOSH-TR-042-74). Cincinnati, OH: 1973; National Institute for Occupational Safety and Health (NIOSH): Health Hazard Evaluation/Toxicity Determination, White Pass and Yukon Railroad, Skagway, Alaska by A. A. Apol (NIOSH-TR-74-1-160). Cincinnati, OH: 1974; U.S.

recently focused on elemental carbon ("EC").[34] Diesel exhaust exposure has been evaluated in railroad work environments for many years. Early studies demonstrated that exposures to diesel exhaust were not excessive to railroad employees even under "worst case" situations such as long tunnels.[35] Railroads then followed up on these studies with their own investigations, emphasizing the areas where the highest exposure was expected. These studies also showed no occurrence of excessive exposures. By analogy, and the use of professional judgment, it is reasonable to infer that levels of exposure lower than the "worst case" scenarios that were

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Department of Transportation (DOT): Train Generated Air Contaminants in the Train Crew's Working Environment by J.A. Hobbs, R.A. Walter, T. Hard, and D. Devoe (FRA/ORD-77/08). Cambridge, MA: U.S. Department of Transportation/Federal Railroad Administration, 1977; Report on the Results of Air Samples Taken in the Cabs of Diesel Locomotives on the Denver and Rio Grande Western Railroad by the Bureau of Mines From June 3 to July 31, 1953; Report on the Results of Air Samples Taken in the Cabs of Diesel Locomotives on the Denver and Rio Grande Western Railroad by the Bureau of Mines From November 1, 1953 to January 15, 1954; Report on the Results of Air Samples Taken in the Cabs of Diesel Locomotives on the Denver and Rio Grande Western Railroad by the Bureau of Mines From February 9 to March 12, 1954; Report on the Results of Air Samples Taken in the Cabs of Diesel Locomotives on the Denver and Rio Grande Western Railroad by the Bureau of Mines From May 25 to June 8, 1954; Report on the Results of Air Samples Taken in the Cabs of a Diesel Locomotive Used for Yard "Switching" at the Burnham Yards of the Denver and Rio Grande Western Railroad, Bureau of Mines; Michigan Bureau of Environmental and Occupational Health report to Consolidated Rail Corporation, 1978; Popjoy, M.A. Monitoring Locomotive Cab and Caboose Internal Atmosphere on Southern Railway, 1976; Measurement of Ambient Air in Cab of Diesel Locomotives and Cabooses, Scott Research Laboratories, 1974.

[34] Cantrell, B.K., and W.F. Watts, Jr.: Diesel Exhaust Aerosol: Review of Occupational Exposure. Appl. Occup. Environ. Hyg J. 12:1019-1027 (1997); Woskie, S.R., T.J. Smith, S.K. Hammond, M.B. Schenker, E. Garshik, and F.E. Speizer: Estimation of the Diesel Exhaust Exposures of Railroad Workers: I. Current Exposures. Am. J. Ind. Med.13:381-394 (1988); Froines, J.R., W.C. Hinds, R.M. Duffy, W.J. Lafuente, and V. Wen-Chen: Exposure of Firefighters to Diesel Emissions in Fire Stations. Am. Ind. Hyg. Assoc. J. *48:*202-207 (1987); Stanevich, R.S., P. Hintz., D. Yereb, M. Dosemecci, and D.T. Silverman: Elemental Carbon Levels at a Potash Mine. Appl. Occup. Environ. Hyg. *12:*1009-1012 (1997); Zaebst, D.D., D.E. Clapp, L.M. Blade, D.A. Marlow, K. Steenland, R.W. Hornung, D. Scheutzle, and J. Butler Quantitative Determination of Trucking Industry Workers' Exposure to Diesel Exhaust Particles. Am. Ind. Hyg. Assoc. J. 52:529-541 (1991).

[35] Hobbs, J. R., et al. Train Generated Air Contaminants In the Train Crew's Working Environment, U. S. Department of Transportation, Report No. FRA/ORD-77-08, February 1977.

investigated would also not be excessive. Nonetheless, CSXT and other railroads have continued to investigate work sites, verifying that diesel exhaust levels are not excessive.[36]

[36] Analysis of Railroad Tunnel Atmospheres, Knobley Tunnel on Patterson Creek and Potomac Branch, 8/29/1951; Mims, W.E. memo to D. A. Lawson re CSXT 5861 Monitor exhaust stack gases in the locomotive cab, 2/9/1988; Davis, K.E. memo to J.W. Wheeler re CSXT 1223 Test for exhaust stack gases in the locomotive cab, 8/7/1992; Davis, K.E. memo to J.W. Wheeler re CSXT 1224 Test for exhaust stack gases in the locomotive cab, 7/8/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 1719 Test for exhaust stack gases in the locomotive cab, 7/8/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 5546 Inspect for exhaust stack gases, especially carbon monoxide during road service, 7/10/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 5546 Test for exhaust stack gases in the locomotive cab, 5/24/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 5554 Inspect for exhaust stack gases, especially carbon monoxide during road service, 7/10/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 5546 Test for exhaust stack gases in the locomotive cab, 5/16/1991; Davis, K.E. memo to J.W. Wheeler re CSXT 5564 Test for excessive exhaust stack gases in the locomotive cab, 7/10/1991; Mims, W.E. memo to D. A. Lawson re CSXT 5723 Monitor exhaust stack gases hi the locomotive cab, 2/3/1988; Mims, W.E. memo to W.R. James re CSXT 5806 Monitor exhaust stack gases in the locomotive cab, 11/9/1987; Davis, K.E. memo to J.W. Wheeler re CSXT 5807 Test for excessive exhaust stack gases in the locomotive cab, 7/30/1991; Mims, W.E. memo to D. A. Lawson re CSXT 5814 Monitor exhaust stack gases hi the locomotive cab, 3/11/1988; Davis, K.E. memo to F. A. Upton re CSXT 5845 Test for exhaust stack gases in the locomotive cab, 11/4/1993; Strickland, D.W. report re CSXT 5861 Monitor for exhaust stack gases in the operating cab, 2/8/1988; Mims, W.E. memo to W.R. James re CSXT 5867 Monitor exhaust stack gases in the locomotive cab, 10/1/1987; Davis, K. E. memo to W.E. Mims re CSXT 5880 Monitor exhaust stack gases in the locomotive cab, 7/25/1989; Air Quality Evaluations of CSX Transportation's Train Crews dated August 19-30, 1990; Air Quality Evaluations of CSX Transportation's Train Crews dated January 7 - April 12, 1991; Industrial Hygiene Air and Noise Investigation of CSX Transportation's Train Crews from Russell, KY to Cincinnati, OH, Cincinnati, OH to Corbin, KY, Corbin, KY to Cincinnati, OH, and Cincinnati, OH to Russell, KY, dated August 13-16, 1991; Industrial Hygiene Survey of CSX Transportation's Train Crews Delivering Coal to Utility Plants in Florida dated October 27 & 29, 1993; Industrial Hygiene Air Sampling of CSX Transportation's Train Crews from Montgomery, Alabama to Thomasville, Georgia, Thomasville, Georgia to Montgomery, Alabama dated April 12-16, 1994; Industrial Hygiene Survey of CSX Transportation Train Crews Working From Martin, Kentucky Yard dated August 9-10, 1995; Industrial Hygiene Survey of CSX Transportation's Corbin, Kentucky Train Crew on Local C80015 dated February 15, 1996; Industrial Hygiene Survey of CSX Transportation's Trains and Crews Between Atlanta, Georgia and Corbin, Kentucky dated April 30, 1996 through May 2, 1996; Industrial Hygiene Survey of CSX Transportation's Trains and Crews Between Atlanta, Georgia and Birmingham, Alabama dated September 10-13, 1996; Industrial Hygiene Survey of CSX Transportation's Trains and Crews Between Atlanta, Georgia and Fitzgerald, Georgia, Atlanta, Georgia and Montgomery, Alabama dated September 23-27, 1996; Diesel Exhaust and Noise Sampling in Locomotive Cabs of CSXT Trains Between Memphis, Tennessee and Chicago, IL dated July 15-19, 1997; Industrial Hygiene Investigation of CSX

The Federal Railroad Administration (FRA) wrote the following in a 1978 policy statement about diesel exhaust:

> It should be noted that significant research has been done by FRA and other organizations concerning exposure to air contaminants in railroad operations. Thus far it appears that exposure levels in normal operating situations are well within the values set forth in the current OSHA standards, even in 'worst case' situations such as long railroad tunnels.[37]

Further, recent testing conducted by CSXT has been comprehensive and has included elemental carbon and polynuclear aromatic hydrocarbon compounds. There are no OSHA or FRA standards for diesel exhaust except for certain components such as nitrogen dioxide. Recently the American Conference of Governmental Industrial Hygienists (ACGIH) issued a proposed Threshold Limit Value for EC as an indicator of diesel exhaust exposure. This

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Transportation's Atlanta, Georgia Train Crews on Yard Job # Y12229 and Yard Job # Y21630 dated July 29-30, 1997; Industrial Hygiene Diesel, Exhaust and Noise Sampling in Locomotive Cabs of CSXT Trains Originating out of Shelby, Kentucky dated August 25-29, 1997; Industrial Hygiene Diesel Exhaust and Noise Sampling in Locomotive Cabs of CSXT Trains and Crews from Savannah, Georgia to Augusta, Georgia, Augusta, Georgia to Savannah, Georgia, Savannah, Georgia to Waycross, Georgia, Waycross, Georgia to Savannah, Georgia dated October 21-24, 1997; Diesel Exhaust and Noise Sampling in Locomotive Cabs of CSXT Trains Columbus, Ohio to Cincinnati, Ohio, Cincinnati, Ohio to Lima, Ohio Lima, Ohio to Toledo, Ohio and Toledo, Ohio to Columbus, Ohio dated November 17-20, 1997; Diesel Exhaust and Noise Sampling In The Locomotive Cab of a CSXT Train Operating Between Cumberland, Maryland and Grafton, West Virginia dated December 4, 1997; Industrial Hygiene Diesel Exhaust, Silica, and Noise Sampling in Locomotive Cabs of CSXT Trains and Crews From Clifton Forge, VA to Hinton, WV and Hinton, WV to Clifton Forge, VA dated April 7-8, 1998; Industrial Hygiene Evaluation of CSXT Train Crews Between Baldwin, Florida and Tampa, Florida, Baldwin Florida and Waycross, Georgia, and Jacksonville, Florida and Orlando, Florida dated June 26-29, 1998 and July 7-8, 1998; Industrial Hygiene Investigation of CSX Transportation's Atlanta, Georgia Train Crews on Yard Jobs #Y12526, #Y13227, #Y11628, #Y23528 dated January 26-28, 1999; Industrial Hygiene Investigation of CSX Transportation's Waycross, Georgia Train Crews on Yard Jobs #Y17809, #MY14010, #Y21510, #Y11511 dated March 9-11, 1999; Industrial Hygiene Investigation of CSX Transportation's Corbin, Kentucky Train Crews on Yard Jobs #Y10308 and #Y20109 dated June 8-9, 1999; Industrial Hygiene Investigation of CSX Transportation's Erwin, Tennessee Train Crews on Yard Jobs #Y10122, #Y10223, and #Y20423dated June 22-23, 1999; and Industrial Hygiene Survey of CSX Transportation's Switch Crews at Gentilly Yard (New Orleans, LA), Sibert Yard (Mobile, AL) and Goulding Yard (Pensacola, FL) dated March 12-15, 2001.

[37] Federal Railroad Administration, 49 CFR Part 221 (1978).

proposed TLV was 20 $\mu g/m^3$ measured as EC, but the proposal has been rescinded.[38] The procedure that was to be used is NIOSH 5040.[39]

The testing results of my consulting firm (TechCon) shows that train crew members in the locomotive are exposed to an average of 2.5 ug/m^3 as an 8 hour time weighted average.[40] This testing correlates well with recent Canadian railroad studies.[41] No differences were found with age of locomotive (manufactured between 1968 and 1997), locomotive manufacturer, or in different geographical locations. This locomotive average is less than the measurements for local truck drivers with a mean of 4.0 $\mu g/m^3$ and road truckers with a mean of 3.8 $\mu g/m^3$. Highway background EC levels have been reported to have a mean of 4.0 $\mu g/m^3$. Other background EC levels reported include an annual average in Los Angeles of 4.78 $\mu g/m^3$ and background levels over 10 $\mu g/m^3$ in some areas.[42] NIOSH reported 14-78 $\mu g/m^3$ EC in a fire station and 8-12 ug/m^3 EC as background levels outside of the fire station.[43] The average EC

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[38] As reference, the only federal occupational standard for aggregate diesel exhaust comes from the Mine Safety and Health Administration, which imposes a PEL of 160 $\mu g/m^3$ for total carbon. *See*, http://www.msha.gov/REGS/COMPLIAN/Guides/MNMDPM/MNMdpmcompguide.pdf

[39] National Institute for Occupational Safety and Health (NIOSH): NIOSH Manual of Analytical Methods.4th ed. Cincinnati, OH: (1996).

[40] Liukonen,L.R., J.L.Grogan, and W. Myers, Diesel Particulate Matter Exposure to Railroad Train Crews, AIHAJ 63:610-616(2002).

[41] Verma,D.K., M.M. Finkelstein, L.Kurtz, K.Smolynec, and S. Eyre, Diesel Exhaust Exposure in the Canadian Railroad Work Environment, Appl Occup Environ Hyg 18(1):25-34(2003); Seshargiri, B., Exposure to Diesel Exhaust Emissions On Board Locomotives, AIHAJ, 2003.

[42] Cass, G.R., and H.A. Gray: Regional Emissions and Atmospheric Concentrations of Diesel Engine particulate Matter: Los Angeles as a Case Study. In Diesel Exhaust: A Critical Analysis of Emissions, Exposure, and Health Effects, Cambridge, MA: Health Effects Institute, 1975. pp. 127-137.

[43] National Institute for Occupational Safety and Health (NIOSH): Health Hazard Evaluation, City of Lancaster, Division of Fire by A. Echt, L. Blade, and J. Sheey (HETA 92-0160-2360). Cincinnati, OH: 1993

exposures of railroad employees are well below all of these and magnitudes lower than the levels which sometimes exceed 400 $\mu g/m^3$ in underground mines.[44]

14. **Opinions Regarding Mr. Payne's Level of Exposure to Asbestos and Diesel Exhaust at CSXT and Dr. Vance's Opinions Related Thereto.** Based on the foregoing, I hold the following opinions to a reasonable degree of scientific certainty:

a) Standard scientific methodology requires an industrial hygienist to assess a worker's level of exposure in order to determine whether said worker has been harmfully exposed to asbestos, diesel exhaust, or any other workplace agent.

b) Industrial hygienists, including me and many others, have repeatedly tested railroad workspaces for asbestos and diesel exhaust over the past three decades. This ample quantitative data can be utilized, using standard scientific methods of retrospective analysis, to establish a quantification of the likely dose of asbestos and of diesel exhaust that Mr. Payne could have sustained at CSXT. The absence of specific personal monitoring data for Mr. Payne, which is not unusual in the field of industrial hygiene, does not prevent a scientifically valid dose-based assessment of his levels of asbestos exposure or diesel exhaust exposure.

c) Any exposure Mr. Payne might have had to asbestos while working at the railroad is so low as to be below analytical measurements. While it is not possible to determine his exact level of exposure, it is possible to quantify the upper limit of his exposure by assuming his levels of exposure were at the level of detection. By doing so, his total dose as a trainman would be 0.001 f/cc. If he spent 40 years as a trainman, that equals a maximum lifetime exposure of 0.04 fiber years. This can be compared to the current OSHA standard of 0.1 f/cc or 5.0 fiber years for a working lifetime. It can also be compared to the OSHA PELs, (or ACGIH TLVs before OSHA)

[44] Cohen,H.J., J. Borak, T. Hall, G. Sirianni, and S. Chemerynski, Exposure of Miners to Diesel Exhaust Particulates in Underground Nonmetal Mines AIHAJ 63:651-658(2002).

that were in effect during his career. Using the PELs in effect during his career, the lifetime allowable dose calculates out to the equivalent of 320 fiber years. Therefore, Mr. Payne's likely exposure calculates out to be less than 0.1% of the PELs in place at that time. In sum, using this quantification of the upper limit of his exposure to asbestos, it is clear that Mr. Payne's dose of asbestos was well below what is considered acceptable in industry and is the level at which the Environmental Protection Agency allowed school children to re-occupy a school after an asbestos abatement.

d) Given the exposures described by Mr. Payne and his coworkers, and based on retrospective analyses of years' of comprehensive studies onboard locomotives, including in worst case scenarios such as tunnels, I am able to quantify the likely amount of exposure to diesel exhaust that Mr. Payne would have received at CSXT. His railroad exposures to diesel exhaust would have averaged 2.5 ug/m^3 per 8 hour time weighted average or less, and his exposures were undoubtedly well below OSHA's PELs for constituents of diesel combustion. Neither his work as a trainman on the Corbin-Etowah run, nor his work switching the West Knox yard and local industry, exposed him to significant or unsafe levels of diesel exhaust

e) Dr. Vance has deviated substantially from acceptable industrial hygiene practice in formulating his asbestos and diesel exhaust opinions in this case. While he correctly states that dose is the key consideration in evaluating the safety risks to occupational exposures to asbestos and diesel exhaust, he admits that he does not know Mr. Payne's dose of asbestos or diesel exhaust. Therefore, Dr. Vance's opinion that Mr. Payne was injuriously exposed to asbestos and diesel exhaust at CSXT is not the result of the dose-based inquiry that he admits is required.

f) Dr. Vance further states that he was unable to account for Mr. Payne's dose because of the absence of Mr. Payne's personal monitoring data. Standard industrial hygiene practice,

however, reflects the practical reality that specific individual personal monitoring data is rarely available. When specific personal monitoring data is unavailable, an industrial hygienist must rely on other standard analytical methods, such as retrospective analysis, in order to complete a dose-based assessment of a worker's exposure level. There is ample quantitative data from which to render a dose-based assessment of Mr. Payne's exposure to asbestos and diesel exhaust in this case. Dr. Vance, however, concedes that he did not utilize this data and instead maintains that it is impossible to assess Mr. Payne's asbestos or diesel exhaust dose. To ignore available methods of dose analysis, and thereby ignore the concept of dose entirely, and to then nonetheless render an opinion that a worker has been exposed at harmful levels, does not reflect a proper application of sound industrial hygiene methodology. Nor is the methodology Dr. Vance used in this lawsuit consistent with accepted industrial hygiene practice in the field.

FURTHER AFFIANT SAYETH NOT

This 31 day of August, 2012.

Larry R. Liukonen, CIH, CSP

Sworn and Subscribed before

Notary Public
My Commission Expires: Feb. 17, 2013

JON L. YOWELL
Notary Public, State of Texas
My Comm. Expires Feb. 17, 2013

there was an accepted level of safe exposure to asbestos, which we later learned was maybe not the best idea in the world. And there was a minority at that time that held to the contrary. After Selikoff's presentation in '68 or something like that -- that's -- none in the record -- was it '64? Okay.

MR. JORDAN: (Nods head up and down.)

THE COURT: But here we're testing should the jury not be able to weigh -- and to weigh says his is a very small minority that believe that way, I go along with the majority that says this way -- but isn't that something the jury weighs and flushes out when it's over with?

MR. JORDAN: Not if it's not generally accepted. And not -- and the other problem I have with that, Your Honor, is this: As this Court well knows, when we challenge a witness on the reliability grounds, that shifts the burden to the plaintiff to prove that that testimony is scientifically reliable. And so that's what has happened here.

My friends at this table have had the burden of proving that it was reliable. Well,

how did they do that? They did that through the cross-examination of Dr. Weill, which I suggest didn't touch on whether Frank's methods were reliable or not, and through the affidavit of Dr. Frank. It is certainly well settled in a *Daubert* setting that an affidavit from the expert whose opinions are being attacked has to be looked at very skeptically if at all, and that there are two ways of supporting an expert who has been attacked. One way is by having another expert in that field, in this case an M.D., look over the shoulder of the witness that's being attacked. They could have had someone to come in and say, "I've looked at what Dr. Frank did, I understand his opinions about any exposure, I understand his opinions that dose evidence is not necessary, and all that's fine. That's accepted generally in the medical community." They didn't have that.

The other thing that they could have done in the affidavit or otherwise is they could have pointed to some literature that perhaps came from an unassailable source -- let's say the American Cancer Society or AMA or somebody like that -- to say "This is the

method that you use in arriving at specific causation opinions and Dr. Frank followed that method." That's the cookbook in dealing with a *Daubert* challenge, and they didn't do either of those things. So I suggest that the burden was shifted to them and they didn't meet the burden. Now, in asking for an expert to have some dose evidence, we're not asking for arithmetic certainty. We're not asking for a number. We're asking that before he says asbestos caused a cancer, or any of these other things, he's got to be --

THE COURT: Well, haven't we just went through one where you did ask that there be a number in radiation?

MR. JORDAN: Well, yes, because that was capable of coming up with a number in that. But that's not necessarily --

THE COURT: Didn't we just go through and prove through all of them that it's generally accepted within that, that the amount of radiation exposure it takes a year to be -- for it to be possible for it to cause things?

MR. JORDAN: There is an amount -- I'm just saying we don't have to -- we don't

require that they say, "He was exposed to 14.2 fibers." We just want them to say, "He was heavily exposed, and I base that heavy exposure on the following data that I've looked at."

THE COURT: You may want them to say lots of things, but the question is, what does the science support to justify? And that's the issue.

MR. JORDAN: The record in this case talks about the "any exposure" theory in only one way, and that is that it's not generally accepted. There is no evidence in this case that the basis of Dr. Frank's causation opinion was that -- was acceptable. His basis was the "any exposure" theory. Now, are there a handful of scientists who believe that? Yes. But I don't think that's --

THE COURT: Is that what this witness said?

MR. JORDAN: I'm sorry?

THE COURT: I think what he said specifically was that there is what he considers a minority of those in the field that believe any exposure to asbestos increases your

risk, versus a theory of you've got to quantitate to show it was enough to increase your risk. Is that not what he said?

MR. JORDAN: I think he did say that, and I think he also said that's not mainstream science and it's not generally accepted. Certainly they're there, there are those voices. But --

THE COURT: Anything else?

MR. JORDAN: -- it's not generally accepted. Thank you, Your Honor.

THE COURT: Mr. Shapiro. Did I say it right that time?

MR. SHAPIRO: (Nods head up and down.)

THE COURT: I note the good Dr. Frank's affidavit. "With regard to Dr. Weill -- he correctly quotes me, and consistent with his own view -- that 'any exposure raises some risk' Dr. Weill states I do not know the dose to asbestos, radiation, diesel exhaust. He is correct."

Paragraph 14: "With regard to all exposures to carcinogens being capable of causing cancer, Dr. Weill misstates my views, something I testified to often under oath. In

Section 7 he states that I exclude background exposures. I have never so testified, instead I have always said that they are part of overall exposure that a person gets in their lifetime."

The last paragraph: "CSX defendant experts agree that a general cause of lung cancer is asbestos, smoking, and radiation. I agree. I have considered these causes and others in my differential diagnosis."

He never says I have indication of there's any science that says it causes. All he's ever said is it substantially increased the risk. How does he move from that to causes? He agrees -- just went through agreeing with the same thing Dr. Weill said specifically, as we know, on radiation, that once you get above a certain number -- there's a certain number, the dose, we accepted, cannot be found to causative of anything. That's accepted within the science we went though.

As to this patient, there's no proof of the number of his exposure to radiation, so with that background, with this, how does he reach causation when he does not show, cannot

show quantitatively, a dose exposure to radiation?

MR. SHAPIRO: First of all, the Health Physics Society are not doctors. They are physicists. And I don't believe Dr. Frank in any way agrees, and it's in his testimony at trial --

THE COURT: Then what did he use to reach that conclusion?

MR. SHAPIRO: He reached what doctors do, that's a differential diagnosis based on the --

THE COURT: But that's not what we're talking about. Differential -- that's the reason I took the time to try to go through with Dr. Weill and make sure my understanding and his understanding of what a differential diagnosis is. A differential diagnosis recognizes this person has something. Then to try to determine causation, you try to determine what things occurred out there which could have been the cause, which may have increased the risk of that thing, whatever you're treating, which is what he did. Then you have to go through and eliminate those that

did not or did and leave you in a situation, okay, I can't eliminate this, so it could have been a cause. But here, he says all of these caused, correct?

MR. SHAPIRO: Yes.

THE COURT: But he says background exposures didn't. Then why didn't he say the background caused? He said there was always background exposure. "I did not eliminate it." And if he says no dose amount is necessary, then the background exposure that he has walking the streets could be a potential cause of asbestos exposure and all of these other things. That leaves the jury purely speculating what actually caused this man's cancer, doesn't it?

MR. SHAPIRO: Well, if you take the argument of Dr. Weill carried out to its --

THE COURT: No. No. I don't want to take his argument. That's not what I'm doing. I do not take his -- what I've got to deal with is there a science background for your witness's opinions. And as to radiation, based upon the record before me, everybody with an expert has agreed up until this point -- and

I've heard you present nothing else from him saying if you have a certain exposure below a certain rem as to radiation it cannot cause injury.

MR. SHAPIRO: But what Dr. Dooley said, even the physicist, Your Honor, is he didn't have a specific dose for --

THE COURT: And neither does Dr. Frank.

MR. SHAPIRO: -- of internal -- internal exposure to plutonium.

THE COURT: But neither does Dr. Frank.

MR. SHAPIRO: Right. Well, that goes back to what I argue in --

THE COURT: Whether he ever had one, there's no proof of, as I understand it. It's a possibility, but is there any proof he ever inhaled any plutonium?

MR. SHAPIRO: There is definite proof. If you mean direct proof where there's a dosimeter that says it was in there, no.

THE COURT: No, but has anyone said they can establish that Mr. Payne inhaled plutonium?

MR. SHAPIRO: We have evidence -- it might not be direct evidence -- because of the plutonium found at the site.

THE COURT: There was some there --

MR. SHAPIRO: Yes, Your Honor.

THE COURT: -- but did anyone say this condition shows characteristics of being inhaled plutonium?

MR. SHAPIRO: Well, Your Honor, whenever you have an invisible toxic substance, it's unusual to have a -- meter to know it was an exact amount.

THE COURT: But aren't we dealing with pure speculation?

MR. SHAPIRO: I disagree. And I also cited the cases: *Wilson versus CSX*. *Hardyman versus Norfolk Southern* --

THE COURT: The test is if any contributing cause.

MR. SHAPIRO: I'm sorry?

THE COURT: The question is, is there anything about their workplace a contributing cause. Right?

MR. SHAPIRO: Anything about whose workplace? Mr. Payne's --

THE COURT: Mr. Payne's. Is there anything about the workplace of CSX that is any part of a cause of his cancer? That's the test, isn't it?

MR. SHAPIRO: Sure. And Dr. Frank had an interview with the plaintiff about asbestos exposure, had documents, lots of documents --

THE COURT: But he says he could not quantify what exposure he had, and just said it again in his affidavit.

MR. SHAPIRO: He said there's no survey or dosing done by the employer --

THE COURT: No, he said he cannot quantify the amount of exposure.

MR. SHAPIRO: He said he couldn't quantify, correct.

THE COURT: That's what I'm saying.

MR. SHAPIRO: And Dr. Weill said he's never had a patient that he could --

THE COURT: Well, what tells him it wasn't caused by what he gets -- exposure walking up and down the streets versus whether it was caused by the exposure he got at the railroad?

MR. SHAPIRO: Your Honor, this is

exactly what the Court of Appeals considered in *Wilson versus CSX*, the same attack on Dr. Nassetta in that cancer case. It was a toxic exposure cancer case. Dr. Nassetta told the Court of Appeals in his affidavit -- or in the trial court, the trial court excluded him. He put in his affidavit, "I don't know the precise quantity of exposure that would have led to this man's brain cancer." CSX won that at the trial court in Tennessee. The Court of Appeals said it's not normal for doctors to get a precise dose or quantity when a patient walks in their medical practice. That's not the test, they said. The test --

THE COURT: Well, accepted here is moving from risk to cause. Accepted medicine is, it increased the risk. But where is there any accepted medicine that supports his statement that it was a cause?

MR. SHAPIRO: He's outlined it in his testimony. He's outlined it in -- he's cited the studies in his reports which I filed. He's got --

THE COURT: It increased the risk. They disagree as to radiation, unless you can

show a rem response. Dr. Weill agrees a minority believes any asbestos exposure increases your risk flat line -- which he disagrees -- but flat line. But all of them agree that this plaintiff gets exposure from walking down the street, to asbestos, gets exposure from walking down the street, to radiation. But what you're trying to say is this exposure here compared to all of those has some impact upon his cancer, and none of them can quantify that at all.

MR. SHAPIRO: We're trying to say that there was substantial exposure to carcinogens, all four of them --

THE COURT: Substantial. Substantial. Substantial.

MR. SHAPIRO: And chronic.

THE COURT: Where is there anything in the record that shows a substantial exposure?

MR. SHAPIRO: Your Honor, there are tests by the -- let's go one by one. Radiation: There are tests --

THE COURT: Your own expert on exposure quantification says the only thing he can say is somewhere less than ten.

MR. SHAPIRO: No, he -- well, he said he couldn't -- he didn't have any documentation to show it was more than ten that was clear, but what he testified to was all of the tests that were done of radiation at the Witherspoon scrap yard were way over background levels. So basically since no surveys were done by the employer like should have been done, all we can do is take all these excessive levels that were there over 40 years -- well, it was probably --

THE COURT: And from that your expert says the exposure to radiation is something less than 10 rems.

MR. SHAPIRO: No, that's what a health physicist on cross-examination said, he couldn't --

THE COURT: But that's your expert.

MR. SHAPIRO: That's one of our experts, but he's not a medical doctor.

THE COURT: But he's the only one that's testified as to quantitatively stating what this gentleman's exposure was.

MR. SHAPIRO: But you're tying that back to whether a dose or a quantification is required.

THE COURT: Your expert said "substantial." Where did he get it?

MR. SHAPIRO: He got it from all of the tests that were done at the site.

THE COURT: Okay. Anything else?

MR. SHAPIRO: And, Your Honor, on asbestos, there's lots of evidence of friable airborne asbestos in the locomotive cabs of their engines. There's no safe level of asbestos --

THE COURT: Well, I know, but there's nothing in here, in reading Dr. Frank's affidavit, that tells me, look at this, this says this, this says this, and you can take this and extrapolate that from -- increase your risk to causation and that's acceptable somehow.

MR. SHAPIRO: Well, Your Honor, in his affidavit --

THE COURT: And -- other than telling me what some court in Nebraska said.

MR. SHAPIRO: Well, Your Honor, that's his affidavit in response to the motion to exclude him. You have --

THE COURT: But the issue is, is there

anything to back up, scientifically, his opinion?

MR. SHAPIRO: Yes, his trial testimony that you have the entirety of.

THE COURT: Where in it can you cite to me he discusses the science that supports his opinion, that he can take the increased risk and say it's causation?

MR. SHAPIRO: Well, that's a specific challenge, and I'm not going to sit here and read it, Your Honor, but I have submitted it with my motion. It's there, and this Court --

THE COURT: You had better submit it right now, because I'm getting ready to rule.

MR. SHAPIRO: Well, Your Honor, it's right here.

THE COURT: Just -- no, don't hand me the whole testimony.

MR. SHAPIRO: No, this is the excerpts.

THE COURT: Well, don't hand it -- tell me what section to read. You're the lawyers. You've been through it all. I'm just here trying to decide what you've submitted. That's the reason why I told them to start

with -- "Don't throw the whole thing up here. Show me specifically what you're saying is not admissible."

You show me the specific thing that says it is admissible. That's all I'm saying.

MR. SHAPIRO: Well, the first thing I said is the entire argument about a dose or quantity has been rejected by the Tennessee Court of Appeals and Hardyman in the Sixth Circuit. That's the first thing I say.

The second thing I say is, in FELA cases, there is no proximate cause. There's relaxed causation. And I cited the *Sentilles* case in my memo that also said you don't even have to have a reasonable degree of medical certainty in a FELA case for the jury to consider these issues.

So where we are right now is whether a witness -- with good credentials, did a proper differential diagnosis to arrive at his opinions -- can be excluded on a pretrial basis. That's where we are right now.

He talks about radiation, Your Honor, on Page --

THE COURT: Page and Line?

MR. SHAPIRO: 29 and 30.

THE COURT: Page 29, Line 30.

MR. SHAPIRO: Well, on Page 29 and 30. It's his first discussion about radiation.

THE COURT: Hold on. Hold on. Hold on. Line 15? Is that where you're starting?

MR. SHAPIRO: Yes. And the discussion --

THE COURT: Okay. Through what? Through what?

MR. SHAPIRO: The discussion of radiation continues all the way through Page 36.

THE COURT: Holy moly. Where in the world is the basis of Line 23? "Inhaling radioactive dust not much different than what Mr. Payne would have inhaled." Where did he get that? Comparing Mr. Payne's inhalation to what uranium miners inhaled, where'd he get that from the record?

But he never mentions science here. I just read it all, and he doesn't mention science or anything. He talks about all the thing he's doing to try to -- but he doesn't mention at all any science that says you can

take risk and equate it to causation. That's what I'm trying -- is there anything he says about medical science recognizing that, yes, exposure to these things -- that that means it caused what you've got?

I just flipped through that radiation, and I don't see any references in what you supplied me where he refers to any science about radiation dose exposures being safe or unsafe. Did I miss something?

MR. SHAPIRO: He talks about how the radiation damages cells and causes cancer. He does talk about --

THE COURT: Well, just -- oh, he thinks it does, but where is the -- what we're talking about here, you said in his record it clearly point out the science that supports his position, and I'm looking for the science rather than his positions. And I see nothing he even mentions -- a radiation exposure level some say there is no risk whatsoever, which we've already heard from your other expert is true. Where does he jump from that to say it causes cancer, and what science does he use to do it?

MR. SHAPIRO: I'm not sure that science such as you're referring to about -- which I'm not sure what it is --

THE COURT: What was the basis of how he got there is what I'm looking for.

MR. SHAPIRO: In that particular passage, we went to asbestos, and then later when I asked for his opinions on causation, he touches on this again --

THE COURT: Okay, but I'm saying -- I didn't think there was anything in here, but I needed to ask you, counsel, because I think counsel is correct, once they put it on the table saying he's not using reliable science -- and I don't like just putting a witness up saying it's not reliable. I would like for them to cite something as to why they say that's what the science is.

But once they put it on the table, you have to come back and refute -- and I see nothing in his affidavit or in this record that talks about some recognized science that says anything other than the minority, as they put it -- and I think he probably wouldn't think -- it's not a minority -- but the point of view

that any exposure to asbestos fiber increases your risk. And what I'm looking for is not increases your risk, because everybody agrees to that. It's the causation issue that gives me a problem. For him to take that, just like we did with the previous one, the first thing we had to do was throw out, "Well, it caused," because he couldn't say because he didn't know what the dose was. And here we've got another one who doesn't know what the exposure was who says it's caused.

MR. SHAPIRO: You don't -- do you want to say something?

MR. GILREATH: I just want to ask a question.

Is it your understanding, Judge, that the plaintiff in this case has to prove the dose of radiation and asbestos in order to have causation?

THE COURT: No. All I'm dealing with today is, they object to him offering an opinion that whatever exposure he got to these substances caused his cancer. That's the objection that they've given. And what I'm saying is, they challenge his saying that it

was caused, saying he has no accepted scientific method for him to say that. And that's all I'm dealing with today.

MR. GILREATH: Well, as I understand, Dr. Frank used a scientific method called differential diagnosis.

THE COURT: But that's -- but that's not a -- as I went through -- and I thought I covered with Dr. Weill that differential diagnosis means how you go about saying a person suffers from this condition. Now, what caused them to have that condition, you list the various factors. Then what you do after you know the potential various factors, you start eliminating, and the way you eliminate radiation is, or put it in, he had a dose exposure above or such and such that still leaves it within the potential. But when you get through, you've either eliminated possible causes or you haven't or you can't say what the cause was.

MR. GILREATH: So you're saying --

THE COURT: That's what differential diagnosis is, as I understand it, and I think that's what Dr. Weill just said.

MR. GILREATH: So you're saying you've got to use a dose in order to do a differential diagnosis?

THE COURT: No. No. No. It depends upon what the science is. And we know, at least this Court does at this point, that when you list four factors on there as the potential for cause of his cancer, how do you say it's not solely a hundred percent from the cigarettes versus how do you say it's partially from the cigarettes and partially from asbestos versus how do you say it's got nothing to do with cigarettes, it's from his diesel exposure and his asbestos versus how do you say it's not the diesel exposure nor the cigarette smoking, it's the asbestos and the radiation? See, that's what we've got here. And what I want to know is, what science did he use?

No question, A, that from what I've heard about radiation today in this hearing, that the accepted science is you have to have a dose exposure above a certain amount before you can say it caused anything.

MR. GILREATH: In that field --

THE COURT: That's what we -- well --

well, that's -- but there's no other proof is my problem. He keeps shaking his head. If he has something, come on with it. I'm tired of listening to bull. If you've got some proof -- the proof I have in front of me right now from those in the field of health physics is, it takes a certain amount of radiation dose exposure so it can be said to cause things. If you've got something to the contrary, I want to hear it.

MR. SHAPIRO: We have stated it and we're going to state again.

THE COURT: But you ain't got any proof.

Anything else, Mr. Shapiro?

MR. SHAPIRO: Your Honor, you asked me and then you didn't want me to --

THE COURT: Anything else?

MR. SHAPIRO: Anything else in response --

THE COURT: That I should hear before I decide this motion?

MR. SHAPIRO: Well, Your Honor, just that we think that Dr. Frank followed proper medical differential diagnosis --

THE COURT: Where is the medical science he followed? That's what I'm asking. Where is it that says this is what he followed, other than differential diagnosis?

MR. SHAPIRO: Well, Your Honor, we're not trying to argue it more, but medicine is an art -- and you say "Where is the science?" -- the doctor uses training of those carcinogens, and every one of them is a cancer-causing agent. Mainly, Your Honor, the problem is --

THE COURT: But how does the jury decide that the exposure they got at CSX contributed any degree to it when it could be all cigarettes, all cigarettes plus asbestos, which he gets some of on the streets, versus all cigarettes plus radiation, which he gets some of on the streets, that Dr. Frank admits is there? And his theory of any exposure contributes, how does this jury differentiate and decide what he got at his workplace, if he got any, caused it?

MR. SHAPIRO: They have to base it on medical opinions of causation, which is what they have to do in every case, Your Honor, and this is a pretrial basis to say does the doctor

have the basis to give those types of opinions. Now, Dr. Frank is coming live most likely, and of course the Court will have the ability to monitor and calibrate any opinions that the Court feels aren't proper. But on a pretrial basis and based on all the case law that we've cited, we just think that the whole argument --

THE COURT: Because case law isn't science, counsel. This is a hearing based on science. His opinion is not reasonably based on what is accepted in his field of expertise by others, not just what he says. As you look at these opinions, the main thing the appellate courts say about this, when the expert says, "I just -- because that's what I believe based on my experience," is not good enough to pass this test. Don't all of them say that?

MR. SHAPIRO: Did all of them say -- I'm sorry?

THE COURT: Every court that's ever dealt with an expert applying these theories in this case have said -- and I know the Tennessee Supreme Court said it, because they said it directly -- have said directly that when you get into this challenge, it is not acceptable

for an expert to say, "I can put it in because -- based on my experience," or "Based upon I'm an expert so therefore that's my opinion as an expert." That's not good enough for him to put that opinion in front of a jury.

MR. SHAPIRO: It's a lot more than that in his opinion, Your Honor.

THE COURT: Where is it, then? You keep telling me that, and I keep saying show me the record where he talks about what science or something that you've put on today, what his science is, other than "I say so."

MR. SHAPIRO: Your Honor, he outlined it in his two reports, his three affidavits, his prior testimony, and then, you know --

THE COURT: And I agree, the issue about any exposure increases your risk of asbestos. I agree. That's a minority and I've got to accept it. It doesn't have to be a majority. I disagree with their theory it has to be the majority.

MR. SHAPIRO: I don't --

THE COURT: But where do we go from that to causation?

MR. SHAPIRO: Because he interviewed

the plaintiff and reviewed all the materials and did a differential diagnosis. You're holding him to a standard of having a dose. That has been rejected. And as a matter of fact, it says in the *Hardyman* opinion, "We might as well take plaintiffs and throw them out of the courthouses because doctors don't get a dose when a patient walks in."

And the question is, does this go to the weight of the evidence or does this go to the admissibility of the evidence. And we say they have every right to cross-examine this doctor with their experts, but you don't have the right to say he has to have a dose in a survey. And that even goes to the plaintiff's cause of action, because they were -- they had a duty to inspect and take these -- monitoring. If you throw this case out on that, you have rejected --

THE COURT: I'm not asked to throw the case out this morning. I'm asked to rule on the admissibility of proof.

MR. SHAPIRO: Well, Your Honor, this is a pretrial motion to exclude a witness who hasn't even testified yet. And my point was,

if the non-delegable duty includes a duty to survey -- and they even admit it has a duty to prevent carcinogens in the workplace and a higher duty of care around carcinogens. But we say, okay, if you, plaintiff, go to a doctor and you don't have a survey belt on, you can't come in and ever say that you were exposed to a carcinogen. That is essentially what they're asking this Court to do. And that closes the courthouse doors to plaintiffs.

THE COURT: Do you think everybody that has cancer can show what carcinogen caused it?

MR. SHAPIRO: I don't think everyone does, but I think if a doctor looks at the exposure --

THE COURT: How does the doctor then say it as caused by this and not everybody can show that, what it was caused by?

MR. SHAPIRO: It's based on the substantial -- exposure to something, a chronicity, a likelihood, a probability. And that's what courts do, and that's what juries do.

THE COURT: Anything else?

MR. SHAPIRO: No, sir.

THE COURT: Anything else, counsel?

MR. JORDAN: No, thank you, Your Honor.

THE COURT: Here I am dealing with the admissibility of the following questions and answers:

From Page 385, Line 8, the first question: "Were occupational exposures that Mr. Payne had to radioactive substances, to asbestos, and to diesel substantial and chronic?"

Answer: "They were both substantial and chronic."

The Court finds nothing in this record for this doctor to say they were substantial.

As to radiation, no one has offered and there's nothing in the record to indicate anyone will offer any proof about what his exposures were to radiation, other than, as to radiation exposure, the expert of the plaintiff, which we've already dealt with earlier today, which can say only one thing, that -- and the only thing he can say is that he was exposed but the exposure was less than

10 rems. How this witness got to substantial as to the radiation appears nowhere in the record and nothing to indicate -- to back it up.

The next question goes to asbestos. There's absolutely no -- nothing that's been shown to me today to indicate where this witness got the idea of "substantial." Yes, there's some evidence that's going to come in to indicate he may have been exposed to some asbestos. Yes, a minority of doctors -- which he has a right, I think, under the law -- he doesn't have to agree with the majority. It must be somewhat -- it must be accepted within -- even if it's by a small -- he can't just make it up just because him and one other person. That's what *Daubert*'s all about. It doesn't have to be what the majority thinks. But here, he has no -- moving from that to say it's substantial asbestos exposure, I don't know how he reached that idea. He's quantifying the degree or amount of exposure with no -- absolutely no background whatsoever as to the quantifying measure of that exposure.

As to diesel, there's been no proof

about that one way or the other. Chronic, I don't know where he came up with that one other than it was a long time ago. If he means "chronic," it occurred a long ago -- the other way you use chronic sometimes means repetitively, over and over, for a long period of time. And I don't know where that is, because we're talking about his exposure, for instance, to radiation at the Witherspoon Yard, which was how many days of how many years.

This witness will not be allowed to testify the extent to the exposure to either asbestos or radioactive substance or diesel were substantial or chronic. It's not within anything I'm aware of supported by the proof or science in this case.

Okay. Question: "Does it affect your ability to render the opinion today, or in your reports, that you don't have the precise dose and exposure records?"

Answer: "Of course not."

I have nothing to indicate any science behind that opinion other than this doctor's own statements. To the contrary, I have proof from other experts offered by the plaintiff

that as to radiation, before anyone can say it would increase the risk of harm, it has to be above a certain amount, which the 10 rems mentioned, and we've talked about, over and over again. So how does this doctor say it doesn't affect his ability, when all the science by those who are experts in the radiation exposure field say it cannot affect any risk of any harm if it's below the amount that their expert says it was?

"So what -- sit here, as you asked me already, do you know within a reasonable degree of medical probability or certainty that it is what it is, I believe -- I certainly -- I can do." (as read).

Differential diagnosis, which good counsel has been harping at me about, has more than just one thing to it. There's been nothing that I've -- been pointed out in this record, that I've seen so far, if the proof is correct that differential diagnosis for a doctor means you have a client or patient with a condition and then you start identifying the potential causes of that condition. What this doctor did or did not do to eliminate or deal

with or quantify the probabilities greater or lesser as to any of these, there's no proof of that that nobody's presented me. And that's the two questions that are there. And I will agree the defendant didn't bring me a lot of proof about differential diagnosis other than what I asked their expert, but this doctor is saying, as I understand his opinion, that this gentleman had some exposure -- which he doesn't know how much -- to asbestos, diesel fumes, radiation at the railroad. And he says that causes his cancer, without differentiating that versus the smoking, which he says also could have caused.

Well, how does a jury decide? If he doesn't know and can't differentiate between the potential causes, how is this jury supposed to differentiate and make a decision? It's pure, absolute speculation unless you can show them something -- more likely than not it was the asbestos exposure at work versus exposure on the public streets, or the radiation exposure at work, or was it radiation exposure on the public streets -- that's what this jury is going to say -- it's more likely than not

the exposure they got at CSX's work had some part in the -- causing his cancer, and there's nothing here for them, based upon that point, to do so.

And then the next objection and question is -- the question is not here, but at Page 418.

"I don't think it's really useful in terms of that because it's not a question of how much. You said 'heavy exposure,' so you qualified, but it doesn't really matter how much exposure they had."

"It doesn't matter how much exposure they had" -- so what they get on the street and what they get -- of radiation -- is just as likely to be the cause of his cancer as what they got at the railroad. That's what he just said -- he said "'heavy exposure,' you qualified, but it doesn't really matter how much exposure they had" -- and he has admitted, as he admitted again in his affidavit, they had exposure. And he wants to separate background exposure from something else. I don't know how he does it if it doesn't matter how much. They get exposure on the streets, under the proof in

this record, to asbestos. They get exposure to radiation on the streets.

Now, diesel and cigarettes. Diesel, I would agree at this point there's no proof they have any background exposure to diesel one way or the other.

Then you get to cigarettes. "Any exposure to background raises some risk" -- and everybody agrees with that -- but that's not causation.

And "if X amount or Y amount or ten times X amount, it really doesn't matter" -- that leaves the jury only to speculate as to the amount of exposure to any of this at the railroad -- is it or is it not a cause of his cancer -- that's what you've got to do and say -- even if you say it's some cause, you've got to say it was a combination -- but he just says, oh, he had some exposures no matter where it was, and it all is the -- it doesn't matter how much, it's all the cause. So that leaves them without any way -- the jury -- other than speculating, to say it more likely contributed to -- what he got at the railroad versus what he got anywhere else.

And those are the only two questions and answers that have been addressed today. And there's just no proof to show what the science is, how he goes from he got some everywhere to this exposure at this railroad caused his cancer. It's just not there.

So he will not be allowed to say that the exposure at the railroad caused this gentleman's cancer, based upon the record before me today. Because he's got no science to back it up whatsoever.

Anything else, gentlemen?

MR. JORDAN: Not for me, Your Honor. As far as the *McDaniel* challenge, I think that concluded the *McDaniel* challenge.

THE COURT: I think we only had two things on today. I thought you already said the other one was gone.

MS. YOUNG: No, Your Honor. We do have another matter, if the Court --

THE COURT: Go.

MS. YOUNG: You ready?

THE COURT: Yep.

MR. SHAPIRO: To clarify your ruling, Your Honor. The witness may come live to

trial --

THE COURT: I didn't say anything about that. I said this witness will not be allowed, based upon the record before me, to testify as to any causation in this case. I didn't say live, in person, or sideways. Because I'm dealing with what is he qualified to testify to based upon the science presented here. And I've got to take the science here, not what's presented at a later date. And I've got to take what's before me today to rule on the motion.

(End of Excerpt of Proceedings.)

* * * * * * * * * * * * * *

expert, then, how does 704 apply to him?

MR. RANDY JORDAN: He's clearly not an expert with respect to his treatment, and he can testify all day about his treatment. He can testify about what he observed Mr. Payne going through --

THE COURT: But does that opinion not say that so long as he's giving opinions about his treatment he's not subject to the expert rules?

MR. RANDY JORDAN: He's not -- Dr. Kerns is not giving opinions about his treatment. He's giving opinions that are outside of his treatment. He's giving opinions that nowhere existed in his medical chart, which is a reflection of his treatment of Mr. Payne.

That's what Dr. Weill said: "I've reviewed the medical chart, causation opinions, and 'asbestos,' 'diesel,' 'radiation,' those words are not in his medical chart."

So what happened here was that he was asked to do something different by plaintiff's counsel. He was asked to take it up a step and say, "Dr. Kerns, in addition to giving us your

fact testimony and your opinions about his treatment, we want you to go to another level. We want you to become a specific causation witness, and we want you to consider what we're telling you about his exposures."

Your Honor, when he took that leap and became a specific causation witness, he's judged by rules of an expert.

THE COURT: Well, isn't the fact he had lung cancer an opinion?

MR. RANDY JORDAN: I'm sorry?

THE COURT: Isn't the fact he had lung cancer an opinion?

MR. RANDY JORDAN: It's a medical opinion that's part of his treatment. He can testify to that. But the causation of that is entirely different. They're asking him to say what caused it. And he can say that, if he proves to the Court's satisfaction that it's based on science, that it's based on sound, scientific evidence which is credible.

And if Your Honor read the transcript, and I'm sure you have --

THE COURT: I read every word.

MR. RANDY JORDAN: -- there is nothing

in that transcript where Dr. Kerns says, "I base my opinion that radiation caused this man's cancer on the following" --

THE COURT: Well, he never says that, does he?

MR. RANDY JORDAN: He never says that.

THE COURT: He never says what causes it, does he?

MR. RANDY JORDAN: Yes, sir, he did. He said it was his opinion that asbestos, diesel, and radiation all contributed. That's one of the specific opinions that we're trying to exclude because we say it's based on nothing.

If you look hard -- and, believe me, we looked hard -- to see where he based his causation opinions on science, you can't find it. And that goes against 703 and 704. It makes it -- the Court's inquiry -- very similar to what we did about a week about with respect to Dr. Frank, and the Court kept asking plaintiff's counsel, "Where is the science? Where is the science? Show me where Dr. Frank says he relied on science to get to these opinions."

The same inquiry is appropriate of Dr. Kerns. Where is the science? Well, he doesn't refer to any science, Your Honor, and that's the gap here. He went from being a treating physician to being judged under new rules, and that is the rules of 704 and *McDaniel* which say that you have to say how he arrived at those opinions. He never did. You have to say that they're scientifically valid because of the science that he's referring to. He never did.

And as the Court may recall from our consideration of Dr. Frank, once we challenged their expert's opinions, that shifts the burden to the plaintiff to prove that -- and the case law says they have to prove it by objective and independent means that the testimony was reliable. They haven't done that. There are no affidavits from Dr. Kerns. There are no affidavits from any other physician who reviewed what Dr. Kerns did and said it's valid.

The only independent analysis of what Dr. Kerns did was from the only witness in this hearing, and that's Dr. Weill. And they simply

can't identify a scientific basis for his opinions. As a result, Dr. Kerns was simply speculating on causation, and if the jury hears his testimony, they'll be asked to speculate on causation as well.

We urge the Court to exclude Dr. Kerns's specific causation testimony as not being based on any science. Thank you.

THE COURT: Mr. Gilreath?

MR. GILREATH: Our position is that a differential diagnosis, as Dr. Frank testified, not only applies to clinical diagnoses but also to causation.

THE COURT: What do I do with Dr. Weill's testimony that in medical science differential diagnosis does not relate to determining causation but determines what the patient is suffering from, that's how that word is used? Any medical science -- have you got some expert, some treatise, something that says that's wrong?

MR. GILREATH: Only Dr. Frank who says that --

THE COURT: Only Dr. Frank. And that's the problem.

You know, like I said, if there's one thing clear in this field -- Ha! -- when you deal with 704, that under -- at least in the Tennessee opinions, just saying, "Well, I base my opinion on my experience as a doctor" or "my experience as a physicist" or "my experience as" -- that's not good enough anymore. When this gets challenged under 704 and somebody comes with -- someone says, "No, that's not accepted anywhere in medical science," you've got to come with back with something. Just saying, "Well, because Dr. Frank says so" is not . . .

Okay, anything else, counsel?

MR. RANDY JORDAN: No, Your Honor. Thank you.

THE COURT: I read every word of this good doctor's testimony. The one thing that concerned me is that -- I'm really bothered, worried -- I don't know the word -- in the wording used by our appellate courts in dealing with some of these issues. For instance, is this witness a fact witness or an expert witness? And that's a major difference in evidentiary issues, a major difference in

evidentiary issues. 704 does not apply to fact witnesses. It applies only to expert witnesses.

I think our appellate court opinions' wordings, in all due respect, are unfortunate as to how they worded it. What they started with was a medical malpractice case that came out of this court, where a pathologist did some work on slides, and the question is, what did the patient have and when and so forth. And they went to take that pathologist's deposition, and -- about, you know, what they did, and they started asking the question, well, and, you know, medical standard of care, "Could you have done" -- or "Should you have done this and that with the slide?" and that brought about the opinion. And the end result was, they said that the witness was a fact witness and not an expert witness.

Well, he's an expert because he's always an expert. He's never anything else but an expert, but he was an expert that had a direct, treating relationship with the patient. They're still an expert. But I think the wording could have been worded better to make

clear that they are still an expert and subject to expert rules. And that bothers me.

But I've got objections here to specific pages and lines. As an aside to the plaintiff, in reading this doctor's deposition, Mr. Payne obviously dealt with the situation with dignity, but it ended in his demise. But I've got to deal with the law and how to apply it to the situation at hand.

Page 684, Line 16, through Page 685, Line 18.

" -- the causes of Mr. Payne's lung cancer?"

"Well, you know, there's certainly multiple risk factors that are defined, you know, for lung cancer. Certainly, smoking, I think is number one. There are other risk factors including radiation and radon, which is environmental, and asbestos certainly has been well described, and so" --

Question: "What about exhaust fumes?"

"I think, you know, I became more aware of that with your articles -- as to risk factors."

Page 685, more specifically Line 9:

"Do you have an opinion about whether the workplace carcinogens, as well as cigarette smoking, contributed to cause Mr. Payne's lung cancer?"

"Well, in my opinion, it was very reasonable to expect that it contributed to his development of lung cancer."

"Reasonable to a degree of medical probability?"

"Yes, I think so, in my opinion."

The Court finds there's no medical literature or no medical -- differential diagnosis is not a way to decide -- these are the risk factors as I described in the example I gave to Dr. Weill. You go in with pain in your right lower abdomen. It might be a cracked rib, it might be a pulled muscle, it might be several things, including gallbladder surgery, which I'm having Friday, and that is differential diagnosis. It is not accepted medical -- and no medical evidence has been supplied to me to say that's the way you determine what the man's -- caused him to have lung cancer. Differential diagnosis is to determine what is the situation, what is the

disease or injury from which the patient is suffering, not to diagnose causation. That's a quote/unquote legal issue. It's not part -- the diagnosis. It's a treatment issue.

Yes, the next thing is risk factors. All of the things are risk factors. One exception of the three things we kept harping on, the thing that I mentioned before -- in regard to the previous doctor, Dr. Frank, even though Dr. Weill says it is a minority, there's a minority of thought that any exposure to asbestos is contributory to lung cancer. It doesn't have to be the majority opinion so long as it is an accepted medical opinion.

And so there is a group out there in the -- that as to asbestos exposure is accepted that dose response is not the key issue. As compared to radiation, which as I said before with the experts we have, everybody agrees that there's a minimum dose that you've got to show to fit that diagnosis, which this doctor never considers. There's a minimum dose as to diesel fumes that this doctor has never considered -- and which is in his deposition.

Page 686, Line 19, through 687. It is

as follows: "Did you agree" -- Page -- Line 19. "Did you engage in differential diagnosis to arrive at the opinion that just" -- start all over. "Did you engage in a differential diagnosis in order to arrive at the" -- start all over. "Did you engage in a differential diagnosis in order to arrive at that opinion that you just provided us about the things contributing to his lung cancer? Did you rule out other things?"

Answer: "Help me a little bit."

"Well, in other words, were there any other factors, besides the ones you just described to the jury" --

Answer: "Besides smoking?"

"No, besides all the ones you expressed to the jury, were there any other that you ruled out, that you thought about?"

"No, I don't think so."

I sustain the objection.

Line [*sic*] 689. Line 11.

MR. SHAPIRO: You skipped one question and answer that he objected to.

THE COURT: Pardon?

MR. SHAPIRO: The defense objected to

the next question and answer also, on 687, I believe.

THE COURT: 687 through Line 17 is the objection.

MR. SHAPIRO: Oh --

MR. RANDY JORDAN: Yes.

MR. SHAPIRO: -- got it.

THE COURT: I'm sorry.

MR. SHAPIRO: You just didn't read it. Okay.

THE COURT: I'm sorry. I'm sorry. Did I not make that clear?

MR. SHAPIRO: Got it.

THE COURT: No, it's -- I'm sorry. I sustain the entire -- it's the same thing. You're correct, it's the same thing all over again.

689, Line 11, through 689, Line 22: Overruled. I don't see anything in that that relates to this issue.

MR. GILREATH: It doesn't.

THE COURT: I don't know that it helps us any, but it says 90 percent of all cigarette smoking -- caused by lung cancer, but I don't think it relates to the issue we're dealing

with, unless I'm missing something. I don't think so.

All right, 693, 9 through 11: Overruled. That's not related. That's his opinion. That's his basis of his opinion. Now, the opinions about what caused come out. But that's -- there's nothing about that that would come out.

Prepare your order on that motion.

Let me say why the Court had some difficulty. I have a daughter who's dealing with this issue.

The next motion. CSX omnibus motion in limine, references to other employees' injuries.

MR. BAKER: Your Honor, may I ask a quick question --

THE COURT: Sure.

MR. BAKER: -- for clarification?

On Kerns, Page 684, Lines 16 through 25, and Page 685, Lines 1 through 18, those objections are sustained, are they not?

THE COURT: What I sustained was all but, I think, the last two.

MR. BAKER: Okay. Thank you.

THE COURT: 689, 11 -- I'll go back again.

MR. BAKER: You don't need to, Your Honor.

THE COURT: The one where he's asking about what did you ask him in a previous deposition and the one about were his opinions in the deposition to a reasonable degree of medical certainty are the two I overruled. I sustained the other two, I think.

MR. BAKER: Yes, you did, Your Honor.

(End of Excerpt of Proceedings.)

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IN THE CIRCUIT COURT FOR KNOX COUNTY, TENNESSEE

ANNE, PAYNE, widow of WINSTON PAYNE, deceased,

Plaintiff,

vs.

CSX TRANSPORTATION, INC.,

Defendant.

FILED Kq.
2012 OCT 26 AM 9 27
CATHERINE F. QUIST
CIRCUIT COURT CLERK

No.: 2-231-07
Jury Demand

ORDER ON DEFENDANT, CSX TRANSPORTATION, INC.'S MOTIONS IN LIMINE TO EXCLUDE EXPERT TESTIMONY

The Defendant, CSX Transportation, Inc.'s Motions in Limine to exclude the expert testimony of Plaintiff's experts, Daniel Mantooth, Leonard Vance, and Dr. Arthur Frank, came on for evidentiary hearing consistent with the Court's gate keeping function on October 5, 2012. The Honorable Dale Workman, Circuit Judge, after considering the Motions, the Memorandums and Exhibits in support of the Motions, Plaintiff's reply to the Motions, agreements reached between the parties on the Motion relating to Leonard Vance, live testimony from expert witnesses David Dooley, Ph.D., and David Weill, M.D., presented at the October 5, 2012 hearing, together with specific page and line questions and answers from the former trial testimony of witnesses, and the argument of counsel, and pursuant to Tennessee Rules of Evidence 702 and 703, holds as follows:

(1) Daniel Mantooth: It is ORDERED that any and all testimony of Plaintiff's health physicist expert, Daniel Mantooth, suggesting that Mr. Payne's work place exposures to radiation was harmful or unsafe is excluded including, but not limited to, striking the witnesses' former testimony as follows:

Page 904, Line 15 of the Trial Transcript, the words *"of unsafe"* is excluded and are stricken from the question.

Page 905, Lines 1-5 of the Trial Transcript is excluded and stricken and will not be read to the jury as follows: *"And since .. - - so previously discussed the fact that there hasn't really been a lower threshold on radiation's exposure, what is safe and what is not safe, then you could infer that that was an unsafe level of radiation exposure."*

Furthermore, Page 940 of the Trial Transcript, Line 21-25 and Page 941, Lines 1-4 are excluded and stricken.

(2) Leonard Vance: By agreement, Page 537, Lines 16 through 18 of the Trial Transcript, is stricken and will not be read to the jury as follows: *"Particularly with respect to the locomotive cab, I think that there were injurious levels of exposure.:*

By agreement, Page 539 , Line 15, it is ORDERED the words *"unsafe level of"* and Line 22 and 23, the words *"It's my opinion that he was exposed to injurious levels of diesel exhaust"* are stricken and will not be read to the jury.

(3) Dr. Arthur Frank: It is ORDERED Dr. Frank will not be allowed to testify at the trial of this case on either the issue of specific medical causation or on the levels or extent of the exposures to asbestos, diesel exhaust or radiation Mr. Payne may have had at CSXT. Dr. Frank will not be allowed to testify that the exposure of Mr. Payne at the railroad to radiation, asbestos, and/or diesel fumes, caused or contributed to cause Mr. Payne's cancer. The Court, in reaching this holding, considered and sustained the Defendant's Objections to Dr. Frank's testimony at Page 385, Line 8 to 386, Line 2 and Pages 417, Line 24 to 418, Line 15. The Court will entertain further page and line objections of Dr. Frank's prior testimony in this case as they are presented to the Court, consistent with the Court's exclusion of specific medical causation and exposure levels testimony.

Excerpts from the Court's rulings on these Motions are attached to this Order and incorporated herein by reference.

Enter this 26 day of October, 2012.

The Honorable Dale Workman
Circuit Court Judge

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ATTORNEYS FOR DEFENDANT, CSX TRANSPORTATION, INC.

IN THE CIRCUIT COURT FOR KNOX COUNTY, TENNESSEE

ANNE, PAYNE, widow of WINSTON PAYNE, deceased,

Plaintiff,

vs.

CSX TRANSPORTATION, INC.,

Defendant.

FILED
2012 OCT 26 AM 9 27
CATHERINE F. QUIST
CIRCUIT COURT CLERK

No.: 2-231-07
Jury Demand

ORDER

The Defendant, CSX Transportation, Inc.'s ("CSXT") Motion to Exclude Specific Causation Testimony of Dr. Ross Kerns came on for evidentiary hearing consistent with the Court's gate-keeping function, on October 16, 2012. The Honorable Dale Workman who, after considering the Motion and Supporting Memorandum of Law, Exhibits attached thereto, Plaintiff's Motion to Utilize Former 2012 Trial Testimony of Dr. Ross Kerns, the testimony of Dr. David Weill at the 10-16-12 hearing, the Exhibits to Dr. Weill's hearing testimony, the argument of counsel, specific Page and Line objections, and pursuant to the Tennessee Rules of Evidence 702 and 703, holds as follows:

It is ORDERED that Dr. Kerns will not be allowed to offer specific medical causation testimony that Mr. Payne's alleged exposures at his railroad work environment to radiation, asbestos and/or diesel fumes, caused or contributed to cause Mr. Payne's cancer. Further, as to Defendant's specific objections to the 2010 trial testimony of Dr. Kerns, the Court rules as follows:

(a) SUSTAINS Defendant's objection to Dr. Kern's trial testimony, Page 684, Line 16 to Page 685, Line 18;

(b) SUSTAINS Defendant's objection to Page 686, Line 19 to Page 687, Line 17;

(c) OVERRULES Defendant's objections to Page 689, Line 11 to Page 689, Line 22; and

(d) OVERRULES Defendant's objections to Page 693, Line 9 to Page 693, Line 11.

Enter this 26 day of October, 2012.

The Honorable Dale Workman
Circuit Court Judge

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IN THE CIRCUIT COURT FOR KNOX COUNTY, TENNESSEE

ANNE, PAYNE, widow of WINSTON PAYNE, deceased,

Plaintiff,

vs.

CSX TRANSPORTATION, INC.,

Defendant.

FILED
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CATHERINE F. QUIST
CIRCUIT COURT CLERK

No.: 2-230-07
Jury Demand

ORDER

On October 16, 2012, Plaintiff's Motion for Reconsideration of the Court's Order that Dr. Arthur Frank would not be permitted to provide any medical causation opinions as to whether radiation, asbestos and diesel fumes caused or contributed to the Plaintiff's decedent's lung cancer, came on for hearing before the Honorable Dale Workman who, after considering the Motion, the Defendant's Response to the Motion and the argument of counsel, found that the Motion was not well taken and accordingly, it is ORDERED that it is OVERRULED and DENIED.

Enter this 26 day of October, 2012.

The Honorable Dale Workman
Circuit Court Judge

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IN THE CIRCUIT COURT FOR KNOX COUNTY, TENNESSEE

ANNE PAYNE, widow of WINSTON PAYNE, deceased

Plaintiff,

vs.

CSX TRANSPORTATION, INC.,

Defendant.

FILED
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CATHERINE F. QUIST
CIRCUIT COURT CLERK

No.: 2-231-07

ORDER DENYING PLAINTIFF'S MOTION FOR RECONSIDERATION AS TO EXCLUSION OF MEDICAL CAUSATION OPINIONS OF DR. KERNS

The Court, having considered Plaintiff's Motion for Reconsideration As to Exclusion of Medical Causation Opinions of Dr. Kerns, seeking reconsideration of the Court's Order granting CSX Transportation Inc.'s Motion to Exclude Specific Causation Testimony of Dr. Ross Kerns, and having considered Defendant's Response to the Motion, the Court finds that Plaintiff's Motion is not well taken. Accordingly, it is ORDERED that it is OVERRULED and DENIED.

IT IS SO ORDERED, this 2 day of November, 2012. at 10:17 a.m.

The Honorable Dale Workman
Circuit Court Judge

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IN THE CIRCUIT COURT FOR KNOX COUNTY, TENNESSEE

ANNE PAYNE, widow of WINSTON PAYNE, deceased

Plaintiff,

vs.

CSX TRANSPORTATION, INC.,

Defendant.

FILED
2012 NOV 2 AM 10 19
CATHERINE F. QUIST
CIRCUIT COURT CLERK

No.: 2-231-07

ORDER GRANTING DEFENDANT'S MOTION FOR SUMMARY JUDGMENT

Upon full consideration by the Court of CSX Transportation, Inc.'s ("CSXT") Motion for Summary Judgment, Memorandum in Support of Motion, Statement of Undisputed Material Facts, and Plaintiff's Opposition to Defendant's Motion for Summary Judgment, the Court makes the following findings and conclusions of law.

1. Plaintiff sues CSXT under the Federal Employers' Liability Act, 45 U.S.C.A. §§ 51, *et seq.* ("FELA")[1] claiming that CSXT negligently exposed her decedent, Mr. Winston Payne, to asbestos, diesel exhaust, and ionizing radiation during his employment with CSXT, and that such exposures caused or contributed to his development of cancer and eventual death.
2. This Court, pursuant to Rules 702 and 703 of the Tennessee Rules of Evidence, and the requirements of those rules as set forth in applicable Tennessee case law, has previously excluded the specific medical causation testimony of Plaintiff's experts, Dr. Arthur Frank and Dr. Ross Kerns.
3. Pursuant to Tennessee Rule of Civil Procedure 56, CSXT moves for summary judgment on the ground that Plaintiff cannot prove that Mr. Payne's alleged occupational exposure to

[1] As part of her FELA claim, Plaintiff also alleges that CSXT violated the Locomotive Boiler Inspection Act and certain related federal safety regulations, and that said violations constitute negligence per se under her FELA claim.

radiation, diesel exhaust, and asbestos caused or contributed to his injuries, which is a required element of Plaintiff's FELA claim.

4. Plaintiff filed a Response in Opposition in which she opposes CSXT's Motion for Summary Judgment. Plaintiff admits that this Court excluded the specific medical causation testimony of Drs. Frank and Kerns, and further admits that, as a result of those rulings, she has no other expert testimony of specific medical causation connecting Mr. Payne's injuries to alleged exposures to asbestos, diesel exhaust and/or radiation in his CSXT work environment. In her Response in Opposition, Plaintiff does not assert any other basis by which to satisfy the causation element of her claim.

5. Plaintiff has waived the thirty-day time period provided in Tennessee Rule of Civil Procedure Rule 56 within which to respond to CSXT's Motion for Summary Judgment. CSXT's Motion for Summary Judgment is therefore ripe for consideration by this Court.

WHEREFORE this Court finds and concludes that, in the absence of competent proof that exposures to asbestos, diesel exhaust, and/or ionizing radiation caused or contributed to the injuries suffered by Plaintiff's decedent, Plaintiff cannot prove an essential element of her FELA claim. There being no genuine issue of material fact as to specific medical causation, the Court GRANTS summary judgment to CSXT.

Accordingly, it is ORDERED, ADJUDGED and DECREED that the Plaintiff's Complaint be, and the same hereby is dismissed with full prejudice with the Court's Statement of Costs to be taxed against the Plaintiff for the collection of which execution may issue, if necessary.

IT IS SO ORDERED, this 2 day of November, 2012. at 10:18 am

The Honorable Dale Workman
Circuit Court Judge

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ATTORNEYS FOR DEFENDANT, CSX TRANSPORTATION, INC.

IN THE COURT OF APPEALS OF TENNESSEE
AT KNOXVILLE
September 16, 2013 Session

ANNE PAYNE v. CSX TRANSPORTATION, INC.

Appeal from the Circuit Court for Knox County
No. 2-231-07 Harold Wimberly, Judge

No. E2012-02392-COA-R3-CV-FILED-DECEMBER 27, 2013

Winston Payne brought this action against his former employer, CSX Transportation, Inc., under the Federal Employers' Liability Act ("FELA"), alleging that CSX negligently exposed him to asbestos, diesel fumes, and radioactive materials in the workplace causing his injuries.[1] The jury returned a verdict finding (1) that CSX negligently caused Payne's injuries; (2) that CSX violated the Locomotive Inspection Act or safety regulations regarding exposure to asbestos, diesel fumes, and radioactive materials; and (3) that Payne's contributory negligence caused 62% of the harm he suffered. The jury found that "adequate compensation" for Payne's injuries was $8.6 million. After the jury returned its verdict, the trial court, *sua sponte*, instructed the jury, for the first time, that, under FELA, its finding that CSX violated a statute or regulation enacted for the safety of its employees meant that plaintiff would recover 100% of the damages found by the jury. The court sent the jury back for further deliberations. It shortly returned with an amended verdict of "$3.2 million @ 100%." Six months after the court entered judgment on the $3.2 million verdict, it granted CSX's motion for a new trial, citing "instructional and evidentiary errors." The case was then assigned to another trial judge, who thereafter granted CSX's motion for summary judgment as to the entirety of the plaintiff's complaint. The second judge ruled that the causation testimony of all of plaintiff's expert witnesses was inadmissible. We hold that the trial court erred in instructing the jury, *sua sponte*, on a purely legal issue, *i.e.*, that the jury's finding of negligence per se under FELA precluded apportionment of any fault to the plaintiff based upon contributory negligence, an instruction given after the jury had returned a verdict that was complete, consistent, and based on the instructions earlier provided to it by the trial court. We further hold that, contrary to the trial court's statements, the court did not make any prejudicial evidentiary rulings in conducting the trial, and that its jury instructions, read as a whole, were clear, correct, and complete. Consequently, the trial court erred in granting a new trial. We remand to the trial court. We direct the first trial judge to

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[1]The primary illness was lung cancer from which the original plaintiff died. We refer in this opinion to his health issues as "injuries" or "injury."

review the evidence as thirteenth juror and determine whether the jury verdict in the amount of $8.6 million is against the clear weight of the evidence. If it is not, the trial judge is directed to enter judgment on that verdict. If, on the other hand, the trial judge finds that the larger verdict is against the clear weight of the evidence, the court is directed to enter a final judgment on the jury's verdict of $3.2 million. The trial court's grant of summary judgment is rendered moot by our judgment. However, in the event the Supreme Court determines that our judgment is in error, we hold that the grant of summary judgment was not appropriate.

Tenn. R. App. P. 3 Appeal as of Right; Judgment of the Circuit Court Reversed; Case Remanded with Instructions

CHARLES D. SUSANO, JR., P.J., delivered the opinion of the Court, in which THOMAS R. FRIERSON, II, J., and D. KELLY THOMAS, SP.J, joined.

Richard N. Shapiro, Virginia Beach, Virginia; Sidney W. Gilreath and Cary L. Bauer, Knoxville, Tennessee, for the appellant, Anne Payne.

Randall A. Jordan, Karen Jenkins Young, and Christopher R. Jordan, St. Simons Island, Georgia; Evan M. Tager and Carl J. Summers, Washington, D.C.; John W. Baker, Jr. and Emily L. Herman-Thompson, Knoxville, Tennessee, for the appellee, CSX Transportation, Inc.

OPINION

I.

Payne worked for CSX as a trainman and a switchman from 1962 until his retirement in 2002. In 2005, he was diagnosed with lung cancer. He underwent extensive medical treatment, including 43 rounds of chemotherapy and 44 radiation treatments. He filed this FELA action in 2007, alleging that CSX was negligent in exposing him to asbestos, diesel fumes, and radioactive material in the course of his employment, resulting in his injuries, particularly his lung cancer. He also alleged that CSX was guilty of negligence per se when it violated several statutes or regulations enacted for the safety of its employees. CSX denied liability and alleged that Payne's contributory negligence, specifically his cigarette smoking, caused his injuries. Payne started smoking in 1962, smoked a pack a day on average for approximately 26 years, and quit in 1988. After Payne died on February 24, 2010, his widow, Anne Payne, was substituted as plaintiff.

A ten-day jury trial took place over the course of two weeks in November 2010. After the close of proof, the trial court instructed the jury and provided it with a verdict form

including special interrogatories. To aid the reader, the jury verdict form is hereinafter set forth in its entirety, with the jury's handwritten answers in italics:

1. Was the defendant negligent as defined in these instruction[s]? *Yes*

2. If you answered yes to question one, did that negligence cause in whole or in part the harm suffered by plaintiff? *Yes*

3. If negligent, was the defendant negligent with regard to:

Asbestos exposure? *Yes*
Diesel exposure? *Yes*
Radiation exposure? *Yes*

If your answer to any of these is yes, did negligence of the defendant cause in whole or in part the harm suffered by plaintiff as a result of:

Asbestos exposure *Yes*
Diesel exposure *Yes*
Radiation exposure *Yes*

4. A. Did the defendant violate the Locomotive Inspection Act or any regulation concerning locomotives read to you regarding asbestos and was any such violation a legal cause of plaintiff's harm? *Yes*

B. Did the defendant violate the Locomotive Inspection Act or any regulation concerning locomotives read to you regarding diesel fumes and was any such violation a legal cause of plaintiff's harm? *Yes*

C. Did the defendant violate any regulation read to you regarding the operation of railroad cars and transportation of radioactive materials read to you and was any such violation a legal cause of harm suffered by plaintiff? *Yes*

5. If you answered yes to question two, was plaintiff negligent with regard to harm he suffered and did his negligence cause in whole or in part the harm he suffered? *Yes*

6. If your answer to question five is yes, to what extent, expressed in percentage, did plaintiff's negligence cause in whole or in part the harm he suffered? *62%*

7. What amount of money do you find, without deduction for any negligence which you may find on plaintiff's part, will fairly represent adequate compensation? $ *8.6 million*

When the jury returned to the courtroom following its deliberations, the following colloquy took place between the trial court and the jury foreman:

THE COURT: If you will refer to the verdict, you can tell me briefly. Question No. 1, was the defendant negligent as defined in these instructions?

JURY FOREMAN: Yes.

THE COURT: Question No. 2, did that negligence cause, in whole or in part, the harm suffered by the plaintiff?

JURY FOREMAN: Yes.

THE COURT: Question No. 3, was the defendant negligent with regard to asbestos exposure?

JURY FOREMAN: Yes.

THE COURT: With regard to diesel exposure?

JURY FOREMAN: Yes.

THE COURT: With regard to radiation exposure?

JURY FOREMAN: Yes.

THE COURT: Did the negligence of the defendant cause, in whole or in part, the harm suffered by plaintiff as a result of asbestos exposure?

JURY FOREMAN: Yes.

THE COURT: Diesel exposure?

JURY FOREMAN: Yes.

THE COURT: Radiation exposure?

JURY FOREMAN: Yes.

THE COURT: Did the defendant violate the Locomotive Inspection Act or any regulation concerning locomotives regarding asbestos, and was any such violation a legal cause of the plaintiff's harm?

JURY FOREMAN: Yes.

THE COURT: Did the defendant violate the Locomotive Inspection Act or any regulation concerning locomotives regarding diesel fumes, and was any such violation a legal cause of the plaintiff's harm?

JURY FOREMAN: Yes.

THE COURT: Did the defendant violat[e] any regulation regarding the operations of railroad cars and transportation of radioactive materials, and was any such violation a legal cause of harm suffered by the plaintiff?

JURY FOREMAN: Yes.

THE COURT: Question 5, was the plaintiff negligent with regard to the harm he suffered?

JURY FOREMAN: Yes.

THE COURT: Your answer was yes. To what extent, expressed in percentages, did the plaintiff's negligence cause, in whole or in part, the harm that he suffered?

JURY FOREMAN: 62 percent.

THE COURT: *And finally, what amount of money do you find, without deduction for any [of] the negligence, that would fairly represent adequate compensation in this case?*

JURY FOREMAN: 8.6 million.

(Emphasis added.)

Immediately after the jury foreman confirmed the jury's written responses establishing the plaintiff's total damages at $8.6 million, the following took place:

THE COURT: Okay. Now, let me further inform you that by answering yes to questions listed on this form in Part 4 about the Inspection Act or any regulations, by answering yes to all of those questions, the concept of contributory negligence may not apply in this case. In that situation, the plaintiff would receive the entire amount of money that you have listed on the answers to the seventh question. If that is what you intend in this particular case, please indicate by raising your right hand?

(Jury foreman raised hand).

THE COURT: Okay. That is something that we hadn't talked about before, but . . . we need to know if that is your intention. Again, by answering yes to the questions listed under Part 4 of the verdict form, the effect of yes answers there is that the recovery would be 100 percent of the amount listed on the response to Question 7.

* * *

THE COURT (to the jury): What is your feeling now?

JURY FOREMAN: Could we have a moment to discuss that?

THE COURT: All right.
(Jury dismissed from courtroom at 4:05 p.m.)
(Jury returned to courtroom at 4:13 p.m.)

> THE COURT: Based on a previous discussion, [jury foreman] Mr. Alexander, it is the intention of the jury that the plaintiff recover a total amount of what?
>
> JURY FOREMAN: $3.2 million.
>
> THE COURT: If everyone agrees with that, raise your right hand. The jury has raised their right hand indicating that's their feeling in this particular case.

The amended verdict form returned by the jury after the jury's eight-minute further deliberation had a handwritten line through the "8.6 million" amount and a handwritten notation of "3.2 million @ 100%."

On March 7, 2011, the trial court entered judgment against CSX in the amount of $3.2 million in compensatory damages. CSX moved under Tenn. R. Civ. P. 50.02 for judgment notwithstanding the verdict, or, in the alternative, for a new trial. The trial court conducted a hearing on CSX's motion on August 19, 2011. At the end of the hearing, the court stated as follows:

> The Court has come to this conclusion, that the motion for new trial is warranted. I hate to admit this because a lot of the problems come back to me, but in particular the jury instructions I feel were incomplete, therefore insufficient and inadequate and incorrect. This was illustrated graphically by their response and what we had to do to try to understand what they meant.
>
> During the trial itself I agree that there were too many things that had been ruled improperly for the jury to consider that were considered and presented to the jury, and probably the worst of those was when we started talking about this thyroid cancer which he apparently didn't have. The Court took it upon itself to make a comment about that and made a comment which could well have been misinterpreted. I just made – did not express what I tried to express by saying that is not part of this lawsuit. It could be understood that he actually had that and it was not being considered now.
>
> I deeply regret what I just said because, you know, I like to get cases over with, but at the same time I feel that this one was

> probably not handled appropriately and needs to be handled again, whether by me or somebody else. So that's the extent of what I want to say today.

The trial court entered an order on September 6, 2011, granting CSX a new trial and stating that "[t]he Court makes this decision based upon specific prejudicial errors including, but not limited to, instructional and evidentiary errors that resulted in an injustice to Defendant and, *independent of considerations regarding sufficiency of the evidence*, warrant a new trial." (Emphasis added.) The case was subsequently transferred to another Knox County circuit court judge, the Honorable Dale C. Workman. Judge Workman granted CSX's motion to exclude the causation testimony of Dr. Arthur Frank and Dr. Ross Kerns, both of whom had testified as causation experts before the jury. When the plaintiff acknowledged that Drs. Frank and Kerns were her only witnesses on the issue of causation, Judge Workman granted CSX's motion for summary judgment on the ground that there was no expert testimony establishing causation, and dismissed the case. Plaintiff timely filed a notice of appeal.

II.

Plaintiff raises the issues of whether the trial court erred in: (1) further instructing the jury and permitting it to further deliberate after it had returned a proper verdict; (2) granting CSX a new trial; and (3) granting CSX summary judgment and dismissing the complaint. CSX does not raise any separate issues. The sufficiency of the evidence to support the jury's verdict(s) is not before us.

III.

We first address the trial court's jury instructions. The trial court instructed the jury in accordance with FELA, the federal statute that provides a cause of action for employees of railroads engaged in interstate commerce who are injured on the job. *See* 45 U.S.C.A. § 51; *see also* ***Spencer v. Norfolk S. Rwy. Co.***, No. E2012-01204-COA-R3-CV, 2013 WL 3946118 at *1, n.1 (Tenn. Ct. App. E.S., filed July 29, 2013). In ***Spencer***, this Court recently reiterated the following background and principles governing a FELA claim:

> "The impetus for the [Federal Employers' Liability Act ("FELA"), 45 U.S.C.A. §§ 51–60] was that throughout the 1870's, 80's, and 90's, thousands of railroad workers were being killed and tens of thousands were being maimed annually in what came to be increasingly seen as a national tragedy, if not a national scandal." ***CSX Transp., Inc. v. Miller***, 159 Md. App. 123, 858 A.2d 1025, 1029 (Md. Ct. Spec. App. 2004). "In

response to mounting concern about the number and severity of railroad employees' injuries, Congress in 1908 enacted FELA to provide a compensation scheme for railroad workplace injuries, pre-empting state tort remedies." ***Norfolk S. Ry. Co. v. Sorrell***, 549 U.S. 158, 165, 127 S.Ct. 799, 166 L.Ed.2d 638 (2007) (citing ***Second Employers' Liability Cases***, 223 U.S. 1, 53-55, 32 S.Ct. 169, 56 L.Ed. 327 (1912)). FELA was passed to extend statutory protection to railroad workers because of the high rate of injury to workers in that industry. ***Blackburn v. CSX Transp., Inc.***, No. M2006-01352-COA-R10-CV, 2008 Tenn. App. LEXIS 336, 2008 WL 2278497, at *8 (Tenn. Ct. App. May 30, 2008); ***Reed v. CSX Transp., Inc.***, No. M2004-02172-COA-R3-CV, 2006 Tenn. App. LEXIS 620, 2006 WL 2771029, at *2 (Tenn. Ct. App. Sept. 26, 2006). "In adopting FELA, Congress created a remedy that 'shifted part of the human overhead of doing business from employees to their employers.' " ***Pomeroy v. Ill. Cent. R.R. Co.***, No. W2004-01238-COA-R3-CV, 2005 Tenn. App. LEXIS 294, 2005 WL 1217590, at *9 (Tenn. Ct. App. May 19, 2005) (quoting ***Consol. Rail Corp. v. Gottshall***, 512 U.S. 532, 542, 114 S.Ct. 2396, 129 L.Ed.2d 427 (1994)). Congress recognized that the railroad industry was better able to shoulder the cost of industrial injuries and deaths than were injured workers or their families. ***Miller***, 159 Md. App. at 131, 858 A.2d 1025 (citing ***Kernan v. Am. Dredging Co.***, 355 U.S. 426, 431-32, 78 S.Ct. 394, 2 L.Ed. 2d 382 (1958)). "[FELA] was designed to put on the railroad industry some of the cost for the legs, eyes, arms, and lives which it consumed in its operations." ***Pomeroy***, 2005 Tenn. App. LEXIS 294, 2005 WL 1217590, at * 17 (quoting ***Wilkerson v. McCarthy***, 336 U.S. 53, 68, 69 S.Ct. 413, 93 L.Ed. 497 (1949) (Douglas, J., concurring)). The Federal Employers' Liability Act provides, in relevant part:

> Every common carrier by railroad while engaging in commerce . . . shall be liable in damages to any person suffering injury while he is employed by such carrier in such commerce . . . for such injury or death resulting in whole or in part from the negligence of any of the officers, agents, or employees of such carrier, or by reason of any defect or insufficiency, due to its negligence, in

> its cars, engines, appliances, machinery, track, roadbed, works, boats, wharves, or other equipment.

45 U.S.C.A. § 51. The statute is broad and remedial, and it is to be liberally construed in order to accomplish the aforementioned purposes. ***Blackburn***, 2008 Tenn. App. LEXIS 336, 2008 WL 2278497, at *8; ***Reed***, 2006 Tenn. App. LEXIS 620, 2006 WL 2771029, at *2.

"Unlike a typical workers' compensation scheme, which provides relief without regard to fault, Section 1 of FELA provides a statutory cause of action sounding in negligence. . . ." ***Sorrell***, 549 U.S. at 165. Under FELA, the railroad-employer's liability is premised upon its negligence. ***Reed***, 2006 Tenn. App. LEXIS 620, 2006 WL 2771029, at *2. In order to recover, an employee must show:

> (1) that an injury occurred while the employee was working within the scope of his employment;
>
> (2) that the employment was in the furtherance of the railroad's interstate transportation business;
>
> (3) that the employer railroad was negligent; and
>
> (4) that the employer's negligence played some part in causing the injury.

Id. (*citing* ***Jennings v. Ill. Cent. R.R. Co.***, 993 S.W.2d 66, 69-70 (Tenn. Ct. App. 1998)). . . . FELA does not define negligence. ***Id.*** When considering whether an employer was negligent under FELA, "courts are to analyze the elements necessary to establish a common law negligence claim." ***Id.*** (*citing* ***Adams v. CSX Transp., Inc.***, 899 F.2d 536, 539 (6th Cir. 1990); ***Davis v. Burlington Northern, Inc.***, 541 F.2d 182 (8th Cir. 1976), cert. denied, 429 U.S. 1002, 97 S.Ct. 533, 50 L.Ed. 2d 613 (1976)). The issue of negligence is to be determined "by the common law principles as established and applied in federal courts." ***Reed***, 2006 Tenn. App. LEXIS 620, 2006 WL 2771029, at *2

(citations omitted). Thus, the plaintiff must prove the traditional elements of negligence: duty, breach, foreseeability, and causation. ***Id.*** (citing ***Robert v. Consol. Rail Corp.***, 832 F.2d 3, 6 (1st Cir. 1987)). However, FELA deviated from the common law by abolishing the railroad's common law defenses of assumption of the risk, § 54, and it rejected contributory negligence in favor of comparative negligence, § 53. ***Sorrell***, 549 U.S. at 166, 168. In FELA cases, an employee's negligence does not bar relief, but the employee's recovery is diminished in proportion to his fault. ***Id.*** at 166.

"Under FELA, the employer railroad has a duty to provide a reasonably safe workplace." ***Reed***, 2006 Tenn. App. LEXIS 620, 2006 WL 2771029, at *3 (citing ***Bailey v. Cent. Vt. Ry.***, 319 U.S. 350, 352, 63 S.Ct. 1062, 1062, 87 L.Ed. 1444 (1943); ***Ulfik v. Metro-North Commuter R.R.***, 77 F.3d 54, 58 (2d Cir.1996); ***Adams***, 899 F.2d at 539). This does not mean that the railroad has the duty to eliminate all workplace dangers, but it does have the "duty of exercising reasonable care to that end." ***Van Gorder v. Grand Trunk W. R.R., Inc.***, 509 F.3d 265, 269 (6th Cir. 2007) cert. denied, 555 U.S. 994, 129 S.Ct. 489, 172 L.Ed. 2d 356 (2008) (citing ***Baltimore & Ohio S. W.R. Co. v. Carroll***, 280 U.S. 491, 496, 50 S.Ct. 182, 74 L.Ed. 566 (1930)). "A railroad breaches its duty to its employees when it fails to use ordinary care under the circumstances or fails to do what a reasonably prudent person would have done under the circumstances to make the working environment safe." ***Id.*** (citing ***Tiller v. Atl. C.L.R. Co.***, 318 U.S. 54, 67, 63 S.Ct. 444, 87 L.Ed. 610 (1943); ***Aparicio v. Norfolk & W. Ry.***, 84 F.3d 803, 811 (6th Cir. 1990)). In other words, "a railroad breaches its duty when it knew, or by the exercise of due care should have known that prevalent standards of conduct were inadequate to protect the plaintiff and similarly situated employees." ***Id.*** at 269-70 (internal quotations omitted).

Spencer, 2013 WL 3946118 at *1-2 (footnotes omitted) (quoting ***Jordan v. Burlington N. Santa Fe R.R. Co.***, No. W2007-00436-COA-R3-CV, 2009 WL 112561 at *5-6 (Tenn. Ct. App. W.S., filed Jan. 15, 2009)).

As already stated, CSX asserted the defense of contributory negligence. FELA provides as follows regarding contributory negligence:

> In all actions on and after April 22, 1908 brought against any such common carrier by railroad under or by virtue of any of the provisions of this chapter to recover damages for personal injuries to an employee, or where such injuries have resulted in his death, the fact that the employee may have been guilty of contributory negligence shall not bar a recovery, but the damages shall be diminished by the jury in proportion to the amount of negligence attributable to such employee: *Provided*, That no such employee who may be injured or killed shall be held to have been guilty of contributory negligence in any case where the violation by such common carrier of any statute enacted for the safety of employees contributed to the injury or death of such employee.

45 U.S.C.A. § 53 (italics in original). Plaintiff did not argue that decedent Payne was not contributorily negligent to some extent by virtue of his years of smoking. Rather, the plaintiff asserted that the FELA's proviso quoted above, allowing for a full recovery notwithstanding contributory negligence if the defendant violated "any statute enacted for the safety of employees," applied because CSX violated the Locomotive Inspection Act[2] and

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[2] The Locomotive Inspection Act is codified at 49 U.S.C.A. § 20701 and provides in pertinent part:

> A railroad carrier may use or allow to be used a locomotive or tender on its railroad line only when the locomotive or tender and its parts and appurtenances–
>
> (1) are in proper condition and safe to operate without unnecessary danger of personal injury;
>
> (2) have been inspected as required under this chapter and regulations prescribed by the Secretary of Transportation under this chapter; and
>
> (3) can withstand every test prescribed by the Secretary under this chapter.

various safety regulations[3] enacted or promulgated for employees' safety. The United States Supreme Court recognized nearly a century ago that, under FELA,

> contributory negligence on the part of the employee does not operate even to diminish the recovery where the injury has been occasioned in part by the failure of the carrier to comply with the exactions of an act of Congress enacted to promote the safety of employees. In that contingency the statute abolishes the defense of contributory negligence, not only as a bar to recovery, but for all purposes.

Grand Trunk W. Ry. Co. v. Lindsay, 233 U.S. 42, 49-50 (1914). The federal courts have referred to a violation of a statute or regulation enacted for the safety of employees as "negligence per se." *See, e.g.*, ***Ries v. Nat'l R.R. Passenger Corp.***, 960 F.2d 1156, 1158-59 (3rd Cir. 1992); ***Walden v. Ill. Cent. Gulf R.R.***, 975 F.2d 361, 364 (7th Cir. 1992).

In this case, the trial court instructed the jury with respect to the issue of contributory negligence prior to its initial deliberations; but the court did not inform the jury of the legal effect of a finding that CSX was guilty of negligence per se. Neither side requested a jury instruction on negligence per se, and neither side objected at any time to the lack of such an instruction. On appeal, neither side has provided any legal authority suggesting that a jury instruction is required on the FELA's provision regarding negligence per se, *i.e.*, that, as a matter of law, "no such employee who may be injured or killed shall be held to have been guilty of contributory negligence in any case where the violation by such common carrier of any statute enacted for the safety of employees contributed to the injury or death of such employee." 45 U.S.C.A. § 53. Plaintiff, noting that the jury's second damage award of "$3.2 @ 100%" is reduced by roughly 62% of its initial damage award of $8.6 million, argues that the trial court, by its instruction after the jury returned its verdict, essentially invited the jury to nullify FELA's 45 U.S.C.A. § 53 provision ("Section 53"). Plaintiff cites ***Shepard v. Grand Trunk W. R.R.***, No. 92711, 2010 WL 1712316 (Ohio Ct. App., filed Apr. 29, 2010),

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[3] FELA provides that certain safety regulations are deemed to be statutory authority for FELA purposes:

> A regulation, standard, or requirement in force, or prescribed by the Secretary of Transportation under chapter 201 of Title 49, or by a State agency that is participating in investigative and surveillance activities under section 20105 of Title 49 is deemed to be a statute under sections 53 and 54 of this title.

45 U.S.C.A. § 54a.

a FELA case involving a fact pattern similar in many respects to the case at bar,[4] in which the Ohio Court of Appeals stated the following:

> Here, the jury was specifically instructed that Shepard alleged that two statutory violations were at issue: (1) the FELA, which requires negligence and provides for comparative negligence and (2) the [Locomotive Inspection Act], which imposes absolute liability. Under FELA, the jury found Grand Trunk negligent and also found Shepard comparatively negligent. But because the jury further found that the railroad had violated the LIA, under well-settled law, it was not entitled to apportionment of damages under a comparative negligence defense.
>
> * * *
>
> Grand Trunk's contention that the *post-verdict discussions with the jury demonstrated that they believed the award was going to be reduced* is not persuasive – a party may not challenge the validity of the verdict using post-verdict discussions with jurors. The jury was properly instructed and is presumed to have followed those instructions.

Id., 2010 WL 1712316 at *13-14 (emphasis added; internal citations omitted). The implication of the italicized language is clear – the jury in ***Shepard*** was not instructed on the legal effect of its finding of negligence per se, and the court there found no error in the trial court's failure to advise the jury of this legal effect.

We do not find any reason for the jury to be instructed regarding the legal consequences of a finding that an employer railroad violated a safety statute or regulation. As the Tennessee Supreme Court has stated, "[i]t is for the jury to determine the facts and the trial judge to apply the appropriate principles of law to those facts." ***Smith Cty. Educ. Ass'n v. Anderson***, 676 S.W.2d 328, 338 (Tenn. 1984) (holding that "it was improper and unnecessary to submit questions which required the jury to determine whether or not the Board negotiated in good faith" because "[w]hether the Board committed acts that amount to a failure to negotiate in good faith was a question for the trial judge and not the jury."). Section 53 of the FELA eliminating contributory negligence when a defendant is guilty of

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[4] The plaintiff in ***Shepard*** alleged injuries resulting from negligent exposure to diesel fumes and asbestos. The plaintiff in that case "admitted to a long history of heavy cigarette smoking." 2010 WL 1712316 at *2.

negligence per se provides a principle of law to be applied by the trial court after the jury has determined the facts. "We entrust the responsibility of resolving questions of disputed fact, including the assessment of damages, to the jury." ***Meals ex rel. Meals v. Ford Motor Co.***, No. W2010-01493-SC-R11-CV, 2013 WL 4673609 at *3 (Tenn., filed Aug. 30, 2013) (citing Tenn. Const. art. I, § 6; ***Spence v. Allstate Ins. Co.***, 883 S.W.2d 586, 594 (Tenn. 1994)). Regarding the jury's resolution of factual questions and its verdict, we have observed that

> [t]he jury's verdict is the foundation of the judgment in civil cases where the parties have invoked their constitutional or statutory right to a jury trial. It represents the jury's final statement with regard to the issues presented to them. The verdict, whether general or special, is binding on the trial court and the parties unless it is set aside through some recognized legal procedure. Accordingly, neither the trial court nor the parties are free to disregard a jury's verdict once it has been properly returned.

Ladd ex rel. Ladd v. Honda Motor Co., 939 S.W.2d 83, 94 (Tenn. Ct. App. 1996); *see also* ***Jordan***, 2009 WL 112561 at *17 (stating that "[t]he United States Supreme Court has repeatedly emphasized the preeminence of jury decisions in FELA matters.") (internal quotation marks omitted).

In this case, the jury was instructed on all of the pertinent questions upon which it was properly called to decide – whether the defendant was negligent; whether the defendant's negligence caused plaintiff's injury; whether the plaintiff was negligent and caused his own injury; the percentage of fault attributed to plaintiff by his own negligence; whether the defendant violated the Locomotive Inspection Act or regulations enacted for the safety of employees; whether any such violation caused plaintiff's injury; and the amount of damages. The jury answered these questions in a verdict form that has been reproduced in its entirety earlier in this opinion. The jury resolved all of the issues in a clear, complete, and consistent manner. There is nothing contradictory in the verdict. Under these circumstances, in keeping with the litigants' "constitutionally protected right to have the disputed factual issues in their case decided by a jury," ***Duran v. Hyundai Motor Am., Inc.***, 271 S.W.3d 178, 209 (Tenn. Ct. App. 2008), we have recognized "the well-known principle that it is the trial court's duty to enter a judgment that is consistent with the jury verdict."[5] ***Leverette v. Tenn. Farmers Mut. Ins. Co.***, No. M2011-00264-COA-R3-CV, 2013 WL 817230 at *29 (Tenn. Ct. App. M.S., filed Mar. 4, 2013).

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[5]This duty is, of course, concomitant with the trial court's duty to decide whether to approve the verdict as thirteenth juror in ruling on a motion for new trial, as further discussed later in this opinion.

In ***Leverette*** we noted some "narrow exceptions" to this general principle, including one that "is found at Tenn. R. Civ. P. 49.02, which gives the trial court some leeway *when there are inconsistencies between a general verdict and a special verdict.*" ***Id.*** (Emphasis added.) Rule 49.02 provides as follows:

> The court may submit to the jury, together with appropriate forms for a general verdict, written interrogatories upon one or more issues of fact the decision of which is necessary to a verdict. The court shall give such explanation and instruction as may be necessary to enable the jury to make answers to the interrogatories and to render a general verdict, and the court shall direct the jury both to make written answers and to render a general verdict. *When the general verdict and the answers are harmonious, the court shall direct the entry of the appropriate judgment upon the verdict and answers.* When the answers are consistent with each other but one or more is inconsistent with the general verdict, the court may direct the entry of judgment in accordance with the answers, notwithstanding the general verdict, or may return the jury for further consideration of its answers and verdict, or may order a new trial. When the answers are inconsistent with each other and one or more is likewise inconsistent with the general verdict, the court shall not direct the entry of judgment but shall return the jury for further consideration of its answers and verdict or shall order a new trial.

(Emphasis added); *see also* ***Concrete Spaces, Inc. v. Sender***, 2 S.W.3d 901, 911 (Tenn. 1999) (observing that, although "[w]here a judgment is based upon inconsistent findings by a jury it is the duty of the appellate court to reverse and remand the case for a new trial, . . . [w]ell-settled law requires courts to construe the terms of a verdict in a manner that upholds the jury's findings, if it is able to do so.").

In the present case, the trial court, presented with a consistent and complete jury verdict, nevertheless and *sua sponte,* instructed the jury that the legal effect of its finding of negligence per se was that "the concept of contributory negligence may not apply in this case." The trial court then asked the jury "what is your feeling now?" We agree with plaintiff's argument that the trial court's new and unnecessary further instruction and

invitation to reconsider its verdict was a prejudicial abuse of discretion.[6] It is true, as a general principle, that "a jury may amend or change their verdict at any time before they have been discharged, or, if they bring in an informal or insufficient verdict, the court may send them back to the jury room, with directions to amend it, and put it in proper form." ***George v. Belk***, 49 S.W. 748, 749 (Tenn. 1899); *see also* ***State v. Williams***, 490 S.W.2d 519, 520 (Tenn. 1973); ***Riley v. State***, 227 S.W.2d 32, 34-35 (Tenn. 1950); ***Oliver v. Smith***, 467 S.W.2d 799, 804 (Tenn. Ct. App. 1971). But in these cases citing and applying this general rule, the jury's initial verdict was defective in some manner. There is no defect in the jury's first verdict in this case. Tenn. R. Civ. P. 49.02 mandates that "[w]hen the general verdict and the answers are harmonious, the court shall direct the entry of the appropriate judgment upon the verdict and answers." Under these circumstances, where the jury was properly and completely instructed and returned a consistent and complete verdict in accordance with the court's instructions, we hold it was error for the trial court to *sua sponte* further instruct the jury upon an unnecessary matter and invite the jury to reconsider the amount of damages it initially awarded.

IV.

The trial court, in its memorandum opinion granting a new trial, stated that "in particular the jury instructions I feel were incomplete, therefore insufficient and inadequate and incorrect." Our review of the record and transcript leads us to the conclusion that the "incompleteness" the trial court mentions is a reference only to the initial absence of an instruction regarding the legal effect of a finding of negligence per se. This conclusion is supported by the trial court's further comment that the "incompleteness" of the jury instructions "was illustrated graphically by their response and what we had to do to try to understand what they meant." Our conclusion is further bolstered by the fact, as we are about to demonstrate, that the instructions given to the jury before they retired initially to consider their verdict were correct and complete. The trial court did not specify any other error in its jury instructions in either its order granting a new trial or its incorporated memorandum opinion. We do not believe the trial court ruled that there were any other reversible errors in its instructions. Despite this belief, we have reviewed all of CSX's objections to the jury

[6]This is not to say, however, that a trial court's initial instruction to a jury that informs the jury of the effect of its negligence per se finding under FELA would be erroneous, and our opinion should not be construed as so holding. We merely hold that such an instruction is not required, and that the trial court's further instruction in this case after the jury deliberated and returned a verdict was unwarranted and resulted in error.

instructions, both those raised by CSX orally after the jury was instructed as well as those in the later motion for a new trial.[7]

In reviewing the trial court's disposition of a motion for new trial in a FELA case, we apply the federal standard. ***Melton v. BNSF Rwy. Co.***, 322 S.W.3d 174, 181 (Tenn. Ct. App. 2010). In ***Melton***, we observed that

> [u]nder the federal standard, the trial court has the power and duty to order a new trial whenever, in its judgment, this action is required to prevent an injustice. Common grounds for granting a new trial include the verdict is against the clear weight of the evidence, a prejudicial error of law, or misconduct affecting the jury. We review the trial court's decisions on motions for new trial on an abuse of discretion standard.

Id. (internal citations and quotation marks omitted). In this case, the trial court gave no indication that it was granting a new trial based on either misconduct affecting the jury or insufficiency of the evidence. The trial court's ruling was grounded in its perceived errors of law.

The following principles apply to our review of the trial court's jury instructions:

> "Jury instructions must be correct and fair as a whole, although they do not have to be perfect in every detail." ***Pomeroy*** [***v. Illinois Central R.R. Co.***, No. W2004-01238-COA-R3-CV], 2005 Tenn. App. LEXIS 294, 2005 WL 1217590, at *3 [(Tenn. Ct. App. May 19, 2005)] (citing ***Wielgus v. Dover Indus.***, 39 S.W.3d 124, 131 (Tenn. Ct. App.2001)). Jury instructions must be plain and understandable, and inform the jury of each applicable legal principle. ***Id.*** On appeal, we review jury instructions in their entirety and in context of the entire charge. ***Id.*** We will not invalidate a jury charge if, when read as a whole, it fairly defines the legal issues in the case and does not mislead the jury. ***Hensley v. CSX Transp., Inc.***, No. E2007-00323-COA-R3-CV, 278 S.W.3d 282, 2008 Tenn. App. LEXIS

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[7]None of CSX's numerous objections to the jury instructions included an argument that the trial court should have instructed the jury on the legal effect of its finding that CSX was negligent per se. As already noted, neither party requested such an instruction, and neither party objected to the absence of such an instruction in the given instructions.

> 147, 2008 WL 683755, at *2 (Tenn. Ct. App. Mar. 14, 2008) *perm. app. denied*, 2008 Tenn. LEXIS 867 (Tenn. Nov. 17, 2008). "The trial court should give requested special jury instructions when they are a correct statement of the law, embody the party's legal theory, and are supported by the proof." ***Pomeroy***, 2005 Tenn. App. LEXIS 294, 2005 WL 1217590, at *3 (citing ***Otis v. Cambridge Mut. Fire Ins. Co.***, 850 S.W.2d 439, 445 (Tenn.1992)). "However, the trial court may decline to give a special instruction when the substance of the instruction is covered in the general charge." ***Id.*** We will not reverse the denial of a special request for an additional jury instruction where the trial court fully and fairly charged the jury on the applicable law. ***Id.***

Spencer, 2013 WL 3946118 at *3 (quoting ***Jordan***, 2009 WL 112561 at *11).

In its motion for new trial, CSX argued that the trial court's instruction on causation was erroneous, asserting that the court "erroneously failed to charge the jury on proximate causation." The trial court instructed the jury on causation as follows:

> The mere fact that a person suffered harm, injury, illness or death standing alone without more does not permit an inference that the harm, injury, or death was caused by anyone's negligence.
>
> You have heard reference to the Federal Employers' Liability Act or FELA. That law provides in part that every common carrier by railroad engaging in commerce between any of several states shall be liable for damages to any person suffering injury while he is employed by such carrier in such commerce for such injury resulting in whole or in part from the negligence of any of the officers, agents or employees of such carrier, and such injury would include illness or death.
>
> * * *
>
> So, again, the burden of proof in any case such as this is upon the plaintiff to establish by a preponderance of the evidence, first, that the defendant was negligent in one or more of the particulars alleged by plaintiff and, second, that the defendant's

> negligence caused or contributed in whole or in part to the harm, illness or death of the plaintiff.
>
> The purpose of this action, illness, harm or death is said to be caused or contributed to by an act or failure to act when it appears from a preponderance of the evidence the act or failure to act played any part, in whole or in part, in bringing about or actually causing illness or death.
>
> So if you should find from the evidence in the case that any negligence of the defendant contributed in any way toward illness or death suffered by the plaintiff you may find that plaintiff's illness or death was caused by the defendant's act or failure to act.
>
> Stated another way, an act or failure to act is a cause of illness or death if the illness or death would not have occurred except for the act or failure to act even though the act or failure to act combined with other causes. So this does not mean that the law recognizes only one cause of illness or death consisting of only one factor, or one thing or the conduct of only one person. On the contrary, many factors or things where the conduct of two or more persons may operate at the same time either independently or together to cause illness, harm or death, and in such a case each may be a cause for the purposes of determining liability in a case such as this.

As can be seen, CSX correctly argued that the trial court's instruction does not include the proximate cause standard. The United States Supreme Court addressed the appropriate FELA standard of causation in ***CSX Transp. v. McBride***, 131 S. Ct. 2630 (2011), stating as follows:

> We conclude that the Act [FELA] does not incorporate "proximate cause" standards developed in nonstatutory common-law tort actions. The charge proper in FELA cases, we hold, simply tracks the language Congress employed, informing juries that a defendant railroad caused or contributed to a plaintiff employee's injury if the railroad's negligence played any part in bringing about the injury.

* * *

> FELA's language on causation . . . "is as broad as could be framed." ***Urie v. Thompson***, 337 U.S. 163, 181, 69 S.Ct. 1018, 93 L.Ed. 1282 (1949). Given the breadth of the phrase "resulting in whole or in part from the [railroad's] negligence," and Congress' "humanitarian" and "remedial goal[s]," we have recognized that, in comparison to tort litigation at common law, "a relaxed standard of causation applies under FELA." ***Gottshall***, 512 U.S., at 542-543, 114 S.Ct. 2396. In our 1957 decision in ***Rogers*** [***v. Mo. Pac. R.R.***, 352 U.S. 443], we described that relaxed standard as follows:
>
> > "Under [FELA] the test of a jury case is simply whether the proofs justify with reason the conclusion that employer negligence played any part, even the slightest, in producing the injury or death for which damages are sought." 352 U.S., at 506, 77 S.Ct. 443.

McBride, 131 S. Ct. at 2634, 2636. The ***McBride*** Court clarified that "***Rogers*** announced a general standard for causation in FELA cases, not one addressed exclusively to injuries involving multiple potentially cognizable causes," ***id.*** at 2639, and conclusively determined that a proximate cause instruction is not required in FELA cases. In the present case, the trial court's causation instruction closely tracks, and in one instance directly quotes, FELA's causation language. We find no error in the trial court's causation instruction.

CSX also argued in its motion for new trial that the trial court erred in giving an instruction on contributory negligence that provided a different causation standard from the one applicable to the defendant. The United States Supreme Court has ruled that in a FELA case the same standard of causation applies in assessing both the negligence of a defendant railroad and the contributory negligence of a plaintiff employee. ***Norfolk S. Rwy. Co. v. Sorrell***, 549 U.S. 158, 160 (2007). In this case the trial court instructed the jury on contributory negligence as follows:

> [I]n addition to denying any negligence on the part of the defendant caused harm to the plaintiff, a defendant may also allege as a further defense that some negligence on the part of the plaintiff himself was a cause of any harm that plaintiff suffered or was the sole and only cause of any harm that the

plaintiff suffered. We refer to that defense as contributory negligence.

Contributory negligence then is fault on the part of a plaintiff which corroborates in some degree with the negligence of another and so helps to bring about harm to the plaintiff or is itself the sole cause of harm to the plaintiff.

By the defense of contributory negligence, the defendant is in effect alleging that even though the defendant may have been guilty of some negligent act or failure to act which was one of the causes of harm suffered by the plaintiff, the plaintiff himself by his own failure to use ordinary and reasonable care for his own safety also contributed to one of the causes of harm suffered by the plaintiff.

With respect to the defense of contributory negligence, the burden is on the defendant claiming the defense to establish by a preponderance of the evidence the claim that the plaintiff was at fault, the negligence on the part of the plaintiff contributed to one of the causes of harm suffered by the plaintiff.

As to contributory negligence, the FELA, the law in question provides in part, "In all actions brought against any railroad to recover damages for personal injury to an employee, the fact that the employee may have been guilty of contributory negligence shall not bar a recovery, but the damages shall be diminished by the jury in proportion to the negligence attributable to the employee.["] So if you should find from a preponderance of the evidence that the defendant was guilty of negligence but the plaintiff was also guilty of negligence and such negligence on the part of the plaintiff caused any harm to the plaintiff, then the total award of damages to the plaintiff must be reduced by an amount equal to the percentage of fault or contributory negligence chargeable to the plaintiff.

If you should find that the defendant was not guilty of negligence or the defendant was negligent but such negligence was not a cause in whole or in part of harm suffered by the plaintiff, then your verdict would be for the defendant.

This contributory negligence instruction given by the trial court does not suggest a different causation standard than the one applicable to the defendant's negligence. It does not define "causation" differently from the court's earlier instruction. It directly quotes the FELA's provision regarding contributory negligence. We find no error in the trial court's contributory negligence instruction.

CSX also asserted error in the trial court's foreseeability instruction, arguing that it was insufficient as a matter of law. We recently addressed a similar challenge in ***Spencer***. There we stated as follows:

> "[R]easonable foreseeability of harm is an essential ingredient of Federal Employers' Liability Act negligence." ***Gallick v. Baltimore & Ohio R.R. Co.***, 372 U.S. 108, 83 S.Ct. 659, 665, 9 L.Ed.2d 618 (1963). In ***Gallick***, the United States Supreme Court noted that the jury in that case correctly had been charged with regard to reasonable foreseeability of harm, and stated:
>
> > The jury had been instructed that negligence is the failure to observe that degree of care which people of ordinary prudence and sagacity would use under the same or similar circumstances; and that defendant's duty was measured by what a reasonably prudent person would anticipate as resulting from a particular condition – "defendant's duties are measured by what is reasonably foreseeable under like circumstances" – by what "in the light of the facts then known, should or could reasonably have been anticipated."
>
> ***Gallick v. Baltimore & Ohio R.R. Co.***, 372 U.S. 108, 83 S.Ct. 659, 665-66, 9 L.Ed.2d 618 (1963) (footnotes omitted).
>
> With regard to foreseeability and notice in FELA cases, the Sixth Circuit has explained:
>
> > The law is clear that notice under the FELA may be shown from facts permitting a jury to infer that

> the defect could have been discovered by the exercise of reasonable care or inspection:
>
> > Under familiar law, defendant could not be convicted of negligence, absent proof that such defect was known, or should or could have been known, by defendant, with opportunity to correct it. This rule is applicable to FELA actions where negligence is essential to recovery. The establishment of such an element, however, may come from proof of facts permitting a jury inference that the defect was discovered, or should have been discovered, by the exercise of reasonable care or inspection.
>
> ***Szekeres v. CSX Transportation, Inc.***, 617 F.3d 424, 430–31 (6th Cir. 2010) (quoting ***Miller v. Cincinnati, New Orleans & Tex. Pac. Ry. Co.***, 317 F.2d 693, 695 (6th Cir. 1963)).
>
> Similarly, our own Supreme Court has stated:
>
> > To prove a breach of duty under the FELA, an employee must show that the railroad " 'knew, or by the exercise of due care should have known' that prevalent standards of conduct were inadequate to protect [the employee] and similarly situated employees."
>
> ***Mills v. CSX Transportation, Inc.***, 300 S.W.3d 627, 633 (Tenn. 2009) (quoting ***Van Gorder v. Grand Trunk W. R.R.***, 509 F.3d 265, 269-70 (6th Cir. 2007)).

Spencer, 2013 WL 3946118 at *3-4 (footnote omitted; some internal citations omitted). The trial court in this case instructed the jury on foreseeability as follows:

> [D]eciding whether ordinary care was exercised in the given case, the conduct in question must be viewed in the light of all surrounding circumstances as shown by the evidence in the case at the time.

> Because the amount of care exercised by reasonably prudent and careful persons varies in proportion to the dangers known to be involved in what is being done, it follows that the amount of caution required in the exercise of ordinary care will vary with the nature of what is being done and all the surrounding circumstances shown by the proof in the case.
>
> To put it another way, if any danger that should be reasonably foreseen increases so the amount of care required by law increases.

We find this instruction to be substantially similar to the one approved by the Supreme Court in ***Gallick***. We find no error in the court's foreseeability instruction.

CSX also argued that the trial court erred in failing to charge the jury with its special request that CSX was only required to provide a reasonably safe workplace, not a perfect work environment. CSX submitted the following jury instruction:

> Although the Railroad is duty-bound to provide a reasonably safe place to work, this does not mean that the Railroad must provide a perfect work environment. The Railroad Defendant is not bound to anticipate every possible incident or accident which might occur, because a railroad is necessarily attended by some danger and it is impossible to eliminate all danger. The law does not make the Defendant an insurer of the safety of its employees, nor of the safety of the places in which they work. The railroad is not held to an absolute responsibility for the reasonably safe condition of the places where the Plaintiff might work, but only to the duty of exercising reasonable care to that end, the degree of care being commensurate with the danger reasonably to be anticipated.

To the extent that this instruction incorporates a correct statement of the law, the essence of the instruction was provided to the jury in our earlier-referenced instructions on duty of care, its definitions of negligence, causation, and foreseeability, and the following additional instruction of the trial court:

> [t]he employer is required to use ordinary and reasonable care under the circumstances to maintain and keep places of work in a reasonably safe condition for the employee.

> This does not mean the employer is a guarantor or insurer of the safety of the place of work. The extent of the employer's duty is to exercise ordinary care under the circumstances then existing[.]

CSX contends that the trial court erroneously charged the jury on both a pre-1976 and post-1976 version of 49 C.F.R. § 174.700, a federal regulation governing the shipping of radioactive material. Part of plaintiff's theory presented at trial was that CSX negligently caused Payne's exposure to radioactive materials shipped in and out of a metal scrap yard in Knoxville called David Witherspoon Industries, Inc. ("DWI"). DWI was licensed to receive and recycle scrap metal contaminated with low levels of radioactivity. CSX presented testimony of a former DWI employee that DWI received contaminated metal from 1964 until 1972. The trial court instructed the jury on the pre-1976 and post-1976 versions of 49 C.F.R. § 174.700 as follows:

> A 1961 regulation provided that no person should remain in a car containing radioactive material unnecessarily, and the shipper must furnish the carrier with such information and equipment as is necessary for the protection of the carrier's employees.
>
> [A] section from 1976 provides a person may not remain unnecessarily in a railcar containing radioactive materials.

CSX argues that the court erred by instructing the post-1976 regulation because DWI "stopped receiving contaminated scrap altogether in 1972." Plaintiff responds by arguing that it was not conclusively established that no radioactive shipments went either in *or out* of DWI after 1972. We agree with plaintiff. Plaintiff presented the videotaped deposition of a corporate representative of CSX, William Bullock, who, when asked whether CSX or its corporate predecessors "did any monitoring of train cars that may have been calling in or out of" DWI prior to 1985, responded, "we didn't, but at the same time we didn't think there was a concern" that "we needed to be looking into radiation exposure of our workers." In short, there was evidence from which the jury could have reasonably concluded that plaintiff was exposed to radioactivity from railcar shipments out of DWI after 1976, and consequently the trial court did not err in its instruction regarding the post-1976 federal regulation regarding the shipping of radioactive materials.

CSX raised several other objections to the jury instructions in its motion for new trial, including the court's refusal to specifically instruct the jury according to CSX's special requests (1) regarding actual or constructive notice of an alleged defective condition and

notice as to "known dangers" in the workplace; (2) to charge the jury that the "mere presence of potentially harmful substances" in the workplace is insufficient by itself to establish negligence; (3) to charge the jury that "there should be no bias against a corporate defendant"; (4) regarding the proper scope of damages, specifically that no punitive damages or loss of consortium damages for Payne's widow should be awarded; and (5) to charge the jury that it must not speculate or guess as to whether CSX's negligence caused plaintiff's damages. We have reviewed all of these objections and arguments, comparing CSX's 40 written special requests for jury instructions with the trial court's instructions. We find that, to the extent the requested instructions are relevant and correctly state the law, they were adequately covered and presented to the jury in the court's instructions. In instructing a jury, "the trial court may decline to give a special instruction when the substance of the instruction is covered in the general charge." ***Pomeroy***, 2005 WL 1217590, at *3; *see also* ***Otis***, 850 S.W.2d at 439. "The fact that a special request for jury instruction asserts a correct rule of law does not make it proper jury charge material." ***Godbee v. Dimick***, 213 S.W.3d 865, 881 (Tenn. Ct. App. 2006).

The jury instructions presented by the trial court in this case, viewed as a whole, are correct, fair and complete. The court's jury charge fairly defined the legal issues in the case. The instructions were not misleading to the jury. The jury returned a verdict in accordance with the court's clear instructions; the only indication of potential confusion came after the court's further unnecessary and erroneous instruction after the verdict. We therefore hold that none of the trial court's jury instructions provide grounds for a new trial.

V.

In its order granting a new trial, the trial court based its ruling on "specific prejudicial errors including, but not limited to, instructional and evidentiary errors." The court did not specify what evidentiary rulings it considered to be erroneous. The trial court stated the following in its oral memorandum opinion:

> During the trial itself I agree that there were too many things that had been ruled improperly for the jury to consider that were considered and presented to the jury, and probably the worst of those was when we started talking about this thyroid cancer which he apparently didn't have.

The trial court did not make any other specific references regarding other evidentiary decisions at trial. The evidence regarding thyroid cancer was briefly presented during plaintiff's cross-examination of one of CSX's medical experts who apparently misdiagnosed Payne with thyroid cancer at some point during his treatment.

The trial in this case was lengthy.[8] The jury heard the case over a two-week period. The testimony of 26 witnesses was presented. The trial transcript is over 2,500 pages long, and the exhibits are sequentially marked up to number 574. Against this backdrop, the following is the entirety of the objected-to evidence of thyroid cancer, which came into proof by way of the cross-examination of Dr. John Craighead, a medical expert called by CSX.

> Q: Of course, you saw a thyroid cancer in Mr. Payne, didn't you?
>
> A: Yes.
>
> Q: And that's caused by radiation, isn't it?
>
> A: That's one of the contributing causes, yes. It's not the only cause. Most individuals we don't know what the cause was.

CSX objected and moved for a mistrial or a curative instruction from the trial court. The trial court provided the following curative instruction to the jury:

> Before we get to the next witness, in the cross examination of the last witness, mention was made of the term thyroid cancer. As you previously heard, there's no claim in this case that the plaintiff suffered from thyroid cancer or that that caused him anything that is the subject matter of this case.

CSX argues that a new trial was warranted because the curative instruction was insufficient in that the "court never unambiguously told the jury that Payne did not have thyroid cancer." We hold, however, that there is very little substantive difference between the statement that "the plaintiff did not suffer from thyroid cancer" and "there's no claim in this case that the plaintiff suffered from thyroid cancer." The clear import of the trial court's curative instruction was that thyroid cancer was not a part of the case and that the jury should disregard the brief evidence of Dr. Craighead's misdiagnosis of thyroid cancer. "The jury is presumed to have followed the trial court's instructions." ***Johnson v. Tenn. Farmers Mut. Ins. Co.***, 205 S.W.3d 365, 375 (Tenn. 2006); *see also* ***Johnson v. Lawrence***, 720 S.W.2d 50, 60 (Tenn. Ct. App. 1986) ("We must assume th[at] the jury followed the trial court's [curative] instruction unless there is proof to the contrary. If error was committed . . . in

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[8]Indeed, in its final remark to the jury, the trial court thanked the jury for serving "on the longest case that the court has had in more than 20 years" and stated, "I actually don't know of a longer case in this court, so that's something."

asking the question, it was cured by the trial court's instruction."). We hold that the trial court's curative instruction effectively cured any error in the presentation of the testimony regarding thyroid cancer. Given the court's timely and accurate curative instruction, any prejudice to CSX resulting from the improper evidence was remedied.

CSX also argues that a new trial was warranted due to the plaintiff's presentation of a powerpoint slide regarding cesium contamination of an area in Oak Ridge where Payne worked. During the 1960s, an area of railroad track near the Y-12 facility in Oak Ridge became contaminated with low levels of cesium, a radioactive element. Payne worked in that area occasionally for about a year of his career. In the 1980s, the U.S. Department of Energy undertook a remedial cleanup of the contaminated area, removing a section of track and the ballast rock from the roadbed. In this case, CSX moved in limine before trial to exclude any evidence of cesium contamination. The trial court declined to grant the motion, taking it under consideration to see how the proof developed at trial, with the intention of ruling on objections as they came up. During trial, plaintiff's counsel agreed not to present cesium evidence in his case-in-chief. During cross-examination of one of CSX's witnesses, plaintiff's counsel put up a powerpoint slide saying "Oak Ridge Y-12 spur cleanup; tracks closed down; cesium radiation contamination; tracks, ballast rock cleaned; remediated by DOE." CSX objected, and the trial court said, "sustain the objection. The jury will disregard that slide." Plaintiff did not present any other evidence of cesium exposure. CSX later presented expert testimony that there was no risk to the public or railroad employees from cesium radiation at Oak Ridge.

After the trial court sustained the objection and instructed the jury to disregard the slide, CSX moved for a mistrial. The trial court denied the motion. After the trial, CSX renewed its motion, "based upon [its] contention that it was entitled to a mistrial on the issues relating to thyroid cancer and cesium contamination at Oak Ridge." The trial court again denied the motion for mistrial.

CSX argues that the cesium evidence was so prejudicial that a new trial was warranted. We disagree. The trial court sustained CSX's objection and excluded the evidence. The court then instructed the jury to disregard the slide, and there is no reason to presume the jury did not follow the court's instruction. There was no error in the trial court's resolution of this issue.

CSX points to several other evidentiary decisions made by the trial court that it says were erroneous, and argues that the trial court *may* have agreed that it erred in ruling on some of them, and that the trial court *may* have relied upon these supposed errors in granting a new trial. These arguments include assertions that the trial court erred in allowing several lay witnesses, including Payne himself, to testify about the presence of asbestos in his

workplaces and his exposure to asbestos, and that the court erred in allowing testimony that the DWI site where Payne worked was contaminated with radioactivity from plutonium and that it was eventually designated as a Superfund site. We have reviewed these issues, and find that they address matters of admissibility upon which the trial court has broad discretion. We have discerned no error in the trial court's rulings on these evidentiary matters, and certainly nothing that would warrant a new trial under the circumstances. We hold that the trial court erred in granting CSX a new trial.

VI.

A motion for a new trial made after a jury verdict triggers the trial court's duty to independently assess the evidence and either approve or disapprove the verdict. Because the trial court is reviewing and weighing the evidence as did the jury, this is generally known as the "thirteenth juror" rule. *See* ***Huskey v. Crisp***, 865 S.W.2d 451, 454 (Tenn. 1993) (observing that the thirteenth juror rule "applies only in the context of a motion for a new trial, for it is only there that the trial court has the duty to decide if the jury verdict is contrary to the weight of the evidence."). In ***Blackburn v. CSX Transp.,*** No. M2006-01352-COA-R10-CV, 2008 WL 2278497 (Tenn. Ct. App. M.S., filed May 30, 2008), this Court determined that there are significant differences between the Tennessee standard for reviewing the evidence as thirteenth juror and the federal standard, and held that the federal standard applies in FELA cases, stating as follows:

> The standard federal courts employ in deciding whether to grant a new trial is whether the verdict is against the "clear weight" of the evidence. When ruling on motions for new trials based upon sufficiency of the evidence, the Sixth Circuit Court of Appeals has stated the standard thusly:
>
> > A court may set aside a verdict and grant a new trial when it is of the opinion that the verdict is against the clear weight of the evidence; however, new trials are not to be granted on the grounds that the verdict was against the weight of the evidence unless that verdict was unreasonable. Thus, if a reasonable juror could reach the challenged verdict, a new trial is improper.
>
> The trial court may not set aside the verdict to grant a new trial if the judge would have reached a different verdict. 6A MOORE'S FEDERAL PRACTICE § 59.08[5] (1996).

> The trial judge, exercising a mature judicial discretion, should view the verdict in the overall setting of the trial; consider the character of the evidence and the complexity or simplicity of the legal principles which the jury was bound to apply to the facts; and abstain from interfering with the verdict unless it is *quite clear* that the jury has reached a seriously erroneous result. The judge's duty is essentially to see that there is no miscarriage of justice.
>
> ***Id.*** In Tennessee, the law is clear that if a motion for a new trial is filed, then the trial court is under a duty to independently weigh the evidence and determine whether the evidence "preponderates" in favor of or against the verdict.
>
> * * *
>
> [A]t a very basic level, the standards are quite different since the Tennessee standard uses "preponderance" of the evidence, while the federal standard requires that the verdict be outweighed by the "clear" weight of the evidence. Under state law if a judge is "dissatisfied" with a jury verdict then the trial court is at liberty to order a new trial. Under the federal standard, the verdict must be unreasonable. Under state law a court must make an independent decision, while under federal law if a reasonable juror could have reached the verdict, the trial court is to defer. We believe that the differences between the standards are both apparent and significant.

Id., 2008 WL 2278497 at *5-7 (internal citation, footnote and section headings omitted); *accord* ***Jordan***, 2009 WL 112561 at *17 n.12. The ***Blackburn*** Court concluded "that federal law provides the standard to determine whether to grant a new trial in a FELA case tried in state court." ***Id.*** at *11.

In this case, the trial court did not have an opportunity to approve or disapprove the jury verdict awarding damages in the amount of $8.6 million. We find it appropriate to remand the case for the first trial judge to conduct a review of the evidence under the above-described federal standard and determine whether the $8.6 million verdict is against the clear weight of the evidence. *See* ***Blackburn***, 2009 WL 2278497 at *17 (noting that "[a]n appellate court cannot fulfill this role" of determining "whether the verdict was against the

clear weight of the evidence"). If the trial court concludes that the jury's $8.6 million verdict is not against the clear weight of the evidence, then the court is directed to enter judgment in that amount. If the trial court concludes to the contrary, then the court is directed to enter judgment in plaintiff's favor in the amount of $3.2 million, because the verdict assessing damages in that amount has already been duly approved by the trial court when it entered its judgment. We note in this regard that the trial court, in its order granting a new trial, stated that it "applie[d] the appropriate Federal standard for considering motions for new trial in FELA cases" and that it was basing its ruling granting a new trial on "instructional and evidentiary errors" – matters involving questions of law – "independent of considerations regarding sufficiency of the evidence." All of this tells us that the trial court was satisfied that the $3.2 million verdict was not against the clear weight of the evidence.

VII.

Our holding and remand to the trial court with directions to enter judgment in plaintiff's favor in the amount of either $8.6 million or $3.2 million renders moot the question of whether the second trial judge erred in excluding the causation testimony of Drs. Frank and Kerns and granting CSX summary judgment. Nevertheless, we have reviewed the issue and hold that the trial court erred in excluding the causation testimony of these two witnesses, both of whom had testified, over the objection of CSX, to causation at trial.

VIII.

The judgment of the trial court ordering a new trial is reversed. The judgment of the trial court granting CSX summary judgment is reversed as moot. This case is remanded to the trial court with instructions to the first trial judge to review the evidence at trial and enter judgment in accordance with our directions. Costs on appeal are assessed to the appellee, CSX Transportation, Inc.

CHARLES D. SUSANO, JR., PRESIDING JUDGE

IN THE COURT OF APPEALS OF TENNESSEE
AT KNOXVILLE

ANNE PAYNE v. CSX TRANSPORTATION, INC.

Circuit Court for Knox County
No. 2-231-07

No. E2012-02392-COA-R3-CV

ORDER

The appellee CSX Transportation, Inc., has filed a petition for rehearing pursuant to the provisions of Tenn. R. App. P. 39, arguing that our Opinion "overlooks or misapprehends that several post-trial issues related to the first trial remain unresolved." CSX characterizes these issues as "never-before-resolved." CSX asks us to "grant rehearing for the limited purpose of modifying [our] instructions to the trial court relating to the scope of the remand" to allow the trial court to address these issues.

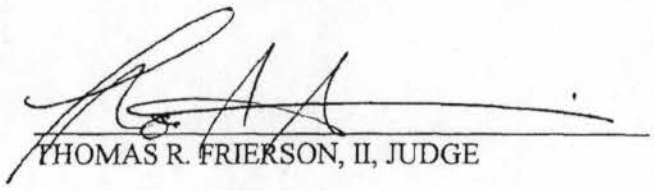
Our Opinion did not overlook or misapprehend these issues. They are not "unresolved" because, in our view, the trial court considered and implicitly resolved these issues against CSX when it considered CSX's post-trial motion. We adhere to the holding in our Opinion released and filed on December 27, 2013, that "the trial court was satisfied that the $3.2 million verdict was not against the clear weight of the evidence" – a holding CSX has not challenged in its petition for rehearing.

In the Opinion filed in December 2013,we directed the trial court "to conduct a review of the evidence under the . . . federal standard and determine whether the $8.6 million verdict is against the clear weight of the evidence." This remains our directive. *See* ***Blackburn v. CSX Transportation, Inc.***, No. M2006-01352-COA-R10-CV, 2008 WL 2278497 (Tenn. Ct. App. M.S., filed May 30, 2008).

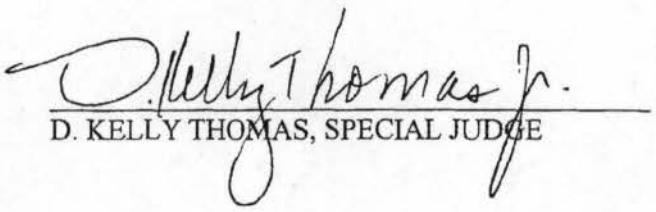
CSX's petition for rehearing is DENIED with costs taxed to CSX.

IT IS SO ORDERED.

CHARLES D. SUSANO, JR., PRESIDING JUDGE



THOMAS R. FRIERSON, II, JUDGE



D. KELLY THOMAS, SPECIAL JUDGE

CERTIFICATE OF SERVICE

I certify that, on this 21 day of March, 2014, I served a true and correct copy of the foregoing on:

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