

IN THE SUPREME COURT OF TENNESSEE
AT KNOXVILLE

January 7, 2015 Session Heard at Greeneville¹

ANNE PAYNE v. CSX TRANSPORTATION, INC.

**Appeal by Permission from the Court of Appeals, Eastern Section
Circuit Court for Knox County
No. 223107 Harold Wimberly Jr. and Dale C. Workman, Judges**

No. E2012-02392-SC-R11-CV - Filed July 1, 2015

A railroad employee who was diagnosed with lung cancer filed suit against the railroad under the Federal Employers' Liability Act, alleging that the railroad had negligently exposed him to asbestos, diesel exhaust fumes, and radioactive materials, all of which were contributing causes to his illness. The employee also alleged that the railroad was negligent per se by violating pertinent safety statutes or regulations. When the employee died prior to trial, his wife was substituted as plaintiff. By special verdict, the jury awarded the plaintiff \$8.6 million, finding that the employee's cancer and subsequent death were caused not only by the railroad's negligence but also by its negligence per se. The jury also found that the employee was sixty-two percent at fault due to his history of cigarette smoking. After the return of the verdict, the trial court instructed the jury that because of its finding that the railroad had violated safety regulations, the Federal Employers' Liability Act did not allow for a reduction of the amount of damages based upon the employee's contributory fault, meaning that the plaintiff would receive the entire \$8.6 million. The jury then deliberated for an additional eight minutes and returned with an amended verdict awarding the plaintiff \$3.2 million "at 100%." The trial court entered judgment on the amended verdict but later granted a new trial and entered an order of recusal. A substitute judge granted the railroad's motion for summary judgment after excluding the plaintiff's expert proof on the issue of causation. On appeal by the plaintiff, the Court of Appeals reversed the summary judgment and remanded with directions for the original trial judge to review the evidence and enter judgment on either the original \$8.6 million verdict or the amended \$3.2 million verdict. We hold that the plaintiff's expert proof was properly admitted at trial, but that the original judge erred by granting the railroad's motion for a new trial based on evidentiary and instructional issues, and committed prejudicial error in assessing the amount of damages to be awarded.

¹ Oral argument was heard on January 7, 2015, at the Niswonger Performing Arts Center in Greeneville, Tennessee, as part of this Court's S.C.A.L.E.S. (Supreme Court Advancing Legal Education for Students) project.

Under these circumstances, the appropriate remedy is to remand for a new trial as to damages only.

Tenn. R. App. P. 11; Judgment of the Court of Appeals Affirmed as Modified; Case Remanded to the Trial Court

GARY R. WADE, J., delivered the opinion of the Court, in which SHARON G. LEE, C.J., and CORNELIA A. CLARK, JEFFREY S. BIVINS, and HOLLY KIRBY, JJ., joined.

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

Richard N. Shapiro, Virginia Beach, Virginia, and Sidney W. Gilreath, Knoxville, Tennessee, for the appellee, Anne Payne.

OPINION

I. Facts and Procedural History

From 1962 until his retirement in 2003, Winston Carrol Payne was employed by CSX Transportation, Inc. (the “Defendant”) as a switchman, switch foreman, and brakeman in the railroad transportation department. Less than three years after his retirement, Mr. Payne was diagnosed with lung cancer. In 2007, he sued the Defendant under the Federal Employers’ Liability Act (“FELA”), 45 U.S.C. §§ 51–60 (2012), alleging that the Defendant had not only been negligent by exposing him to asbestos, diesel engine exhaust fumes, and radioactive materials, thereby causing his lung cancer and related complications, but also had violated various statutes and regulations designed to protect the safety of railroad employees.² In response, the Defendant denied liability, maintaining that Mr. Payne had developed lung cancer because of his history of cigarette smoking, and further, that even if the cause of his cancer was not entirely the result of his smoking, any award of damages based upon the railroad’s negligence should be reduced by virtue of Mr. Payne’s contributory negligence.

² The complaint alleged, in pertinent part, that the Defendant had failed to comply with the Federal Locomotive Inspection Act, 49 U.S.C. § 20701 (2012), by providing “defective and unsafe locomotives which contained . . . dangerous and toxic asbestos-containing materials and equipment and airborne asbestos fibers, and [by failing to protect railroad employees] against radiation/radioactive exposures.” The complaint further alleged that the Defendant had “fail[ed] to obey appropriate and relevant federal and state regulations and industrial hygiene recommendations intended to protect [railroad employees] from exposure to toxic and/or pathogenic particulate matter, dusts, fumes, vapors, mists, [and/or] gases, including but not limited to, asbestos particulate, ionizing radiation/radioactive substances, silica/sand and/or diesel emissions.”

A. Plaintiff's Proof at Trial

Prior to his death on February 24, 2010, Mr. Payne, whose grandfather, father, and three brothers had all worked for railroads, provided a videotaped deposition that was presented at the trial of this case, which was heard before a jury over the course of ten days in November of 2010. Mr. Payne, who admitted to smoking about twenty cigarettes per day between 1962 and 1988, testified that in October of 2005, two years after his retirement, his family doctor discovered a large mass in an x-ray of his lungs and referred him to a pulmonary specialist. Dr. Ross E. Kerns, an oncologist practicing in Knoxville, eventually diagnosed non-small-cell carcinoma and prescribed radiation treatment and chemotherapy. Mr. Payne underwent radiation treatment five days a week over the course of several months, with side effects including “a red rash all over [his] back” and a loss of taste. After his first round of chemotherapy, Mr. Payne suffered nausea, appetite loss, and insomnia. A second round of chemotherapy began in April of 2006 when his cancerous cells again became active. Because of the adverse effects of these treatments on his immune system, Mr. Payne developed pneumonia in May of 2006. By the summer of 2006, he “could hardly walk a hundred yards without having to stop and catch [his] breath.” Although Mr. Payne’s family physician, Dr. Rickey Manning, had diagnosed him with emphysema and chronic obstructive pulmonary disease in 1997, he claimed to have had no breathing problems before he was diagnosed with lung cancer. Upon finding active cancer cells in the summer of 2007, Dr. Kerns prescribed a third round of chemotherapy. A fourth round of chemotherapy, which Mr. Payne was still undergoing at the time of his videotaped deposition, was initiated in the spring of 2008. Mr. Payne calculated that by the time of his deposition he had completed a total of thirty-nine radiation treatments and forty-three chemotherapy sessions.

Mr. Payne maintained that his cancer was caused by regular exposure to asbestos, diesel engine exhaust fumes, and radioactive materials during his forty-one years of employment with the Defendant. Because Mr. Payne’s duties regularly required him to travel on the Defendant’s main railroad line between Etowah, Tennessee, and Corbin, Kentucky, when he would ride in the cabooses and open cars to protect the cargo and the rear of the train, he believed that he was continuously exposed to these three hazardous substances. He described the water pipes and heat shields on the stoves in the cabooses as being wrapped in asbestos insulation, and stated that when the trains’ brakes, which contained asbestos materials, were applied, he was subjected to large amounts of dust and smoke that “would come right into the caboose.” Mr. Payne also observed asbestos in some of the cargo that he transported for the Defendant, including scrap metal that was “brought in from Oak Ridge [and taken] to [the] Witherspoon Junk Company,” a scrapyard located in Knoxville. While Mr. Payne spent the majority of his forty-one years working in and around the trains, he expressed concern that asbestos materials were also located in the train car workshops where he would occasionally go for ten to twenty minutes at a time when he needed to “talk to the car man . . . so that [he] could figure [his] workload out.” Mr. Payne testified that the

Defendant never warned him of the dangers of exposure to asbestos and did not offer any protective equipment during the term of his employment.

Mr. Payne also testified that he “could see, smell, feel, [and] taste” the train engines’ diesel fumes when he rode inside the engine cabs with the engineer. Although the windows and doors to the engine cab were often left open due to the heat, the diesel fumes would “trail into the engine cab” even if the doors were closed. Mr. Payne described the fumes as being so pervasive that “if you blew your nose, it was always black.” He also described traveling through tunnels where the air quality was “terrible” because of the dense fumes. Mr. Payne stated that he worked in this kind of environment for some twenty years of his forty-one years of service, and that over the entire course of his employment he had never worked on a train without the presence of diesel fumes inside the engine cab. He recalled that he and other employees finally complained on one occasion because the conditions were “so bad” that “[they] just refused to work with it.” He explained that he did not object to these conditions more often because, as with his lack of knowledge about the dangers of asbestos, “[he] didn’t even know that diesel fumes [were] . . . a hazard.” He further stated that the Defendant did not provide any warnings about the effects of diesel fumes, never tested the air quality levels on the trains, and did not offer a respirator or mask as protection from the fumes.

Mr. Payne testified that he had also been exposed to radioactive substances throughout his term of employment with the Defendant, particularly during one year in the 1980s when he transported cargo from the Oak Ridge Y-12 Nuclear Facility, and from 1962 until 1993 when he switched the train cars at the Witherspoon scrapyards. Mr. Payne stated that none of the train cars that he worked on were marked with radioactive symbols, although some of the cars were protected by Oak Ridge security guards. He recalled that “open top gondola cars” were often used to transport metal drums, which did bear a radioactive symbol, but that the Defendant treated these as “just another car” and never provided any special instructions for transporting the metal drums. Mr. Payne further testified that he often had to ride inside these cars when the train crossed the Tennessee River bridge in Knoxville, where he would be “right next to [the radioactive drums], inside [the car] with them.” He stated that “[a]round twenty or thirty” metal drums marked with a radioactive symbol were stored next to the railroad track at the Witherspoon scrapyards, which he entered “hundreds of times” over the course of more than thirty years. According to Mr. Payne, the Defendant did not offer any training or protective materials to its employees and “never said one thing to [him] about radioactivity . . . or . . . any chemical hazard.” When asked what the Defendant should have done differently as to all of these contaminants, Mr. Payne responded, “I think they should have given me training of what to do in case we were handling or being close to radiation or asbestos or diesel fumes. They should have offered protective clothing, respirators, whatever it took to protect a man’s health.”

When Mr. Payne died in 2010 at the age of sixty-seven, his widow, Anne Payne (the “Plaintiff”), was substituted as plaintiff. At trial, the Plaintiff’s testimony largely corroborated Mr. Payne’s videotaped deposition and provided more detail as to the negative effects of his radiation and chemotherapy treatments. Buffy Wilmoth, Mr. Payne’s chemotherapy nurse, confirmed the side effects of his treatments. Donnie Carringer, who was employed by the Defendant from 1971 until 2005, corroborated the conditions that he and Mr. Payne experienced at the railroad, including exposure to “asbestos brakes” and dust; diesel fumes and “black looking smoke”; and radioactive materials. Two other co-workers, Donnie Witt and Walter Cooper, offered similar testimony.

The Plaintiff also presented the videotaped deposition of William Bullock, a company representative for the Defendant, who testified as an adverse witness. While denying that Mr. Payne had been exposed to any hazardous materials, Mr. Bullock acknowledged the presence of asbestos on the Defendant’s train engines, brakes, and cabooses, and the possible presence of plutonium at the Witherspoon scrapyards. As detailed in relevant part below, the Plaintiff offered additional testimony by numerous lay and expert witnesses who provided historical accounts of railroad industry standards, statistical data on hazardous materials in the workplace, and opinions as to what factors contributed to Mr. Payne’s lung cancer.

Terry Rhodes, who from 1976 until 2002 was employed as a train engine repairman for Conrail and Norfolk Southern Railway Company, testified that he had worked primarily as a pipefitter and sheet metal worker, but that in 1990, “asbestos was added to [his] job” when Conrail began an abatement program. Mr. Rhodes acknowledged that he had “handled asbestos from the date [he] was hired at the railroad” and that 1990 was significant because it was the first time that Conrail provided “any formal training in how to remove asbestos.” Although Mr. Rhodes was not employed by the Defendant, he testified that he was responsible for handling and removing asbestos from diesel train engines of the same model used by the Defendant.³ He confirmed that asbestos appeared in several places on the train engines, such as “on the radiator heater pipes[,] . . . the feed line and the discharge line to an air compressor[,] . . . the pipes running from the governor to the load regulator[,] . . . [a]nd . . . the . . . cab heater lines that ran all the way to the sump area of the locomotives up into the cab area.” Mr. Rhodes, who had received training in identifying the materials containing asbestos, testified that he had removed “friable asbestos” from train engines that contained “airborne asbestos fibers.”

³ Mr. Rhodes worked for Conrail until 1999, when Norfolk Southern and the Defendant each acquired one half of the Conrail operation. After Conrail was divided, Mr. Rhodes was employed for the rest of his career by Norfolk Southern. He testified that all of the railroads used the same common types of locomotive engines, and that the Defendant acquired some of Conrail’s engines when the railroads merged in 1999.

Dr. Robert Leonard Vance, a board-certified industrial hygienist and licensed engineer, testified that the American Railway Association had “concerns with dust-related diseases in railroad men” as early as 1932, and that by 1935 the railroads were aware that asbestos, commonly used in diesel-engine locomotives, caused various dust-related diseases. Dr. Vance also identified documents showing that by 1958, the Association of American Railroads had recognized the “carcinogenicity of asbestos and . . . how exposure to it induces cancer.” In 1971, when the Occupational Safety and Health Administration (“OSHA”) was established, “[t]he first material that it . . . regulated was asbestos,” and OSHA thereafter continuously evaluated the amount of asbestos to which a person could be exposed without being harmed. After reviewing Mr. Payne’s occupational history, Dr. Vance opined that Mr. Payne suffered “injurious levels of exposure” to asbestos during his term of employment with the Defendant, and that the workplace of the Defendant was not safe “with respect to asbestos.”⁴

Dr. Vance further testified that “key information” about the dangers of diesel exhaust as a carcinogen was made available by 1955, some seven years prior to Mr. Payne’s employment. In Dr. Vance’s opinion, Mr. Payne “was [also] exposed to injurious levels of diesel exhaust,” which “could have been significantly lessened if the [Defendant] had utilized appropriate control technology.” Dr. Vance pointed to several diesel-exhaust regulations promulgated by the Federal Railroad Administration, which required “that the products of combustion . . . be released entirely outside of the cab and the other compartments, . . . that exhaust stacks . . . be of sufficient height . . . to prevent entry of products of combustion into the cab or other compartments,” and that “the cab . . . be provided with proper ventilation.” According to Dr. Vance, there were available methods of ventilation and personal protection that were not utilized by the Defendant, which led to his opinion “that the [Defendant] did not provide [Mr. Payne] with a reasonably safe place to work as far as diesel exhaust exposure [was] concerned.”

Dr. Vance, who had been “involved with writing the regulations governing chemical exposures in the workplace” when he was the director of health standards at OSHA from 1982 until 1986, also determined that Mr. Payne had been exposed to radioactive substances at the Witherspoon scrapyard, which processed “tons and tons of recycled material that was contaminated with radiation.”⁵ Dr. Vance found that Mr. Payne had been exposed to

⁴ Dr. Morton Corn, a former OSHA director who appeared at trial on behalf of the Defendant, testified that asbestos, which has “a long latency period” between twenty and forty years, “causes two types of cancer: [l]ung cancer and mesothelioma if inhaled over a sufficient period of time and in sufficient amounts.” Dr. Corn, however, described Mr. Payne’s exposure to asbestos as “not significant.”

⁵ Alta Groover, who was responsible for the bookkeeping and administrative duties for Witherspoon (continued...)

radiation in a variety of ways during his term of employment, especially when he was required to walk along the railroad tracks in areas where radioactive materials were present. He further concluded that the Defendant had failed to provide training and educational programs for its employees or to implement protective measures such as respirators and radiation monitoring devices. Dr. Vance testified that Mr. Payne had worked for the Defendant for some nineteen years “before the [Defendant] hired a competent industrial hygienist to design a workplace safety program” in 1981. In consequence, Dr. Vance opined that Mr. Payne was deprived of a “safe place to work as far as his radiation exposures were concerned.” He confirmed that all of his opinions were provided “to a reasonable degree of certainty in the field of industrial hygiene.” On cross-examination, Dr. Vance agreed that it was “not possible” to determine the amounts or “doses” of asbestos, diesel exhaust, and radiation to which Mr. Payne was exposed “because the [Defendant] never did [any] monitoring to determine what his levels of exposure were.”

Daniel Stephen Mantooth, a health physicist specializing in radiation protection in the workplace, also testified on behalf of the Plaintiff. He identified uranium and plutonium as “highly dangerous” radioisotopes that could cause cancer if inhaled in sufficient quantities. Asked if he knew “how much plutonium needs to be inhaled before a person can have injury or death or develop cancer,” Mr. Mantooth responded that “there’s been no safe level for plutonium intake.” He further testified that files obtained from the Tennessee Department of Radiological Health indicated that, during the term of Mr. Payne’s employment, the Witherspoon scrapyards had received, by train or by truck, “gross tons of . . . contaminated scrap [metal] . . . from the Oak Ridge operations alone that was . . . enriched in uranium-235.” He confirmed that uranium was found on the Witherspoon site in the 1960s and 1970s, and that one inspection indicated that “the material was leaching from the metal and the equipment into the ground.” Inspections revealed the continued presence of uranium in the 1980s. Mr. Mantooth also found documentation indicating detectable levels of uranium and plutonium at the Witherspoon scrapyards in the 1990s, when environmental cleanup efforts had begun to take place.⁶ Mr. Mantooth testified that a health hazard report issued in 2007 “still . . . found detectable levels of uranium and plutonium on the site,” even though this was

⁵(...continued)

between 1955 and 1998, acknowledged that the company had a “radioactive materials license” for handling “low level radioactive scrap metal.” She testified that the Witherspoon facility received its first shipment of radioactive scrap metal in 1964 and its last shipment in 1972.

⁶ Dr. John Nolt, a professor of philosophy at the University of Tennessee, testified that he had formed a group called “Project Witherspoon” in the late 1980s in an attempt to bring governmental attention to the conditions at the Witherspoon scrapyards. According to Dr. Nolt, remediation took place sometime around 1993, the year that the Witherspoon scrapyards was shut down, and the State posted a sign at the site, which read, “Warning, Toxic and Radioactive. Keep Out.”

“long after the metal ha[d] been taken out” and there had been “remediation of the soil and everything else.” According to Mr. Mantooth’s reading of the 2007 report, the levels of plutonium were high enough to consider it a “contaminant of concern,” and the levels of uranium were above background levels. He testified that the uranium and plutonium had to have been transported to the Witherspoon scrapyards because the radioisotopes are not created “through natural causes.”

At the request of the Plaintiff, Mr. Mantooth had developed two reports detailing the Defendant’s operations related to radioactive materials during the term of Mr. Payne’s employment. In the first, he “found no evidence that [the Defendant] had any . . . radiation protection program in place,” indicating that Mr. Payne had been exposed to radiation “above background level,” which qualified as “an unsafe level of radiation exposure.” Mr. Mantooth pointed out that five elements of radiation protection should have been in place: (1) “[a] formal hazard assessment methodology to assess potential risk of employees from the transport of radioactive materials”; (2) “a radiological survey program to verify that radiation and radioactive contamination levels . . . remain[ed] within the applicable limits . . . [and] that no residual contamination remain[ed] on rail cars”; (3) “a personal protective equipment program to provide appropriate types of protective clothing, respiratory protection equipment[,] and training on their use”; (4) “[a] personal monitoring program” for both external and internal monitoring of employees; and (5) “[a] program to create and maintain records of the radiation safety program.” Mr. Mantooth further testified that the Defendant had failed to utilize readily available methods of radiation monitoring or survey any of its train cars for radiation prior to 1983, even though the Defendant knew or should have known by the 1970s at the latest that the railroad was transporting radioactive materials to and from the Witherspoon scrapyards. In his opinion, the Defendant had violated two federal regulations by requiring Mr. Payne to be near the radioactive materials without proper protection and by failing to survey its train cars “with appropriate radiation detection instruments.” In his second report, Mr. Mantooth found fault with the “input data” used by the Defendant’s experts to estimate Mr. Payne’s radiation exposure levels. While concluding that the exposure was at far higher levels than estimated by the Defendant’s experts, Mr. Mantooth opined that “there[was] just not enough information to do a credible dose reconstruction.”

Dr. Kerns, Mr. Payne’s treating oncologist from 2005 until his death in 2010, documented Mr. Payne’s workplace exposures to asbestos, diesel exhaust fumes, and radiation, as well as his history of cigarette smoking. Dr. Kerns made note of the fact that Mr. Payne had stopped using tobacco products over fifteen years prior to his diagnosis of lung cancer. Describing Mr. Payne as a “very tough” and “motivated” patient, he provided detail as to the course of Mr. Payne’s treatment, the progression of his cancer, and the ill effects of the combination of his chemotherapy and radiation. In developing his medical

opinion as to the cause of Mr. Payne's lung cancer, Dr. Kerns opined that the workplace carcinogens and the cigarette smoking "contributed to his development of lung cancer." Observing that it was medically impossible to "know the precise amount of carcinogens that [Mr. Payne] inhaled" or to determine "that one single factor [was] the causation," Dr. Kerns concluded, "to a reasonable degree of medical certainty," that "asbestos, smoking, radiation[,] and diesel exhaust exposure" all contributed to Mr. Payne's lung cancer. While Dr. Kerns conceded on cross-examination that cigarette smoking "put [Mr. Payne] at an increased risk of lung cancer," he disagreed with defense counsel's suggestion that "cigarette smoking . . . [was] the major cause of [Mr. Payne's] cancer."

Dr. Arthur Leonard Frank, who holds both a medical degree and a Ph.D. in biomedical sciences, testified on behalf of the Plaintiff in his capacity as a board-certified physician in the field of occupational medicine. As a professor and chair of the Department of Environmental and Occupational Health at Drexel University, Dr. Frank has taught a variety of courses including topics related to occupational and environmental cancers. In preparation for the trial, he had considered several sources of information, including a lengthy interview with Mr. Payne taken prior to his death. Dr. Frank, who had authored an estimated 170 publications during his career, "[v]irtually all" of which had been subjected to peer review, testified that "about half of [his publications] ha[d] something to do with asbestos." He had also researched and written on the subjects of radiation exposure and the occupational effects of diesel exhaust fumes. Dr. Frank described radioactive materials such as uranium and plutonium as carcinogens that could cause lung cancer if inhaled, and he further testified that Mr. Payne, during the term of his employment with the Defendant, had been "expos[ed] to radioactive materials of the type that can cause lung cancer"—particularly in relation to his work at the Witherspoon scrapyard. Dr. Frank also addressed the various diseases that can be caused by exposure to asbestos, including asbestosis, mesothelioma, and lung cancer. While observing that "it takes relatively a lot of asbestos" to cause "asbestosis, the scarring of the lung," he pointed to studies indicating that "exposure to . . . very low level[s]" could cause cancer because "[t]he only safe level of asbestos is zero." As to the harmful effects of diesel exhaust fumes, Dr. Frank identified other studies establishing that "exposure to diesel fumes increases the risk of lung cancer, specifically in railroad workers."

While noting that Mr. Payne had been successfully treated for a skin cancer on his scalp and had been previously diagnosed with a lesion on his thyroid, which was at one point thought to be cancerous but was ultimately determined not to be malignant, Dr. Frank maintained that Mr. Payne's lung cancer was "related to his work at the railroad." Explaining that there are a "variety of different types" of lung cancer, Dr. Frank confirmed that "Mr. Payne . . . had a non-small[-]cell cancer of the lung, and that can be caused by radiation, by asbestos, by diesel exhaust[,] and by smoking." While he did not rule out cigarette smoking as a contributing cause of the cancer, Dr. Frank pointed out the "special

relationship between smoking and asbestos”—which, he said, increased by “fifty times [the] chance of getting lung cancer if you are exposed to asbestos and you smoke.” Ultimately, Dr. Frank opined “with a reasonable degree of medical certainty” that Mr. Payne’s lung cancer was causally related to his “chronic” and “substantial” workplace exposure to asbestos, diesel fumes, and radiation, in addition to his history of cigarette smoking.

Dr. Richard Clapp, an epidemiologist, also testified “to a reasonable degree of scientific certainty that alpha radiation from enriched uranium and plutonium is capable of causing or contributing to the development of lung cancer in exposed humans.” He agreed “to a reasonable degree of scientific certainty that asbestos is also capable of causing or contributing to lung cancer in exposed humans,” and that “cigarette smoke and asbestos multiply[] their impact on workers with respect to lung cancer.”

After the Plaintiff presented testimony by Dr. Robert Bohm, an economist who estimated the lost “value of household services” by virtue of Mr. Payne’s illness and death, the Defendant moved for a directed verdict on a variety of grounds. Judge Harold Wimberly denied the motions.

B. Defendant’s Proof at Trial

Paul Maynard, a retired railroad employee who had worked for the Defendant and its predecessor railroads from 1969 until 2000, was stationed at the Defendant’s Knoxville office from 1983 to 1987. As a trainmaster, Mr. Maynard was responsible for ensuring the safety of Mr. Payne and other railroad workers and annually testing all employees “on both safety and operating rules.” He testified that, in addition to the “efficiency tests” that he administered, various federal and state inspectors regularly visited the worksite “to make sure that the employees and the railroad were complying with the safety regulations.” According to Mr. Maynard, “the safety rules prohibited [railroad employees] from riding on the inside of cars,” as Mr. Payne and the other employees had testified was commonplace. He stated that the policy prohibiting employees from riding inside the open top gondola cars was based upon the concern that scrap metal cargo could “shift and . . . pin a person against the end of that car.” Mr. Maynard testified that when he learned in the fall of 1983 that there may have been radioactive materials at the Witherspoon scrapyards, “a flag went up,” and he “had some concerns about [whether it was] safe for [the Defendant’s] switch crew[s] to switch [the cars there].” He recalled contacting a state inspector, Billy Freeman, who had been “involved a lot with the Witherspoon thing for years and years,” and that Mr. Freeman had confirmed in writing that it was safe for the railroad crews to enter the scrapyards so long as they “stayed out of the vicinity of the contaminated barrels.” Mr. Maynard recalled that two years later, after receiving additional information about the levels of radioactivity at Witherspoon, he instructed the railroad employees to deliver the cars “just barely inside the gate area” so that

they were not actually entering the Witherspoon property.⁷ Mr. Maynard contended that he “did every possible thing” to protect the safety of his employees.⁸

On cross-examination, Mr. Maynard conceded that he had worked at the Defendant’s Knoxville location for only four years, and that he did not have any knowledge of the Knoxville worksites between 1962 and 1983—the first twenty years of Mr. Payne’s career with the Defendant—or at any time after 1987, when he was transferred to a Florida location.⁹ Asked about the presence of asbestos on the Defendant’s train engines, brakes, and cab heater pipes, Mr. Maynard responded that he had no personal knowledge because that “was not [his] area” of expertise. He further testified that during his time in Knoxville he was unaware of any asbestos removal from the Defendant’s train engines, but that he could smell diesel fumes “[a]ny time that [he] was ever around a diesel engine, a diesel locomotive, inside the cab or just in the general area.” He acknowledged that “diesel fumes would go[] into the air in the general direction back toward the caboose, the cab of the engine and beyond.” After seeing a photograph of an engine belonging to one of the Defendant’s predecessor railroads, Mr. Maynard agreed that the engines emitted “black looking smoke,” but explained that excessive black smoke, as depicted in the photograph, was a sign of “a serious mechanical malfunction” because “[i]f [an] engine is smoking like that, it’s not going to make it another mile.” He clarified that, as a trainmaster, his job was not to inspect the mechanics of the trains but to ensure safety and compliance with federal regulations. While admitting that he had never seen any of the Defendant’s employees wear protective equipment, he was unaware of any other railroad that did so. He further testified that the railroad crews would not have loaded or unloaded the cargo in the cars that they switched at the Oak Ridge Y-12 Facility and the Witherspoon scrapyard.

Larry Liukonen, a board-certified industrial hygienist and safety professional who had worked for the railroad industry since 1979 and as a consultant for the Defendant from 1987 until about 2007, testified that his primary responsibilities included air sampling and

⁷ Mark Badders, an industrial hygienist who had worked for the Defendant and its predecessor railroads since 1980, testified that he met with Mr. Maynard and Mr. Freeman to measure radiation levels at the Witherspoon scrapyard in September of 1985, at which time he made the recommendation “that we no longer switch into the Witherspoon [s]crapyard site, but we would drop our cars and pick up cars just across Candora Road from the Witherspoon [s]crapyard.”

⁸ Mr. Badders similarly testified that his “main concern” was the safety of the Defendant’s train crews. In his opinion, the Defendant had provided a safe working environment for its employees.

⁹ Mr. Badders, who was still employed by the Defendant after Mr. Maynard was transferred to Florida, testified that in 1991 he recommended that the Defendant resume switching inside the Witherspoon facility after an independent evaluation was performed by Dr. William Ringo with CRU, Inc., who “stat[ed] that they had not found external radiation exposure” at the Witherspoon scrapyard.

laboratory testing of the Defendant's facilities across the country, so as to monitor the railroad employees' exposure levels to asbestos and diesel exhaust. Mr. Liukonen maintained that none of the Defendant's workplace conditions would have involved "any significant exposure to asbestos," and that if Mr. Payne had any exposure at all, it would have been well below the "[p]ermissible exposure limits" established by federal regulation. He further testified that in the early 1990s, the Defendant initiated "very extensive work on train crew exposures to diesel exhaust," and that his studies indicated that diesel exhaust was not a health risk. He described Mr. Payne's exposure to exhaust as "very low" and "probably not much different than driving down the interstate." In Mr. Liukonen's opinion, Mr. Payne "wasn't exposed to hazardous levels of either asbestos or diesel exhaust."

Dr. John Edward Craighead, a practicing physician licensed in Vermont, has spent much of his career researching and publishing articles on lung cancer. In his preparations for the trial, he had been asked to "review the pathology, the biopsies that were taken of Mr. Payne; . . . to review the medical aspects of it, that is his clinical course of illness; and . . . [,] having defined his occupational background and smoking history and other factors, to opine on the cause of Mr. Payne's disease, his lung cancer." Dr. Craighead testified that the particular type of lung cancer associated with cigarette smoking "is always squamous cell carcinoma," which is "sometimes known as a non-small[-]cell carcinoma" and is the type of lung cancer Mr. Payne had contracted. Despite many years of research on the issue of diesel exhaust and diseases, Dr. Craighead held the view that "there's been . . . no good evidence that diesel fuel causes cancer." In his opinion, any exposure to diesel exhaust fumes that Mr. Payne might have experienced did not increase his risk of lung cancer and was not a contributing cause of his lung cancer. As to the issue of asbestos exposure, Dr. Craighead testified that asbestos would not be a contributing cause of "classical lung cancer"¹⁰ absent the underlying disease of asbestosis, which Mr. Payne did not contract. It was his opinion that asbestos did not play a role in contributing to Mr. Payne's lung cancer.¹¹ Although Dr. Craighead had not been asked to examine the Plaintiff's claim of exposure to radioactive substances, he agreed during cross-examination that he had previously identified "a thyroid cancer in Mr. Payne," and that radiation is "one of the contributing causes" of thyroid

¹⁰ Dr. Craighead distinguished "what we call lung cancer" from "a specific type of lung cancer" known as mesothelioma, "which is not the classical lung cancer" because it occurs "only [with] certain types of asbestos and under most unusual circumstances." Dr. Craighead further testified that Mr. Payne's medical records did not reveal any evidence of mesothelioma.

¹¹ Dr. David Weill, a pulmonary specialist practicing at Stanford University Medical Center, likewise testified on behalf of the Defendant that, in his opinion, "because [Mr. Payne] did not have baseline asbestosis, . . . his asbestos exposure [did not] elevate[] his cancer risk at all."

cancer.¹²

Dr. David Dooley, a certified health physicist specializing in radiation biology, addressed Mr. Payne's exposure to radioactive substances. He first observed that "background radiation" is a part of nature, meaning "we have cosmic radiation that's hitting the earth all the time . . . from space" and "we are being radiated from the ground we walk on" because of natural radiation levels in the soil. While acknowledging that excessive exposure to radiation can cause cancer and particularly lung cancer, Dr. Dooley contended that some radiation is beneficial and that "a number of scientific organizations" consider "five rem per year"¹³ to be "the allowable occupational exposure . . . where we don't expect anything to happen to the person" who has been exposed to the radiation. Dr. Dooley, who had assessed radiation levels within various industries, opined that Mr. Payne would not have been exposed to as much radiation as a nuclear facility employee who worked in a "very highly radioactive area" and could "get up to five to ten rem to do [his or her] job." He based his opinion on a "dose reconstruction," which he described as "basically a time motion study of where Mr. Payne was when and how long he was there and what he could have been potentially exposed to." He estimated Mr. Payne's direct and indirect radiation exposure in relation to contaminated scrap metal, four "unique loads" of cargo that had "a little bit higher amounts of radioactivity," contaminated soil at the Witherspoon scrapyard, depleted uranium contained in the metal drums at Witherspoon, and an isolated "cesium contamination incident along the rail tracks" at the Oak Ridge Y-12 Facility. According to Dr. Dooley, even though he "gave Mr. Payne every benefit of the doubt over [these] exposures," the numbers produced by his dose reconstruction study were "just not high enough to say that Mr. Payne[,] over his [fifteen]-year . . . career where he was in and out of Witherspoon and . . . other locations . . . , could have ever gotten doses that would have been [a concern]."¹⁴

¹² As indicated, however, Dr. Frank testified on behalf of the Plaintiff that Mr. Payne "did not have thyroid cancer," explaining that "[h]e . . . had a lesion in his thyroid that was at one point thought to be cancer but ultimately . . . was not shown to be a malignancy. . . . [T]hyroid cancer does have a relationship to exposure to radioactivity, but he did not have a thyroid cancer."

¹³ Dr. Dooley explained that a "rem," or "roentgen equivalent man," is a measurement of radiation exposure "that takes the roentgen[,] which is the [amount of ionization] in air[,] and equates it to an exposure . . . that a human being in their system might get if [they are] exposed to that same amount of energy."

¹⁴ Dr. Weill similarly opined that exposure to radiation did not play any role in contributing to Mr. Payne's lung cancer because "if you compare his exposure to the kinds of exposure that ha[ve] been shown in the medical literature to increase the risk of lung cancer, Mr. Payne's exposure would have been very small."

On cross-examination, Dr. Dooley admitted that there were traces of plutonium, an element that “emits alpha radiation,” found in the soil at the Witherspoon scrapyard, which meant that the plutonium must have been transported by truck or railroad. Acknowledging “a very logical inference that it came from Oak Ridge,” Dr. Dooley agreed that the scrap metal transported to the Witherspoon site from Oak Ridge “could have [had] plutonium on it” and that no one at Oak Ridge could have “guarantee[d] that it wasn’t there.” Although Dr. Dooley maintained that the scrap metal “wasn’t classified as radioactive” and did not meet the definition of “radioactive materials” under federal regulations, he admitted that “[he] ha[d] no evidence that the railroad ever did any radiation surveys whatsoever,” that he did not find any evidence of radiation protection programs in use by the Defendant, that the Witherspoon company had at times violated radiological regulations, and that “[w]e’ll never know” exactly how much radiation Mr. Payne was exposed to during his term of employment.

Dr. David Kocher, a health physicist and senior research scientist who had conducted “a wide variety of research activities related to radioactivity in the environment and calculating radiation doses,” testified that he had conducted a study in 1990, which measured “potential exposures to . . . the public and to railroad workers from radiation contamination along tracks in the town of Oak Ridge leading up to Y-12.” Relying on field data collected by the Oak Ridge National Laboratory’s Environmental Restoration Program, Dr. Kocher reported that the radiation levels were “well below any applicable regulatory criterion” and, therefore, were “not a serious problem.” At the time, however, he did recommend “to the officials at Oak Ridge” that “they ought to just go dig up . . . a few cubic yards of contaminated dirt and haul it away[,] and they took [his] advice.” In preparation for the trial, Dr. Kocher applied his 1990 report to Mr. Payne by taking the same “radiation survey data that had been taken back in the 1980’s that [he had] used in [his] generic dose assessment back in 1990,” combining that data with information “about where [Mr. Payne] worked during what year, how many times a week . . . he [went] out there, [and] how many runs back and forth to Y-12 . . . he [made], and . . . tailor[ing] [his] dose assessment to the particular conditions of exposure that [Mr. Payne] stated in his testimony.” He concluded that Mr. Payne’s exposure “almost certainly did not exceed a value of [one] millirem,” or one one-thousandth of one rem, which he described as “not worthy of any concern.” Dr. Kocher estimated that during “the whole year that Mr. Payne was out at th[e] track area in east Oak Ridge,” the amount of radiation to which he was exposed “was equivalent to less than one pack of cigarettes.” He further testified that Dr. Dooley had overestimated Mr. Payne’s dose of plutonium, concluding that “plutonium [was] a very, very insignificant contributor to Mr. Payne’s exposure and that Mr. Mantooth’s concerns about the significance of plutonium at Witherspoon were technically unfounded.”

On cross-examination, Dr. Kocher agreed that plutonium can travel through the air

and can cause lung cancer if inhaled. Although he did not necessarily agree with the methodology used by Dr. Dooley to reconstruct Mr. Payne's exposure level, he believed that "[plutonium] was an unimportant contributor to [Mr. Payne's] dose based on the data that Mr. Mantooth used in his analysis." Dr. Kocher also addressed the "cesium contamination along the railroad tracks in Oak Ridge," which had prompted his 1990 study and report. He identified the likely source of the cesium as waste from the Oak Ridge National Laboratory in the form of animal carcasses that were injected with cesium during controlled experiments to study "how radioactive material behaved inside the body of humans." According to Dr. Kocher, the cesium contamination must have "stopped sometime in the '60s" because "it was a fairly short window of time during the 1960's when Oak Ridge was the eastern regional burial ground for low level waste and it was during that period and that period only that an episode like this could have happened." He acknowledged, however, that the area of the railroad tracks where the cesium contamination had occurred was not cleaned up and remediated until after his 1990 report was published.

C. Jury Verdict

After closing arguments, Judge Wimberly provided instructions to the jury and developed a special verdict form. The jury, after finding the Defendant guilty of not only common law negligence but also negligence per se, returned a verdict awarding the Plaintiff \$8.6 million, "without any deduction for any [contributory] negligence" on the part of Mr. Payne, which the jury found to be sixty-two percent. After the jury had reported its verdict and in response to questioning by Judge Wimberly, the jury foreman confirmed the accuracy of the jury's answers on the verdict form. Immediately following this exchange, Judge Wimberly addressed the jury as follows:

Now, let me further inform you that . . . the concept of contributory negligence may not apply in this case [because of the finding of negligence per se]. In that situation, the [P]laintiff would receive the entire amount of money that you have listed

If that is what you intend in this particular case, please indicate by raising your right hand[.]

In response, the jury foreman raised his hand. Judge Wimberly then added: "That is something that we hadn't talked about before, but . . . we need to know if that is your intention. Again, . . . the effect of [your] answers [as to negligence per se] . . . is that the recovery would be 100 percent of the amount listed" Judge Wimberly then asked, "What is your feeling now?" The foreman responded by asking if the jury could "have a moment to discuss that," and the jury was dismissed from the courtroom. Eight minutes later, the jury returned and the following colloquy took place between Judge Wimberly and

the foreman:

[Judge Wimberly:] Based on previous discussion, Mr. [Foreman], it is the intention of the jury that the [P]laintiff recover a total amount of what?

Jury Foreman: \$3.2 million.

[Judge Wimberly:] 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.

During its second deliberation, the jury had amended the verdict form; a handwritten line crossed through the finding of "62%" contributory negligence, and the words "8.6 million" were also crossed out and replaced with a handwritten notation providing for "3.2 million @ 100%."

D. Trial Court Judgment

On March 7, 2011, some three months after the return of the jury verdict, Judge Wimberly entered judgment for the Plaintiff and awarded \$3.2 million in compensatory damages. The Plaintiff filed a motion to alter or amend the judgment asking for reinstatement of damages in the amount of \$8.6 million, arguing that the jury's answers to the questions on the original special verdict form required the higher award. The Defendant filed a motion seeking a judgment notwithstanding the verdict or, in the alternative, a new trial. After argument by counsel, Judge Wimberly granted a new trial, citing reasons "including, but not limited to, instructional and evidentiary errors that resulted in an injustice to [the] Defendant . . . , independent of considerations regarding sufficiency of the evidence."

Six months later, Judge Wimberly entered an order of recusal, and the case was reassigned to Judge Dale Workman. On September 4, 2012, the Defendant filed a motion in limine seeking to exclude the testimony of the Plaintiff's expert witnesses: Mr. Mantooth, as to Mr. Payne's level of exposure to radiation; Dr. Vance, as to Mr. Payne's levels of exposure to asbestos, diesel exhaust fumes, and radiation; and Drs. Frank and Kerns, as to whether Mr. Payne's exposure to asbestos, diesel exhaust fumes, or radiation were contributing causes of his lung cancer. Although Judge Wimberly had overruled similar motions prior to the original trial, Judge Workman granted the Defendant's motion in limine due to a lack of "accepted" or "reliable" scientific evidence, thereby excluding all of the testimony by the Plaintiff's expert witnesses on the issue of causation. When the Plaintiff

acknowledged an inability to otherwise establish causation absent the excluded testimony of her experts, Judge Workman granted summary judgment in favor of the Defendant and dismissed the case.

E. Appellate Review

On appeal by the Plaintiff, the Court of Appeals reversed, holding that Judge Workman's grant of summary judgment was "moot" and, in any event, "not appropriate." Payne v. CSX Transp., Inc., No. E2012-02392-COA-R3-CV, 2013 WL 6857947, at *1 (Tenn. Ct. App. Dec. 27, 2013). Moreover, the Court of Appeals found that Judge Wimberly had not made any erroneous evidentiary rulings during the course of the trial which were in any way prejudicial to the Defendant, and that the jury instructions as a whole were "clear, correct, and complete." Id. The court further held, however, that Judge Wimberly had erred by instructing the jury "*sua sponte* . . . after the jury had returned a verdict," and, on remand, directed Judge Wimberly¹⁵ to determine whether the amount of the \$8.6 million verdict was against the weight of the evidence. Id. If Judge Wimberly determined that it was not, the Court of Appeals instructed him to enter judgment in that amount; but if Judge Wimberly found that the larger amount was against the weight of the evidence, the court directed him to enter judgment for the Plaintiff in the amount of \$3.2 million. Id. The Defendant applied for permission to appeal, and, because of the novel issues raised by the remedial circumstances of the case, this Court granted the appeal.

II. Analysis

In order to resolve the Plaintiff's FELA claim in this unique procedural posture, we will provide the relevant background and address the following issues: (1) whether Judge Wimberly erred by declining to grant the Defendant's motion for a judgment notwithstanding the verdict and instead granting the Defendant's motion for a new trial; (2) whether Judge Wimberly erred by providing additional instructions to the jury after it returned the original verdict of \$8.6 million, rather than determining whether that amount was against the clear weight of the evidence; (3) whether the Court of Appeals erred by remanding for the trial court to award damages in the amount of the original \$8.6 million or the revised \$3.2 million; and (4) whether the Plaintiff's expert proof should have been excluded by the trial court.

A. The Federal Employers' Liability Act

FELA, enacted by Congress in 1908 "to provide a compensation scheme for railroad workplace injuries," Norfolk S. Ry. v. Sorrell, 549 U.S. 158, 165 (2007), provides, in pertinent part, as follows:

¹⁵ A complicating factor is that the terms of office for both Judge Wimberly and Judge Workman ended on August 31, 2014.

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. § 51.¹⁶ Under FELA, a railroad has a non-delegable duty to provide its employees with a reasonably safe place in which to work, “even when they are required to go onto the premises of a third party over which the railroad has no control.” Shenker v. Balt. & Ohio R.R., 374 U.S. 1, 7 (1963); see also Empey v. Grand Trunk W. R.R., 869 F.2d 293, 296 (6th Cir. 1989). While a plaintiff may bring a FELA action in either federal or state court, federal substantive law always controls FELA claims, regardless of the court in which such claims are filed. Mills, 300 S.W.3d at 631 (citing 45 U.S.C. § 56). Thus, we look to federal substantive law for the four elements of a FELA claim:

- (1) the employee was injured in the scope of employment;
- (2) the employee’s employment was in furtherance of the railroad’s interstate transportation business;
- (3) the railroad was negligent; and
- (4) the railroad’s negligence “played some part in causing the injury for which [the employee] seeks compensation under FELA.”

Id. (alteration in original) (quoting Van Gorder v. Grand Trunk W. R.R., 509 F.3d 265, 269 (6th Cir. 2007)).

As to the third and fourth elements of a FELA claim, a railroad may be found liable under a theory of either “ordinary negligence” or “negligence per se.” A claim of “ordinary negligence” requires the plaintiff to establish the common law elements of negligence: duty, breach, foreseeability, and causation. Adams v. CSX Transp., Inc., 899 F.2d 536, 539 (6th Cir. 1990) (quoting Robert v. Consol. Rail Corp., 832 F.2d 3, 6 (1st Cir. 1987)).¹⁷ As an

¹⁶ FELA pertains only to railroads in their capacity as employers and the claims of railroad employees who suffer job-related injuries. See Mills v. CSX Transp., Inc., 300 S.W.3d 627, 630 & n.2 (Tenn. 2009); see also CSX Transp., Inc. v. Miller, 858 A.2d 1025, 1029 (Md. Ct. Spec. App. 2004) (“The only possible defendants are railroads engaged in interstate commerce. The only possible plaintiffs are the employees of those railroads who are injured on the job.”).

¹⁷ This Court has described the elements of negligence as ““(1) a duty of care owed by the defendant (continued...)”

alternative to proving the elements of duty, breach, and foreseeability, a plaintiff may rely upon a theory of “negligence per se” if the railroad has failed to comply with a statutory or regulatory standard. See Schmitz v. Canadian Pac. Ry., 454 F.3d 678, 682-83 (7th Cir. 2006) (“[A] FELA employer’s violation of a statutory or regulatory duty gives rise to FELA liability for a resulting employee injury, regardless of whether the statute or regulation was meant to protect against the particular harm sustained by the employee.”); see also CSX Transp., Inc. v. McBride, 131 S. Ct. 2630, 2643 n.12 (2011) (“A railroad’s violation of a safety statute . . . is negligence *per se*.”). However, a railroad’s violation of a statutory or regulatory standard “constitutes negligence per se under FELA only if [the p]laintiff can establish that the violation was a cause of the injury.” Szekeres v. CSX Transp., Inc., 731 F.3d 592, 599 (6th Cir. 2013); see also Capriotti v. Consol. Rail Corp., 878 F. Supp. 429, 434 (N.D.N.Y. 1995) (“Under a negligence per se theory, if a plaintiff proves that a statutory violation has occurred[,] he need not prove the traditional negligence elements of foreseeability, duty[,] and breach, but he is still required to prove causation.”).

The standard for causation under FELA leans favorably to the injured employee, requiring juries to be instructed that “a defendant railroad ‘caused or contributed to’ a railroad worker’s injury ‘if [the railroad’s] negligence played a part—no matter how small—in bringing about the injury.’” McBride, 131 S. Ct. at 2644 (alteration in original); see also Urie v. Thompson, 337 U.S. 163, 181 (1949) (recognizing that FELA’s language on causation “is as broad as could be framed”). Thus, in order to prove the element of causation, a FELA plaintiff need only show that the railroad’s negligence “played any part, even the slightest, in producing the injury or death for which damages are sought.” Rogers v. Mo. Pac. R.R., 352 U.S. 500, 506 (1957). Moreover, as the U.S. Supreme Court has explained, “[i]t does not matter that . . . the jury may also . . . attribute the [injury] to other causes, including the employee’s contributory negligence. . . . [FELA] expressly imposes liability upon the [railroad] to pay damages for injury or death due ‘in whole or in part’ to its negligence.” Id. at 506-07; see also McBride, 131 S. Ct. at 2638.

In this instance, the Defendant asserted the defense of contributory negligence by virtue of Mr. Payne’s cigarette smoking, both as the sole cause of his cancer and death, and in the context of mitigating any award of damages should the jury find some level of liability on the part of the Defendant. Contributory negligence—the legal concept that “[a] plaintiff’s own negligence . . . played a part in causing [his or her] injury and [may be] significant

¹⁷(...continued)

to the plaintiff; (2) conduct by the defendant falling below the standard of care amounting to a breach of that duty; (3) an injury or loss; (4) causation in fact; and (5) proximate or legal cause.” Parker v. Holiday Hospitality Franchising, Inc., 446 S.W.3d 341, 350 n.7 (Tenn. 2014) (quoting Satterfield v. Breeding Insulation Co., 266 S.W.3d 347, 355 (Tenn. 2008)).

enough . . . to bar the plaintiff from recovering damages,” Black’s Law Dictionary 1134 (9th ed. 2009)—has a unique role in FELA cases. Notably, when Congress enacted FELA, it deviated from the concept of negligence under the common law by rejecting the traditional meaning of contributory negligence as a complete bar to recovery:

In all actions on and after April 22, 1908[,] brought against any . . . 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[.]

45 U.S.C. § 53 (emphasis added). The same section of FELA includes the additional caveat “[t]hat 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.” Id. The U.S. Supreme Court has interpreted these provisions to mean that contributory negligence on the part of the employee does not operate to diminish his or her recovery where the injury has been caused in part by the failure of the railroad to comply with a statutory or regulatory standard. Grand Trunk W. Ry. v. Lindsay, 233 U.S. 42, 49-50 (1914). In consequence, the concept of contributory negligence would not apply in the case before us—either to bar recovery or even to reduce any possible damages—if the Plaintiff has established that (1) the Defendant was negligent per se by violating a federal statute or regulation, and (2) the violation “played any part, even the slightest, in producing [Mr. Payne’s] injury or death.” Rogers, 352 U.S. at 506; see also Lindsay, 233 U.S. at 49-50.

In response to the special verdict form, the jury found that the Defendant had violated various statutes and regulations, including the Locomotive Inspection Act, 49 U.S.C. § 20701, by failing to provide a reasonably safe workplace with regard to asbestos, diesel fumes, and radioactive materials. The Defendant’s brief in this Court includes several arguments related to the jury’s finding of negligence per se, all of which will be discussed in the context of the Defendant’s motion seeking either a judgment notwithstanding the verdict or a new trial. As indicated, we will also discuss the admissibility of the Plaintiff’s expert proof as to causation—that is, whether the Defendant’s negligence played any part in contributing to Mr. Payne’s lung cancer.

B. Motion for a Judgment Notwithstanding the Verdict or for a New Trial

After judgment was entered on the jury’s verdict in favor of the Plaintiff, the Defendant filed a post-trial “motion for judgment notwithstanding the verdict or, in the

alternative, for new trial.”¹⁸ Tennessee Rule of Civil Procedure 50.02 explains the post-trial process as follows:

Whenever a motion for a directed verdict made at the close of all the evidence is denied or for any reason is not granted, the [trial] court is deemed to have submitted the action to the jury subject to a later determination of the legal questions raised by the motion. Within [thirty] days after the entry of judgment a party who has moved for a directed verdict may move to have the verdict and any judgment entered thereon set aside and to have judgment entered in accordance with the party’s motion for a directed verdict A motion for a new trial may be joined with this motion, or a new trial may be prayed for in the alternative. If a verdict was returned, the court may allow the judgment to stand or may reopen the judgment and either order a new trial or direct the entry of judgment as if the requested verdict had been directed.

(Emphasis added.)¹⁹ The Tennessee Practice Series on Civil Procedure provides further guidance:

A motion for judgment in accordance with the motion for a directed verdict is the procedural device whereby the trial court substitutes its judgment for the jury’s verdict to the contrary. A judgment in accordance with the motion for a directed verdict is the same thing as a “judgment notwithstanding the verdict” or a “judgment n.o.v.” Such a judgment is based upon the opinion of the trial judge that, notwithstanding the pronouncement of the jury, the case did not sufficiently raise any issue which required jury determination. It would not be proper for the court to grant judgment notwithstanding the verdi[c]t unless the evidence can lead to but one reasonable conclusion as to the correct verdict.

¹⁸ A “judgment notwithstanding the verdict,” or “JNOV,” is the more common term for a “judgment in accordance with a motion for a directed verdict,” which is the term used by our Rules of Civil Procedure. We use the terms interchangeably, as there is no substantive difference. Akers v. Prime Succession of Tenn., Inc., 387 S.W.3d 495, 508 & n.12 (Tenn. 2012) (quoting Huskey v. Crisp, 865 S.W.2d 451, 453 n.1 (Tenn. 1993)). Under federal law, the same procedural mechanism is referred to as a “judgment as a matter of law in a jury trial.” See Fed. R. Civ. P. 50.

¹⁹ Likewise, Federal Rule of Civil Procedure 50(b) allows a party to move for judgment as a matter of law “[n]o later than [twenty-eight] days after the entry of judgment.” In ruling on such motion, the district court is permitted to “allow judgment on the verdict” returned by the jury, grant a new trial, or direct a judgment in favor of the moving party. Fed. R. Civ. P. 50(b)(1)–(3).

....

In order to simplify the course of subsequent proceedings, [the Tennessee Rules of Civil Procedure] provide[] for the joint consideration of (1) a . . . motion for judgment in accordance with a motion for a directed verdict, and (2) a . . . motion for a new trial The trial court must first decide whether to grant the motion for judgment in accordance with the motion for a directed verdict, then whether to grant a new trial in the event the appellate court reverses the decision. . . .

. . . While the grant of a judgment notwithstanding the verdict concludes the proceedings in favor of the verdict-loser and against the verdict-winner, the grant of a new trial at least gives the verdict-winner another chance.

4 Nancy Fraas MacLean, Tennessee Practice: Rules of Civil Procedure Annotated § 50:4–50:5 author’s cmts. (Thomson/West 4th ed. 2005-2006) [hereinafter MacLean].

1. Judgment Notwithstanding the Verdict (JNOV)

As primary grounds for relief in its post-trial motion before Judge Wimberly, the Defendant requested judgment in its favor, notwithstanding the jury’s verdict in favor of the Plaintiff, for two reasons: (1) the Defendant is entitled to a JNOV on the Plaintiff’s common law negligence claims because the Plaintiff did not present “competent prima facie evidence”; and (2) the Defendant is entitled to a JNOV on the Plaintiff’s negligence per se claims because the Plaintiff did not prove “regulatory violations as to asbestos, diesel fumes[,] and radiation.” Judge Wimberly did not explicitly rule on these issues or enter a separate order denying a JNOV; however, in the order granting a new trial, Judge Wimberly stated that his decision to grant a new trial was “independent of considerations regarding sufficiency of the evidence.” The Defendant claims that if a new trial is not warranted based upon the grounds cited by Judge Wimberly (which we discuss below), the case should be remanded for the trial court to address the “unresolved [JNOV] issues that were pretermitted by the new-trial order.” We disagree.

It is not unusual for this Court to instruct a trial court or an intermediate appellate court to address unresolved or pretermitted issues on remand, provided that the issues have not been waived. Compare Lake v. Memphis Landsmen, LLC, 405 S.W.3d 47, 54 & n.5, 69 (Tenn. 2013) (remanding for the Court of Appeals to decide several issues that had been raised but not determined in the initial appeal), and Tenn. Farmers Life Reassurance Co. v. Rose, 239 S.W.3d 743, 751-52 (Tenn. 2007) (remanding for further trial court proceedings to resolve defenses raised in the pleadings which had been pretermitted by an erroneous grant of summary judgment), with In re Estate of Smallman, 398 S.W.3d 134, 162 n.10 (Tenn.

2013) (holding that a waived issue was “not available and should not be reconsidered upon remand”). In this instance, however, the Defendant’s argument is misplaced for two reasons. First, as a procedural matter, nothing prevented the Defendant from presenting its alternative grounds for relief before the Court of Appeals. See Tenn. R. App. P. 27(b); Hodge v. Craig, 382 S.W.3d 325, 335 (Tenn. 2012) (explaining how an appellee may present issues other than those presented by the appellant).²⁰ Instead of presenting the JNOV issues in its appellate brief, however, the Defendant attempted to raise the issues for the first time in a petition to rehear before the Court of Appeals. That is not timely. See Hodge, 382 S.W.3d at 335 (noting that an appellee must present issues in its brief in accordance with Rule 27(b) to avoid waiver); Alexander v. Patrick, 656 S.W.2d 376, 377 (Tenn. Ct. App. 1983) (“[An] issue raised for the first time in a petition to rehear should not be considered” (citing

²⁰ The very purpose of a motion for JNOV illustrates why the Defendant could have presented its issues on appeal, notwithstanding the grant of a new trial. This Court has explained the JNOV standard, as applied by both trial and appellate courts, as follows:

Under Rule 50.02, if a motion for directed verdict is not granted, the case is deemed to have been submitted to the jury subject to a later determination of the legal questions raised by the motion. Therefore, when the jury’s verdict rests upon an error of law, a party who has moved for a directed verdict may request the trial court to set aside the verdict and enter a judgment in accordance with the party’s motion for directed verdict.

In ruling on such a motion, the standard applied by both the trial court and the appellate court is the same as that applied to a motion for directed verdict made during trial. Therefore, the trial court and appellate court are required to take the strongest legitimate view of the evidence in favor of the opponent of the motion, allow all reasonable inferences in his or her favor, discard all countervailing evidence, and deny the motion when there is any doubt as to the conclusions to be drawn from the evidence. A verdict should not be directed during, or after, trial except where a reasonable mind could draw but one conclusion.

Mercer v. Vanderbilt Univ., Inc., 134 S.W.3d 121, 130-31 (Tenn. 2004) (emphasis added) (footnote and citations omitted). This standard does not require the appellate court to determine credibility issues or to decide whether the verdict is against the weight of the evidence, which are functions properly reserved for the trial court in the first instance. Id. at 131 (explaining that “[a] trial court exercises its authority as thirteenth juror when it finds that the verdict is contrary to the weight of the evidence,” whereas a trial court properly rules upon a motion for JNOV when it adjusts a verdict that was based upon an error of law); accord Nat’l Polymer Prods., Inc. v. Borg-Warner Corp., 660 F.2d 171, 178 (6th Cir. 1987) (“[I]f there is sufficient evidence to raise a question of fact for the jury, JNOV is improper. In determining whether the evidence is sufficient, the trial court may neither weigh the evidence, pass on the credibility of witnesses[,] nor substitute its judgment for that of the jury. In deciding the motion, the trial court must view the evidence in a light most favorable to the party against whom the motion is made, drawing from that evidence all reasonable inferences in its favor. When reviewing the trial court’s decision, an appellate court is bound by the same standard.” (citations omitted)).

Harrison v. Schrader, 569 S.W.2d 822, 828 (Tenn. 1978))).

Aside from any waiver of the JNOV issues that the Defendant contends were pretermitted, the Defendant is not entitled to relief on these alternative grounds for a second, more substantive reason. The Court of Appeals, in its order denying the Defendant's petition to rehear, declined to remand the case for the trial court to address the JNOV issues, explaining as follows:

Our [o]pinion 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 [the Defendant] when it considered [the Defendant's] post-trial motion. We adhere to the holding in our [o]pinion 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 [the Defendant] has not challenged in its petition for rehearing.

Payne v. CSX Transp., Inc., No. 2012-02392-COA-R3-CV, slip op. at 1 (Tenn. Ct. App. Jan. 23, 2014) (order denying petition to rehear) (emphasis added). We agree with this assessment. Judge Wimberly granted the Defendant a new trial for reasons “including, but not limited to, instructional and evidentiary errors that resulted in an injustice to [the] Defendant . . . , independent of considerations regarding sufficiency of the evidence.” (Emphasis added.) The JNOV issues, which related to the sufficiency of the evidence as a matter of law to establish common law negligence and negligence per se, simply were not a basis for the relief granted by Judge Wimberly. See Burton v. Warren Farmers Coop., 129 S.W.3d 513, 520 (Tenn. Ct. App. 2002) (“A . . . motion for directed verdict provides a vehicle for deciding questions of law. The question presented is whether the plaintiff has presented sufficient evidence to create an issue of fact for the jury to decide.”). By declining to grant a JNOV and instead granting a new trial, Judge Wimberly implicitly, if not clearly, rejected the insufficiency of the evidence as a basis for directing a verdict in favor of the Defendant. See MacLean § 50:5 author's cmts. (“The trial court must first decide whether to grant the motion for judgment in accordance with the motion for a directed verdict, then whether to grant a new trial” (emphasis added)); Bluff City Buick Co. v. Davis, 323 S.W.2d 1, 4 (Tenn. 1959) (“In logic and reason [the motion for a JNOV] should be made before the motion for a new trial.”); see also Morgan Keegan & Co. v. Smythe, 401 S.W.3d 595, 608 (Tenn. 2013) (“[W]hen construing orders and judgments, effect must be given to that which is clearly implied, as well as to that which is expressly stated.”).

Moreover, the Defendant has not presented any argument to this Court on the merits of these JNOV issues, requesting only that the issues be remanded for consideration by the trial court. Because the opportunity to grant a JNOV was considered and rejected by the trial

court—a determination that has not been appealed on its merits—the Defendant is not entitled to relief on these issues. Hodge, 382 S.W.3d at 334 (“[I]ssues are properly raised on appeal to this Court when they have been raised and preserved at trial and, when appropriate, in the intermediate appellate courts[,] and when they have been presented in the manner prescribed by [Tennessee Rule of Appellate Procedure] 27.” (footnote omitted)).

2. New Trial

As an alternative to a judgment notwithstanding the verdict, the Defendant also sought a new trial. In FELA cases, a motion for a new trial is governed by the federal standard, pursuant to which a trial court “has the power and duty to order a new trial whenever, in its judgment, this action is required to prevent an injustice.” Melton v. BNSF Ry., 322 S.W.3d 174, 181 (Tenn. Ct. App. 2010) (quoting Blackburn v. CSX Transp., Inc., No. M2006-01352-COA-R10-CV, 2008 WL 2278497, at *5 (Tenn. Ct. App. May 30, 2008)). A new trial may be granted based upon “substantial errors in the admission or rejection of evidence or the giving or refusal of instructions.” Charles A. Wright et al., Federal Practice and Procedure § 2805 (3d ed. 2005) [hereinafter Wright]. “[I]t is only those errors that have caused substantial harm to the losing party that justify a new trial,” and, further, “a new trial will not be granted on grounds not called to the court’s attention during the trial unless the error was so fundamental that gross injustice would result.” Id. The decision of whether to grant a new trial is entrusted to the discretion of the trial court; when, however, the reviewing court has “a definite and firm conviction that the trial court committed a clear error of judgment,” the trial court has abused its discretion and reversal is warranted. Melton, 322 S.W.3d at 181 (quoting Logan v. Dayton Hudson Corp., 865 F.2d 789, 790 (6th Cir. 1989)).

The Defendant, in its motion for a new trial, alleged the following evidentiary errors: (1) the introduction of testimony by Dr. Craighead that Mr. Payne had thyroid cancer, when he clearly did not; (2) the introduction of information about a contamination of cesium along the railroad tracks near the Oak Ridge Y-12 Facility; (3) the use of a photograph of a train emitting a cloud of smoke during the cross-examination of Mr. Maynard; (4) the admission of lay testimony regarding the presence of asbestos in the workplace; (5) the admission of evidence that the Witherspoon scrapyards, because it contained toxic materials, had been designated as a “Superfund” site by federal authorities; and (6) the introduction of regulatory violations at the Witherspoon scrapyards which were not relevant to the issues presented to the jury. In addition, the Defendant alleged that Judge Wimberly had provided an erroneous jury instruction as to federal radiation regulations and had improperly rejected numerous of the Defendant’s specially requested instructions, including a proposed instruction on foreseeability. Finally, the Defendant asserted that it was entitled to a new trial because the jury’s verdict was against the clear weight of the evidence.

After hearing argument by counsel, Judge Wimberly granted a new trial, holding that

“the jury instructions . . . were incomplete, . . . inadequate[,] and incorrect,” as evidenced by the jury’s confusion following the initial verdict. Judge Wimberly further commented that “there were too many things” improperly considered by the jury, the “worst” being the reference to “thyroid cancer[,] which [Mr. Payne] apparently did not have.” In the written order granting a new trial, Judge Wimberly added the following language: “Applying [the federal] standard . . . , the [c]ourt finds that . . . [a] [n]ew [t]rial is warranted . . . based upon specific prejudicial errors including, but not limited to, instructional and evidentiary errors that resulted in an injustice to [the] Defendant”²¹

As stated, the Court of Appeals found no error in Judge Wimberly’s jury instructions and further ruled that any error stemming from the reference to thyroid cancer was properly resolved by a limiting instruction. Payne, 2013 WL 6857947, at *17. As to the other alleged evidentiary errors, the Court of Appeals held that the trial court’s rulings were not erroneous and, in any event, were not of such consequence as to warrant a new trial. Id. at *18. Finally, in both its original opinion and in its subsequent order denying the Defendant’s petition for rehearing, the Court of Appeals held that by entering judgment in favor of the Plaintiff “the trial court was satisfied that the \$3.2 million verdict was not against the clear weight of the evidence.” Id. at *20; see also Payne, No. 2012-02392-COA-R3-CV, slip op. at 1 (order denying petition to rehear).

a. Evidentiary Issues

Traditionally, evidentiary questions fall within the discretion of the trial court, and, absent a showing of clearly prejudicial error, the admission or exclusion of a particular piece of evidence does not justify vacating a jury verdict. State v. Lewis, 235 S.W.3d 136, 141 (Tenn. 2007); Wilson v. Patterson, 73 S.W.3d 95, 102 (Tenn. Ct. App. 2001). We will specifically address each allegation of error.

²¹ This case exemplifies why it is important for trial courts to make specific findings on the record and to carefully set forth the bases for their decisions in the event of appellate review. In his written order, Judge Wimberly identified unnamed “instructional and evidentiary issues” as the prejudicial errors warranting the grant of a new trial. In his oral ruling from the bench, however, Judge Wimberly specified only the reference to thyroid cancer. “It is well-settled that a trial court speaks through its written orders—not through oral statements contained in the transcripts—and that the appellate court reviews the trial court’s written orders.” Williams v. City of Burns, No. M2012-02423-SC-R11-CV, 2015 WL 2265531, at *17 (Tenn. May 4, 2015) (quoting Anil Constr., Inc. v. McCollum, No. W2013-01447-COA-R3-CV, 2014 WL 3928726, at *8 (Tenn. Ct. App. Aug. 7, 2014)). “Nevertheless, we have recognized that a trial court’s order ‘should be construed with reference to the issues it was meant to decide, and should be interpreted in light of the context in which it was entered.’” Id. (quoting Morgan Keegan, 401 S.W.3d at 608). In this instance, we find that the issues raised by the Defendant, considered along with the transcript and the order of the trial court, are sufficient for us to review the motion for a new trial.

When granting the motion for a new trial, Judge Wimberly specifically referred to the cross-examination of Dr. Craighead, an expert witness employed by the Defendant who had erroneously diagnosed Mr. Payne with thyroid cancer based on his review of the medical records. In a pre-trial proceeding, the Defendant objected to Mr. Payne's statement that one of his physicians had initially diagnosed thyroid cancer—a diagnosis which later proved to be incorrect. Judge Wimberly sustained the objection, ruling that the initial misdiagnosis of thyroid cancer “really doesn't have anything to do with anything.” He then directed the Plaintiff's counsel to “leave that out” of Mr. Payne's videotaped deposition. At trial, Mr. Payne's reference to thyroid cancer was deleted from the deposition viewed by the jury; however, during the Plaintiff's cross-examination of Dr. Craighead, a witness called as an expert by the Defendant, the following exchange took place:

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.

The Defendant moved for a mistrial, arguing that these questions violated the prior ruling which had excluded Mr. Payne's reference to the misdiagnosis of thyroid cancer. In response, the Plaintiff's counsel asserted that he was entitled to use the misdiagnosis to challenge Dr. Craighead's credibility as an expert. After declining to grant a mistrial, Judge Wimberly provided the following limiting instruction to the jury: “[I]n the cross[-]examination of the last witness, mention was made of . . . thyroid cancer. As you previously heard, there's no claim in this case that [Mr. Payne] suffered from thyroid cancer or that that caused him anything that is the subject matter of this case.”

First and foremost, contrary to the claim by the Defendant, the cross-examination conducted by the Plaintiff's counsel did not violate the terms of Judge Wimberly's order to delete the reference to thyroid cancer from Mr. Payne's videotaped deposition testimony. That order simply did not address the cross-examination of Dr. Craighead or any other witnesses. The gravamen of the Defendant's complaint is that “Judge Wimberly never unambiguously told the jury that the testimony elicited by [the] Plaintiff's counsel was false and that [Mr.] Payne did not have thyroid cancer.” Because, however, Dr. Craighead had conducted an independent study of Mr. Payne's medical records and concluded that tests in 2006 “demonstrated a papillary thyroid carcinoma,” his testimony that he had made such a diagnosis was true. His diagnosis was erroneous, but there was no falsity in his testimony.

In any event, Judge Wimberly effectively communicated to the jury that the Plaintiff had made no claim that he suffered from thyroid cancer and that the jury was not to consider thyroid cancer as a basis for awarding damages. On appellate review, we must presume that the jury has followed a limiting instruction. Johnson v. Tenn. Farmers Mut. Ins. Co., 205 S.W.3d 365, 375 (Tenn. 2006). In light of this legal presumption, the Defendant is not entitled to relief on this ground. In our view, the instruction effectively clarified any possible confusion on the subject of whether any claim by the Plaintiff was for thyroid cancer. Moreover, Dr. Frank, testifying on behalf of the Plaintiff, stated unequivocally that Mr. Payne did not have thyroid cancer, and neither the pleadings nor the testimony of Mr. Payne or any of his physicians made any claim that Mr. Payne had thyroid cancer. Finally, any expert witness may be challenged on cross-examination as to his or her credentials as an expert or the deficiencies in the bases for their opinions. Tenn. R. Evid. 607; see also Neil P. Cohen et al., Tennessee Law of Evidence § 607.1, at 336 (3d ed. 1995) (“[A]ny party may attack the credibility of any witness.”). Because Dr. Craighead’s misdiagnosis of thyroid cancer was relevant to his credibility as an expert and the validity of his opinion as to the issues in this case, the admission of his testimony about the misdiagnosis was not erroneous and certainly did not amount to a “substantial error[] in the admission . . . of evidence” warranting a new trial. See Wright § 2805.

The Defendant next asserts that a new trial was properly granted because counsel for the Plaintiff improperly showed the jury a PowerPoint slide containing information about a cesium contamination along the railroad tracks in Oak Ridge. The contamination occurred in the 1960s, and when it was discovered years later, the U.S. Department of Energy (“DOE”) cleaned the area by removing a section of the track and the ballast rock lining the track. Prior to trial, the Defendant moved to exclude any evidence of the cesium contamination. Judge Wimberly deferred ruling on the motion, opting instead to wait until trial to see how the proof on the issue developed. At trial, during the Plaintiff’s direct examination of Dr. Vance, the Defendant objected to any questions related to the cesium contamination, and the matter was resolved in a bench conference when counsel for the Plaintiff agreed not to “ask [Dr. Vance] about cesium.” Later, during the cross-examination of Mr. Maynard, counsel for the Plaintiff exhibited a PowerPoint slide containing the following information:

Oak Ridge Y-12 Spur Cleanup

- Track closed down
- Cesium radiation contamination
 - Tracks, ballast rock cleaned
 - remediated by DOE

The Defendant objected, and Judge Wimberly immediately instructed the jury to “disregard that slide.” The Defendant also moved for a mistrial, which Judge Wimberly declined to rule on at that time. As indicated, the Defendant later presented expert testimony by Drs. Dooley and Kocher indicating that the level of cesium radiation at the Y-12 Facility was extremely low and posed no risk to any member of the public or a railroad employee such as Mr. Payne. At the close of proof, the Defendant renewed its motion for a mistrial, and Judge Wimberly denied the motion. Although the Defendant raised the issue of the cesium slide in its motion for a new trial, Judge Wimberly did not cite that as a ground for granting the motion.

We again reject the Defendant’s attempt to portray the conduct of the Plaintiff’s counsel as either the violation of a court order or the breach of an agreement between counsel. While the record demonstrates that the Plaintiff’s counsel honored an agreement not to ask about cesium during the direct examination of Dr. Vance, neither the ruling by Judge Wimberly nor the terms of the agreement between counsel precluded the Plaintiff from raising the issue during the cross-examination of the various defense experts. Furthermore, in context, the PowerPoint slide contained minimal reference to the cesium contamination at the Y-12 Facility, and the jury was promptly instructed to disregard the slide. As previously indicated, we presume that the jury follows the curative instructions of the trial judge. Johnson, 205 S.W.3d at 375. As a final matter, the Plaintiff offered no proof of cesium contamination; in consequence, the defense witnesses’ testimony that the level of radiation caused by the contamination was too low to put anyone at risk was uncontroverted. Under these circumstances, we agree with the Court of Appeals that the reference to the cesium contamination on one of the PowerPoint slides was insubstantial, having no effect on the verdict.

The Defendant further contends that a new trial was warranted because counsel for the Plaintiff showed the jury a photograph of a “locomotive emitting a cloud of dark black smoke.” According to the Defendant, the photograph was misleading because it depicted a train emitting excessive smoke due to a malfunction. When the photograph was shown to Mr. Payne during his deposition, he confirmed that it was the “general type of engine” that he worked on and that he had seen “black smoke like that.” At trial, Judge Wimberly sustained the Defendant’s objection to the photograph because the train “[had not] been officially identified in connection with this case.” Later, when cross-examining Mr. Maynard, counsel for the Plaintiff displayed the same photograph with no objection by the Defendant. Mr. Maynard indicated that the amount of smoke depicted in the photograph was indicative of a serious malfunction, stating, “[I]f [an] engine is smoking like that, it’s not going to make it another mile.” Mr. Maynard further testified that an engine in that condition would typically be taken out of service until it could be fixed. Although the Defendant did not object to the use of the photograph during the cross-examination of Mr. Maynard, Judge

Wimberly expressed his disapproval after Mr. Maynard had been excused, indicating that the photograph “probably should not have been gone into” because “there’s not even a claim by [the Plaintiff] that [Mr. Payne] was ever exposed to that sort of thing.”

In our view, Judge Wimberly’s resolution of this issue at trial was not erroneous. The photograph was not admitted into evidence, the Defendant did not object to its use, and Mr. Maynard effectively explained that the amount of smoke in the photo was atypical, thereby mitigating any possible prejudice to the Defendant. Thus, in the context of this lengthy trial with dozens of witnesses, a brief reference to a photograph of a malfunctioning train engine is not a proper basis for the reversal of a jury verdict.

The Defendant next argues that the admission of lay testimony regarding the presence of asbestos in the workplace warranted a new trial. In particular, the Defendant points to the testimony by Mr. Payne, Mr. Carringer, who was a co-worker, and Mr. Rhodes, a railroad employee who worked under similar conditions, indicating that they had worked in close proximity to materials that contained asbestos, including pipe insulation and brake components. The Defendant insists that this testimony should have been excluded because asbestos can injure a person only if it is in a respirable form, as often occurs when a product containing asbestos is frayed or damaged in some way; thus, according to the Defendant, the “presence of an [asbestos containing material] alone does not entitle a FELA claimant to recovery.”

The Defendant’s argument focuses on the sufficiency of the lay testimony to establish the Plaintiff’s asbestos claim, whereas the proper inquiry is whether the testimony met the standards for admissibility. Admissibility is determined primarily by the evidentiary rules governing relevance, unfair prejudice, and competence. In this instance, the lay witnesses were competent to testify because they had personal knowledge of the presence of asbestos in their workplaces. Tenn. R. Evid. 602. Regardless of whether their testimony was sufficient to independently satisfy the requirements of a FELA claim, the evidence was relevant in that it made the existence of an injury resulting from asbestos exposure “more probable . . . than it would be without the evidence.” Tenn. R. Evid. 401. The Defendant does not claim that the evidence should be excluded on the basis of unfair prejudice or any other ground of inadmissibility set out in Tennessee Rule of Evidence 403. The Defendant instead claims that the lay testimony was improper under Tennessee Rule of Evidence 701(a), which provides that non-expert witnesses may testify as to opinions only when they are “rationally based on the perception of the witness” and are either “helpful to a clear understanding of the witness’s testimony or the determination of a fact in issue.”

Rule 701(a) authorizes the admission of this testimony. Mr. Payne and Mr. Carringer merely testified to the presence of asbestos without offering a scientific opinion as to whether

the condition of the asbestos rendered it capable of causing injury. Although Mr. Rhodes indicated that he had seen “friable” asbestos, his testimony was based upon his training in the field of asbestos removal. See Gibson v. W.C.A.B. (Armco Stainless & Alloy Prods.), 861 A.2d 938, 948 (Pa. 2004) (noting that a lay witness may provide a technical opinion regarding asbestos in the workplace based upon “either formal education or practical experience”). Under these circumstances, Judge Wimberly did not err by admitting the lay testimony regarding the presence of asbestos in the witnesses’ workplaces, and the admission of that testimony did not warrant a new trial. See Clark v. ITT Grinnell Indus. Piping, Inc., 539 S.E.2d 369, 374 (N.C. Ct. App. 2000) (holding that lay testimony as to the presence of asbestos in the workplace “was competent evidence to support the . . . finding that plaintiff was exposed to asbestos”), remanded for reconsideration on other grounds, 558 S.E.2d 867 (N.C. 2001); Olinger v. Pretty Prods., Inc., No. 96-CA-29, 1997 WL 33814208, at *4 (Ohio Ct. App. Nov. 7, 1997) (holding that lay testimony as to the presence of asbestos in the workplace, which was based upon personal knowledge of employees, was properly admitted); Perman v. C.H. Murphy/Clark-Ullman, Inc., 185 P.3d 519, 523 (Or. Ct. App. 2008) (holding that lay testimony as to the presence of asbestos in the workplace was admissible because it was rationally based upon the perception of the witness).

The Defendant’s final claim of evidentiary error is based upon the testimony of several expert witnesses, including Dr. Vance, Mr. Mantooth, and Mr. Bullock, about the presence of plutonium at the Witherspoon scrapyard. The Defendant insists that all such testimony was improper because there was no evidence that Mr. Payne came directly into contact with plutonium. We disagree.

“The jury is permitted to reasonably infer facts from circumstantial evidence, and these inferred facts may be the basis of further inferences of the ultimate fact at issue.” Martin v. Washmaster Auto Ctr., U.S.A., 946 S.W.2d 314, 317 (Tenn. Ct. App. 1996) (citing Benson v. H.G. Hill Stores, Inc., 699 S.W.2d 560, 563 (Tenn. Ct. App. 1985)). In this instance, the expert proof established that plutonium was present at the Witherspoon scrapyard, where Mr. Payne had switched train cars, and that plutonium, a dangerous radioactive element, can cause cancer even when exposure is limited to a small dose. In our view, the Court of Appeals correctly concluded that the admission of the testimony pertaining to plutonium resulted in “no error . . . , and certainly nothing that would warrant a new trial under the circumstances.” Payne, 2013 WL 6857947, at *18.

b. Jury Instructions

We recently explained as follows the standard for evaluating jury instructions in civil cases:

Trial courts have “a duty to impart ‘substantially accurate instructions concerning the law applicable to the matters at issue.’” [Nye v. Bayer Cropscience, Inc., 347 S.W.3d 686, 699 (Tenn. 2011)] (quoting Hensley v. CSX Transp., Inc., 310 S.W.3d 824, 833 (Tenn. Ct. App. 2009)). This is important because “[t]he legitimacy of a jury’s verdict is dependent on the accuracy of the trial court’s instructions, which are the sole source of the legal principles required for the jury’s deliberations.” Id. In determining whether a jury instruction is substantially accurate, we review the charge in its entirety and consider it as a whole, and we will not invalidate an instruction that “fairly defines the legal issues involved in the case and does not mislead the jury.” Id. (quoting Otis v. Cambridge Mut. Fire Ins. Co., 850 S.W.2d 439, 446 (Tenn. 1992)). Moreover, “[j]ury instructions are not measured against [a] standard of perfection.” [Akers, 387 S.W.3d at 504] (first alteration in original) (quoting City of Johnson City v. Outdoor W., Inc., 947 S.W.2d 855, 858 (Tenn. Ct. App. 1996)).

Spencer, 450 S.W.3d at 510.

The Defendant contends that the jury instructions provided by Judge Wimberly were inadequate in two ways: (1) the jury was instructed as to both a pre- and post-1976 version of 49 C.F.R. § 174.700, a federal regulation governing the shipping of radioactive material, despite the fact that Witherspoon had stopped shipping such materials in 1972; and (2) the instruction on foreseeability failed to fully set forth the applicable law.

As to the instruction on 49 C.F.R. § 174.700, Judge Wimberly instructed the jury that the pre-1976 version of the 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.” Judge Wimberly further instructed that the post-1976 version provided that “a person may not remain unnecessarily in a railcar containing radioactive materials.” The Defendant maintains that the jury should not have been instructed as to the post-1976 version of the regulation because Alta Groover, the bookkeeper for Witherspoon, provided uncontradicted testimony that Witherspoon had stopped shipping radioactive materials in 1972. Although we agree with the Defendant that there was no proof of Witherspoon shipping radioactive material after 1972, we do not agree that the instruction on the post-1976 version of the regulation warranted a new trial. Judge Wimberly’s instruction effectively communicated to the jury that all conduct occurring before 1976 was governed by the pre-1976 version, thereby eliminating any risk that the jury would apply the wrong version of the regulation. Moreover, Mr. Payne and his co-workers testified that some of their routes required them to ride inside the train cars containing radioactive materials, which

was unlawful under both versions of the regulation. In short, because the Defendant has made no effort to explain how the instruction on the post-1976 version of the regulation caused any prejudice, we hold that the instruction was not erroneous and, in any event, did not warrant a new trial.

The Defendant also challenges the adequacy of Judge Wimberly's instruction on foreseeability, which provided 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.

(Emphasis added.) We agree with the Court of Appeals that the instruction was adequate. Cf. Gallick v. Balt. & Ohio R.R., 372 U.S. 108, 118 (1963) (indicating that jury had been properly instructed that the “defendant’s duties are measured by what is reasonably foreseeable under like circumstances”). Moreover, “[u]nder a negligence per se theory, if a plaintiff proves that a statutory violation has occurred[,] he need not prove . . . foreseeability.” Cowden v. BNSF Ry. Co., 975 F. Supp. 2d 1005, 1026 (E.D. Mo. 2013) (second alteration in original) (quoting Capriotti, 878 F. Supp. at 434). Because the Defendant has not successfully challenged the jury’s finding of liability based upon a theory of negligence per se, the Plaintiff is not obligated to demonstrate the foreseeability of the injury, rendering harmless any error in the jury instruction on foreseeability.

In summary, none of the evidentiary or instructional issues raised in the Defendant’s motion for a new trial provided a proper basis for reversing the jury’s verdict in favor of the Plaintiff. All of the issues raised by the Defendant and cited by Judge Wimberly were either not error at all or were not so substantial, either individually or collectively, such as would warrant a new trial.

c. Weight of the Evidence

The final issue presented in the Defendant’s motion for a new trial is whether the

jury's verdict is against the weight of the evidence. "There is no question that under both state and federal law a trial court may grant a new trial when the verdict is against the weight of the evidence." Blackburn, 2008 WL 2278497, at *5. In this instance, however, Judge Wimberly did not cite the weight of the evidence as a basis for granting a new trial, and the unique circumstances which occurred after the jury returned with its original verdict significantly complicate our task. The Court of Appeals, although finding that Judge Wimberly "was satisfied that the \$3.2 million verdict was not against the clear weight of the evidence," Payne, 2013 WL 6857947, at *20, remanded the case with instructions for the trial court to choose between the original amount of \$8.6 million or the revised amount of \$3.2 million, concluding that Judge Wimberly had committed "a prejudicial abuse of discretion" by providing additional jury instructions as to the effect of contributory negligence and negligence per se in a FELA case, after the jury had returned its original verdict, id. at *10. Thus, the error identified by the Court of Appeals was Judge Wimberly's "instruct[ing] the jury upon an unnecessary matter and invit[ing] the jury to reconsider the amount of damages it initially awarded." Id. In consequence, in order to determine which amount of the verdict is at issue, we must first determine whether Judge Wimberly erred by providing additional instructions and allowing the jury to amend its original verdict. The Plaintiff contends that the original verdict was proper and that Judge Wimberly "contravened federal law" by "invit[ing] the jury to ignore [FELA] and revise its verdict to incorporate contributory negligence," which it did by amending the verdict from \$8.6 million, with sixty-two percent negligence on the part of Mr. Payne, to \$3.2 million "at 100%." The Defendant argues that Judge Wimberly did not abuse his discretion by further instructing the jury in this manner.

Contrary to the implication that we must review Judge Wimberly's ruling for an abuse of discretion, this Court has held that "[w]hether a jury instruction is erroneous is a question of law and is[,] therefore[,] subject to de novo review with no presumption of correctness." Nye, 347 S.W.3d at 699 (citing Solomon v. First Am. Nat'l Bank of Nashville, 774 S.W.2d 935, 940 (Tenn. Ct. App. 1989)). As indicated, in determining whether a trial court has imparted "substantially accurate" jury instructions, we review the charge in its entirety and consider it as a whole; we will not invalidate instructions that "fairly define[] the legal issues involved in the case and do[] not mislead the jury." Id. (quoting Otis, 850 S.W.2d at 446). Moreover, we may consider the jury instructions in conjunction with the verdict form in determining whether the issues were presented to the jury "in a clear and fair manner." Hickson Corp. v. Norfolk S. Ry., 260 F.3d 559, 568 (6th Cir. 2001).

In this instance, counsel for both parties submitted proposed jury instructions and special verdict forms for Judge Wimberly to consider. After extensive discussions with counsel, Judge Wimberly initially instructed the jury as to the Plaintiff's burden of proof on the elements of negligence and causation:

[T]he Plaintiff has the burden of proof. [The] Plaintiff must convince you that he's entitled to recover, and he must do so by proving the elements in this case by what we call a preponderance or greater weight of the evidence.

....

... [I]n this case the [P]laintiff claims money damages for wrongful death... alleged to have been suffered as a result of negligence on the part of the [D]efendant....

... [N]egligence in this sense... is the doing of some act which a reasonably prudent and careful person would not do or the failure to do something that a reasonably prudent and careful person would do....

....

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 in order to prove the essential elements of [the P]laintiff's claim, the burden is on the [P]laintiff to establish by a preponderance of the evidence first that the [D]efendant was negligent in one or more of the particulars alleged by the [P]laintiff, and second, that the [D]efendant's negligence caused or contributed to harm, illness or death of the [P]laintiff.

Going back to... FELA, in other words, that the harm, illness or death resulted in whole or in part from the negligence of one of the officers, agents or employees of the railroad in question. [The] Plaintiff also alleges in this case that certain regulations or statutes were violated.

....

A violation of any of these regulations in itself is not sufficient to award

compensation unless it also be shown by the preponderance of the evidence that such violation resulted in whole or in part in harm, illness or death to the [Plaintiff].

....

So if you should find from the evidence in the case that any negligence of the [D]efendant contributed in any way toward illness or death suffered by the [P]laintiff you may find that [the P]laintiff's illness or death was caused by the [D]efendant's act or failure to act.

Judge Wimberly also instructed the jury on the issue of contributory negligence, explaining as follows:

In a case such as this, in addition to denying any negligence on its part, . . . [the D]efendant may also allege as a further defense that some negligence on the part of the [P]laintiff himself was a cause of any harm that [the P]laintiff suffered or was the sole and only cause of any harm that the [P]laintiff suffered. We refer to that defense as contributory negligence.

....

With respect to the defense of contributory negligence, the burden is on the [D]efendant . . . to establish by a preponderance of the evidence . . . that the [P]laintiff was at fault, [and that] the negligence on the part of the [P]laintiff contributed to one of the causes of harm suffered by the [P]laintiff.

As to contributory negligence, . . . FELA . . . 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 [D]efendant was guilty of negligence but the [P]laintiff was also guilty of negligence and such negligence on the part of the [P]laintiff caused any harm to the [P]laintiff, then the total award of damages to the [P]laintiff must be reduced by an amount equal to the percentage of fault or contributory negligence chargeable to the [P]laintiff.

Finally, as to the amount of damages to be awarded in the event of a verdict in favor

of the Plaintiff, Judge Wimberly instructed the jury as follows:

[I]f you found that the [P]laintiff is entitled to recover, the final question [on the verdict form] asks what amount of money do you find[,] without deduction for any negligence which you may find on the [P]laintiff's part[,] will fairly represent adequate compensation.

If you answer that question, any figure that you put there will be not subject to any taxation and that figure you will determine according to the following considerations[:] The amount [you] would propose[—]and there's no mathematical way to compute that amount[—]but that would be the amount that in your opinion would be fair, full and adequate compensation for harm suffered by the [P]laintiff in this case. And you would consider in that light the nature and extent of what he went . . . through, physical and mental pain and suffering, you would consider the value of the medical bills, hospital, doctor, any other related bills that was expended in an effort to obtain a cure for the illness that he suffered as a result of negligence in this case.

You would consider any replacement value that he had in terms of money for services that he would provide to his household, loss of enjoyment of life that he suffered, and come up with a total amount which would be it's sometimes said the amount that Mr. Payne himself was deprived of, if you find that he is entitled to recover in the case.

The Defendant contends that these initial instructions failed to provide a complete statement of the law because the jury was not informed prior to the return of its original verdict that the amount of damages would not be reduced if the Defendant were found to be negligent per se by virtue of violating a safety regulation. However, the Defendant neither objected to the absence of an instruction on the effect of the jury's finding negligence per se nor requested such an instruction. This Court has long recognized that the omission of a jury instruction is not reversible error if the party complaining of the error on appeal failed to request an appropriate instruction from the trial judge. See, e.g., Rule v. Empire Gas Corp., 563 S.W.2d 551, 554 (Tenn. 1978) ("The trial judge did not err in failing to instruct the jury respecting contributory negligence and assumption of risk, since the defendants made no request at trial for such instructions."); Louisville & Nashville R.R. v. Wynn, 14 S.W. 311, 314 (Tenn. 1890) (holding that trial court's failure to provide additional instructions as to plaintiff's burden of proof in negligence case was "not reversible error, there having been no proper and accurate request for such instruction"). Moreover, the Defendant has not identified any authority suggesting that a jury must be instructed as to how FELA affects the amount of damages that ultimately may be awarded on a claim of negligence per se.

After reviewing the initial instructions and the jury's responses to the special verdict form, the Court of Appeals made the following observation:

In this case, the jury was instructed on all of the pertinent questions upon which it was properly called to decide—whether the [D]efendant was negligent; whether the [D]efendant's negligence caused [the P]laintiff's injury; whether the [P]laintiff was negligent and caused his own injury; the percentage of fault attributed to [the P]laintiff by his own negligence; whether the [D]efendant violated . . . regulations enacted for the safety of employees; whether any such violation caused [the P]laintiff's injury; and the amount of damages.

Payne, 2013 WL 6857947, at *9. We agree with this assessment. In our view, the instructions as a whole, which were provided to the jury prior to its initial deliberations, “fairly define[d] the legal issues involved in the case and d[id] not mislead the jury.” Nye, 347 S.W.3d at 699 (quoting Otis, 850 S.W.2d at 446). In response to the special verdict form, as instructed, the jury found that the total amount of damages to be awarded, “without any deduction for any [contributory] negligence” on the part of Mr. Payne, was \$8.6 million. Because the jury found the Defendant to be negligent per se, a finding of liability that was not rejected by Judge Wimberly, FELA does not allow for the reduction or apportionment of damages based on contributory negligence. 45 U.S.C. § 53; see Lindsay, 233 U.S. at 49-50. In our view, Judge Wimberly erred by providing additional instructions and inviting the jury to reconsider its initial award, which was based upon a substantially accurate statement of the law. Cf. Shepard v. Grand Trunk W. R.R., No. 92711, 2010 WL 1712316, at *13-14 (Ohio Ct. App. Apr. 29, 2010) (holding that, in a FELA case where the jury found negligence per se, the defendant railroad could not challenge the validity of the verdict through post-verdict discussions indicating that the jury believed the total award would be reduced by the plaintiff's contributory negligence).

Because we have determined that it was error for Judge Wimberly to provide additional instructions and allow the jury to change the amount of its verdict, we cannot agree with the Court of Appeals' decision to remand the case to the trial court with instructions to choose between the amount of either \$8.6 million or \$3.2 million. The amount of the \$3.2 million verdict cannot stand because of the erroneous sua sponte jury instructions, and Judge Wimberly never determined whether the original \$8.6 million verdict was against the weight of the evidence. Under these circumstances, the Defendant contends that “the only permissible remedy is a new trial” because “[t]he Court of Appeals was not entitled to resurrect an initial verdict that had been repudiated by the jurors and then revised.” The Plaintiff asserts that the original verdict should be reinstated or, in the alternative, that

“[a]ny new trial should be limited to damages alone.” We agree with the Defendant that a new trial is warranted.

The duty of the trial court to determine whether a verdict is against the weight of the evidence relates to the trial court’s role as the thirteenth juror. See Meals ex rel. Meals v. Ford Motor Co., 417 S.W.3d 414, 420 (Tenn. 2013) (“No verdict is valid unless approved by the trial judge acting as the thirteenth juror.”). When a trial court, acting in its role as the thirteenth juror, fails to properly evaluate whether a verdict is contrary to the weight of the evidence, the only viable remedy is to remand for a new trial. See Miller v. Doe, 873 S.W.2d 346, 347 (Tenn. Ct. App. 1993) (“[I]f in discharging his duty as thirteenth juror, the trial judge makes comments which indicate that he has misconceived his duty or clearly has not followed it, this court must reverse and remand the case for a new trial.”); see also Holden v. Rannick, 682 S.W.2d 903, 904-05 (Tenn. 1984). In this instance, we agree with the observation of the Court of Appeals that “the trial court did not have an opportunity to approve or disapprove the jury verdict awarding damages in the amount of \$8.6 million.” Payne, 2013 WL 6857947, at *20. Because this qualifies as an error in the trial court’s duty to review the evidence as the thirteenth juror, the proper remedy is to remand for a new trial.

As indicated, however, the Plaintiff and the Defendant disagree as to the scope of any new trial that may be awarded—that is, whether the appropriate remedy is an entirely new trial as to all issues, or whether the new trial should be limited only to the issue of damages. In our view, particularly in light of the unique circumstances of this case, the Plaintiff is correct that the new trial should be limited only to the issue of the amount of damages to be awarded. When a jury returns a verdict based on special interrogatories, “error with respect to one issue will ordinarily not constitute reason to retry an issue that was separately determined.” Crane v. Consol. Rail Corp., 731 F.2d 1042, 1050 (2d Cir. 1984); see also Akermanis v. Sea-Land Serv., Inc., 688 F.2d 898, 906 (2d Cir. 1982) (permitting a partial re-trial on “distinct issues” if “detailed interrogatories” on a verdict form allow the court to determine “whether a jury’s award of damages and its finding of liability are sufficiently separate to allow a partial new trial”); accord Fed. R. Civ. P. 59(a)(1) (“The court may . . . grant a new trial on all or some of the issues”); Gasoline Prods. Co. v. Champlin Refining Co., 283 U.S. 494, 499 (1931) (recognizing that a partial new trial may be granted if “the issue of damages is so distinct and independent . . . that it can be separately tried”); Crockett v. Long Island R.R., 65 F.3d 274, 279 (2d Cir. 1995) (limiting new trial to the sole issue of damages because “[t]he amount of damages sustained by [the plaintiff] [was] conceptually distinct from her comparative negligence in causing the accident in the first place”).²²

²² Like the federal courts, this Court has held that when “liability is affirmed but an error has been
(continued...)

In this instance, the jury returned a verdict in favor of the Plaintiff that was based upon a special verdict form clearly delineating between liability and the assessment of damages. Judge Wimberly affirmed the finding of liability by entering judgment in favor of the Plaintiff and declining to direct a verdict in favor of the Defendant. See Holden, 682 S.W.2d at 905. Later, Judge Wimberly declined to grant the Defendant’s request for a judgment notwithstanding the verdict, instead granting a new trial “independent of considerations regarding sufficiency of the evidence,” thereby indicating that the basis for the new trial was not any lack of evidence of negligence or negligence per se on the part of the Defendant. Cf. Rosado v. Plaza Las Ams., Inc., 172 F.R.D. 15, 17 (D. P.R. 1997) (recognizing that although a new trial “may be granted on all or part of the issues tried . . . by [a] jury[,] . . . [a] trial judge cannot ‘displace a jury’s verdict merely because he disagrees with it or would have found otherwise in a bench trial’” (quoting Milone v. Mocerri Family, Inc., 847 F.2d 35, 37 (1st Cir. 1988))); see also Huskey, 865 S.W.2d at 454 (“[I]t is clear that the [trial] court’s ‘disapproval’ of the jury’s verdict was not actually based on the lack of evidence presented to the jury[—]or any other valid ground for the award of a new trial”); Burlison v. Rose, 701 S.W.2d 609, 611 (Tenn. 1985) (“Upon reviewing the record, we find no indication that the trial court disagreed with [anything] other than the amount of the verdict. . . . Absent any affirmative showing that the trial judge disagreed with the facts as found by the jury, we conclude that the trial judge and the jury merely differed on the valuation to place upon [the plaintiff’s] remote contributory negligence.”).

Based upon our extensive review of this voluminous record, we have determined that the only prejudicial errors in the trial were Judge Wimberly’s improper supplemental instructions encouraging the jury to recalculate the amount of the verdict, and his failure to independently assess the amount of damages initially awarded by the jury. Because these errors do not in any way affect the jury’s determination of liability by virtue of the Defendant’s negligence per se, the appropriate remedy is to remand for a new trial as to damages only. On remand, the jury should determine a monetary amount that represents fair, full, and adequate compensation for the harm suffered by the Plaintiff as a result of the Defendant’s negligence. In accordance with FELA, any amount awarded by the jury cannot be reduced with regard to any contributory negligence on the part of Mr. Payne. See 45 U.S.C. § 53.

Once the jury returns an award of compensatory damages, the trial judge must review

²²(...continued)
committed in the assessment of damages[,] . . . the case may be remanded for a different jury to assess the proper amount of damages.” Rothstein v. Orange Grove Ctr., Inc., 60 S.W.3d 807, 814 (Tenn. 2001) (citation omitted); see also Perkins v. Brown, 177 S.W. 1158, 1160 (Tenn. 1915) (establishing the authority of appellate courts to limit the scope of a new trial on remand to the issue of damages only).

the amount to determine whether it is against the clear weight of the evidence. Blackburn, 2008 WL 2278497, at *1 (holding that “the federal standard requiring the verdict to be against the ‘clear weight’ of the evidence governs” in a FELA case). If the court finds that the amount of damages is not against the clear weight of the evidence, it shall enter judgment on the amount determined by the jury. If, however, the trial court does find that the amount of damages is against the clear weight of the evidence, the court should suggest an appropriate additur or remittitur, with the alternative of granting a partial new trial. See Lightfoot v. Union Carbide Corp., 110 F.3d 898, 914-15 (2d Cir. 1997) (holding that when a trial court determines that the amount of damages awarded by a jury is excessive, the court may either suggest remittitur or grant a new trial on the issue of damages); see also Pomeroy v. Ill. Cent. R.R., No. W2004-01238-COA-R3-CV, 2005 WL 1217590, at *18 (Tenn. Ct. App. May 19, 2005) (“Trial courts may suggest adjustments to the jury’s award of damages when they believe them to be inadequate (suggesting additur) or excessive (suggesting remittitur).”); Hand v. Norfolk S. Ry., No. 03A01-9704-CV-00123, 1998 WL 281946, at *11 (Tenn. Ct. App. June 2, 1998); id. at *12-13 (Susano, J., concurring).

C. Expert Testimony on Causation

As a final matter, we will address the Defendant’s argument that the trial court should have excluded the Plaintiff’s expert proof to prove the causation element of her FELA claim—that is, the expert testimony by Mr. Mantooth and Drs. Vance, Frank, and Kerns, all of which was designed to establish that Mr. Payne’s exposure to the hazardous materials at his workplace contributed to his lung cancer and eventual death. Judge Wimberly allowed this evidence to be presented at the trial. After Judge Wimberly granted a new trial and then entered an order of recusal, however, Judge Workman excluded the Plaintiff’s expert proof based on his concern about a lack of “accepted” or “reliable” scientific evidence, and the case was dismissed. The Court of Appeals briefly commented on the admissibility of the Plaintiff’s expert testimony as follows:

Our holding and remand to [Judge Wimberly] with directions to enter judgment in [the P]laintiff’s favor in the amount of either \$8.6 million or \$3.2 million renders moot the question of whether [Judge Workman] erred in excluding the testimony of the [P]laintiff’s expert witnesses and granting [the Defendant] summary judgment. Nevertheless, we have reviewed the issue and hold that [Judge Workman] erred in excluding the causation testimony of [the P]laintiff’s expert witnesses, all of whom were found to be qualified by [Judge Wimberly] in the face of the same challenge[,] and all of whom testified at trial.

Payne, 2013 WL 6857947, at *20. In order to fully resolve the issues as raised by the parties in this appeal, we find it prudent to explain why the Plaintiff’s expert proof was admissible

at trial.²³

An essential role of the judge, as the neutral arbiter in the trial, is to function as a “gatekeeper” with regard to the admissibility of expert testimony, permitting only expert opinions that are based on “relevant scientific methods, processes, and data, and not upon [the] expert’s mere speculation.” State v. Scott, 275 S.W.3d 395, 401-02 (Tenn. 2009) (quoting McDaniel v. CSX Transp., Inc., 955 S.W.2d 257, 265 (Tenn. 1997)) (citing State v. Copeland, 226 S.W.3d 287, 300-01 (Tenn. 2007)). Specifically, the admission of expert proof is governed by Tennessee Rule of Evidence 702, which explains that a qualified expert witness²⁴ “may testify in the form of an opinion or otherwise” if the expert has “scientific, technical, or other specialized knowledge [that] will substantially assist the trier of fact to understand the evidence or to determine a fact in issue.” (Emphasis added.) Tennessee Rule of Evidence 703 provides further guidance:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence The court shall disallow testimony in the form of an opinion or inference if the underlying facts or data indicate lack of trustworthiness.

(Emphasis added.) “While a trial court’s role as a gatekeeper is critical, it is not unconstrained,” Scott, 275 S.W.3d at 404, and “[a] trial court abuses its discretion when it . . . excludes testimony that meets the requirements of Rule[s] 702 and 703,” Shipley v. Williams, 350 S.W.3d 527, 552 (Tenn. 2011).²⁵

²³ Our remand for a new trial as to damages only would ordinarily obviate the need to address the Defendant’s contention that Judge Workman properly excluded the Plaintiff’s expert proof and that the Court of Appeals erred by concluding otherwise. To end our analysis without addressing this issue, however, would deprive the Defendant of a determination on the merits of the admissibility of the expert proof, without which the Plaintiff conceded she would have been unable to establish causation. As indicated, even when a FELA claimant proves that a defendant railroad is liable for an injury based upon a theory of negligence per se, the claimant must also prove that the railroad’s negligence was a cause of the injury. Under these circumstances, we find it appropriate to exercise our discretion to address the issue. See Tenn. R. App. P. 13(b).

²⁴ That the Plaintiff’s witnesses were qualified as experts is not in dispute.

²⁵ Of course, expert testimony, like all other evidence, must also be relevant before it is admissible. See Tenn. R. Evid. 402 (“Evidence which is not relevant is not admissible.”); Tenn. R. Evid. 401 (““Relevant (continued...)”).

Read together, Rules 702 and 703 “require a determination as to the scientific validity or reliability of the expert testimony,” because only valid scientific evidence “will substantially assist the trier of fact to determine a fact in issue” and will be based upon “facts and data [that have been] reviewed and found to be trustworthy by the trial court.” McDaniel, 955 S.W.2d at 265. In McDaniel, this Court provided a non-exclusive list of factors to aid trial courts in the consideration of whether expert testimony qualifies as reliable and is therefore admissible under the rules:

(1) whether [the] evidence has been tested and the methodology with which it has been tested; (2) whether the evidence has been subjected to peer review or publication; (3) whether a potential rate of error is known; (4) whether . . . the evidence is generally accepted in the scientific community; and (5) whether the expert’s research in the field has been conducted independent of litigation.

Id. Rigid application of the McDaniel factors, however, is not required; the reliability of the testimony and whether it provides substantial assistance to the jury serve as the essential guidelines for the determination of admissibility. Id. (declining to expressly adopt the federal framework for evaluating expert testimony and instructing Tennessee trial courts that they “may consider” the McDaniel factors within the framework of Rules 702 and 703); see also Copeland, 226 S.W.3d at 302. Ultimately, “[t]he objective of the trial court’s gatekeeping function is to ensure that ‘an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.’” Brown v. Crown Equip. Corp., 181 S.W.3d 268, 275 (Tenn. 2005) (quoting Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999)). If the expert testimony qualifies as admissible, the trial court’s gatekeeping function is completed, as “[t]he weight of the theories and the resolution of legitimate but competing expert opinions are matters entrusted to the trier of fact.” Id. (citing McDaniel, 955 S.W.2d at 265).

Relying on Tennessee Rules of Evidence 702 and 703, Judge Workman excluded the testimony of Mr. Mantooth which suggested that the Defendant had exposed Mr. Payne to harmful and unsafe levels of radiation, and the testimony of Dr. Vance which suggested that the Defendant had exposed Mr. Payne to “injurious levels” of asbestos, diesel exhaust, and radiation. As to Dr. Frank, Judge Workman ruled that he would not be allowed to testify on either “medical causation or on the levels or extent of the exposures to asbestos, diesel exhaust[,] or radiation” at the workplace. Judge Workman likewise excluded the “medical

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evidence’ means evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.”).

causation” testimony of Dr. Kerns that “Mr. Payne’s . . . exposures at his railroad work environment to radiation, asbestos[,] and/or diesel fumes[] caused or contributed to cause [his] cancer.” Afterward, counsel for the Plaintiff conceded that without the testimony by Drs. Frank and Kerns as to the element of causation, the Plaintiff would be unable to establish her FELA claim.

As indicated, the primary basis for Judge Workman’s exclusion of this testimony was his concern that the experts could not identify any “accepted science” to support their opinion that Mr. Payne’s workplace exposure to asbestos, diesel fumes, or radiation contributed to causing his lung cancer. While Judge Workman acknowledged the experts’ testimony that Mr. Payne was at an “increased risk” for cancer, he rejected the notion that an increase in risk could be extrapolated to prove causation. When counsel for the Plaintiff asserted that the experts had conducted a proper “differential diagnosis,” which identified the hazardous workplace materials as contributing causes of Mr. Payne’s lung cancer, Judge Workman disagreed that this qualified as reliable evidence of causation because “the accepted science is [that] you have to have a dose exposure above a certain amount before you can say it caused anything.” The Plaintiff’s counsel responded that under FELA’s “relaxed” causation standard, expert testimony that Mr. Payne’s exposure to carcinogens at the workplace was “substantial” and “chronic” would qualify as admissible evidence. Relying on federal case law rejecting a precise dosage requirement, counsel distinguished the trial court’s gatekeeping role and the jury’s fact-finding role as follows:

[T]he question is, does this go to the weight of the evidence or does this go to the admissibility of the evidence. And we say [the Defendant] ha[s] every right to cross-examine [our experts] with [its] experts, but [the court does not] have the right to say [that Mr. Payne] has to have a dose in a survey [by the Defendant].

The uncontroverted proof at trial was that the Defendant did not monitor or survey any of its employees, train cars, or worksites, so none of the experts could testify as to the amount of contaminants to which Mr. Payne was exposed. Nevertheless, Judge Workman repeatedly stated that the Plaintiff’s expert proof was unreliable because of the absence of dosage information, and the evidence was excluded.

Numerous courts, however, including our Court of Appeals, have held that an expert need not possess specific dosage information in order to testify about causation. See, e.g., Hardyman v. Norfolk & W. Ry., 243 F.3d 255, 262 (6th Cir. 2001) (reversing trial court’s ruling that plaintiff could establish causation only by showing a “dose/response relationship” between exposure levels and risk of disease); Wilson v. CSX Transp., Inc., No. E2002-00291-COA-R9-CV, 2003 WL 1233536, at *8 (Tenn. Ct. App. Mar. 18, 2003)

(allowing admission of expert’s opinion that “occupational exposures caused, or contributed to the cause,” of the plaintiff’s cancer, even though the expert “admitted in his deposition that he did not have any quantitative information about the amount of exposure or dosage [the plaintiff] had to the various chemicals at issue,” including diesel exhaust); accord Ambrosini v. Labarraque, 101 F.3d 129, 135 (D.C. Cir. 1996) (holding that an expert’s opinion “does not warrant exclusion simply because it fails to establish the causal link to a specified degree of probability”). In fact, some courts have pointed out why it is fundamentally unfair to require dosage information in a case such as this. See, e.g., Sanders v. CSX Transp., 2000 U.S. Dist. LEXIS 22707, at *16 (S.D. Ga. Feb. 24, 2000) (“If a defendant [railroad] failed to take air samples during the period concerned, . . . it hardly makes sense to oblige a plaintiff to produce non-existing data.”); Fulmore v. CSX Transp., Inc., 557 S.E.2d 64, 73 (Ga. Ct. App. 2001) (“It is ironic[] that CSX, who failed to follow the recommendations of the [Association of American Railroads] in the 1930s that the air in the work environment be tested, seeks to avoid liability because the plaintiffs cannot produce the data from the very tests which CSX failed to perform.”).

Stated simply, the Plaintiff’s experts were not required to establish “a dose exposure above a certain amount” before they could testify about causation.²⁶ So long as a qualified

²⁶ A minority of courts have required specific dosage information to establish causation. See, e.g., McClain v. Metabolife Int’l, Inc., 401 F.3d 1233, 1241 (11th Cir. 2005) (criticizing expert for “neglecting the hallmark of the science of toxic torts—the dose-response relationship,” and excluding the expert’s opinion because of “[h]is lack of testimony about the dose-response relationship combined with his vague testimony about significant individual variations”); Wills v. Amerada Hess. Corp., 379 F.3d 32, 49 (2d Cir. 2004) (excluding expert testimony that did not rely upon “the more generally accepted theory of causation” known as the “dose-response relationship”). We decline to adopt such a bright-line rule, particularly where, as here, the lack of dosage information is a result of the defendant’s failure to monitor its employees’ exposure to hazardous materials in the workplace. The Fourth Circuit Court of Appeals, faced with the argument that an expert could not testify as to causation “because he had no means of accurately assessing what level of exposure was adequate to produce the [illness that the plaintiff] experienced,” has similarly rejected this view as follows:

But, it must also be recognized that

[o]nly rarely are humans exposed to chemicals in a manner that permits a quantitative determination of adverse outcomes. . . . Human exposure occurs most frequently in occupational settings where workers are exposed to industrial chemicals like lead or asbestos; however, even under these circumstances, it is usually difficult, if not impossible, to quantify the amount of exposure.

Federal Judicial Center, Reference Manual on Scientific Evidence 187 (1994).

(continued...)

expert can offer an opinion, based upon reliable data, that will substantially assist the trier of fact, the expert's testimony should be permitted. See Tenn. R. Evid. 702, 703; McDaniel, 955 S.W.2d at 265; accord Ambrosini, 101 F.3d at 135 (“The dispositive question is whether the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue, not whether the testimony satisfies the plaintiff's burden on the ultimate issue at trial.” (citations and internal quotation marks omitted)); Wright v. Willamette Indus., Inc., 91 F.3d 1105, 1107 (8th Cir. 1996) (“We do not require a mathematically precise table equating levels of exposure with levels of harm, but there must be evidence from which a reasonable person could conclude that a defendant's emission has probably caused a particular plaintiff the kind of harm of which he or she complains”); Henricksen v. ConocoPhillips Co., 605 F. Supp. 2d 1142, 1157 (E.D. Wash. 2009) (“[I]t is not always necessary for a plaintiff to quantify exposure levels precisely or use the dose-response relationship, provided that whatever methods an expert uses to establish causation are generally accepted in the scientific community.”).

The vast majority of the federal courts have held that qualitative and differential diagnoses, as were conducted by the Plaintiff's experts in this instance, are valid means of determining causation. See, e.g., Hardyman, 243 F.3d at 261 (recognizing differential diagnosis as “an acceptable method of determining causation”); Westberry, 178 F.3d at 266 (“A reliable differential diagnosis provides a valid basis for an expert opinion on causation.”); Heller, 167 F.3d at 157 (allowing the admission of expert testimony based on a differential diagnosis and rejecting the view that medical experts must “always rely on published studies indicating the exposure necessary to cause a particular illness”); Kennedy v. Collagen Corp., 161 F.3d 1226, 1228-30 (9th Cir. 1998) (holding that trial court abused its discretion by excluding expert opinion on causation where the expert relied upon “scientific and clinical studies of the connection between collagen and autoimmune disorders,” as well as an examination of the plaintiff and her medical history); Baker v. Dalkon Shield Claimants Trust, 156 F.3d 248, 252-53 (1st Cir. 1998) (holding that differential diagnosis rendered expert opinion on causation sufficiently reliable for

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Consequently, while precise information concerning the exposure necessary to cause specific harm to humans and exact details pertaining to the plaintiff's exposure are beneficial, such evidence is not always available, or necessary, to demonstrate that a substance is toxic to humans given substantial exposure and need not invariably provide the basis for an expert's opinion on causation. See Heller v. Shaw Indus., Inc., 167 F.3d 147, 157 (3d Cir. 1999)] (noting “that even absent hard evidence of the level of exposure to the chemical in question, a medical expert could offer an opinion that the chemical caused plaintiff's illness”).

Westberry v. Gislaved Gummi AB, 178 F.3d 257, 263-64 (4th Cir. 1999).

admission). Although Judge Workman expressed concern that the Plaintiff's experts could not exclude Mr. Payne's history of cigarette smoking as a contributing cause of his lung cancer, "[t]he fact that several possible causes might remain uneliminated . . . only goes to the accuracy of the [expert's] conclusion, not the soundness of the [expert's] methodology." Ambrosini, 101 F.3d at 140 (quoting Mendes-Silva v. United States, 980 F.2d 1482, 1487 (D.C. Cir. 1993)) (internal quotation marks omitted). Because "[t]he weight of the theories and the resolution of legitimate but competing expert opinions are matters entrusted to the trier of fact," Brown, 181 S.W.3d at 275 (citing McDaniel, 955 S.W.2d at 265), it was well within the province of the jury to review the expert testimony and determine whether Mr. Payne's exposure to asbestos, diesel fumes, or radiation was substantial enough to be a contributing cause of his cancer. For all of these reasons, the evidence was properly admitted during the trial.

III. Conclusion

The original trial judge erred by granting the Defendant's motion for a new trial based upon the asserted evidentiary and instructional issues, all of which were either not error at all or were errors so insubstantial that they did not warrant a new trial as to liability. The only prejudicial errors in the trial were the improper instructions provided after the jury had returned its initial verdict, which resulted in a reduction of the amount of damages awarded, and the failure of the trial court to independently assess the amount of damages initially awarded by the jury. Under these circumstances, the appropriate remedy is a new trial only as to the issue of damages. The judgment of the Court of Appeals is, therefore, affirmed as modified, and the case is remanded to the trial court for a hearing on damages in accordance with this opinion. Costs of this appeal are taxed to CSX Transportation, Inc., for which execution may issue, if necessary.

GARY R. WADE, JUSTICE