No. 01-963

In the Supreme Court of the United States

NORFOLK & WESTERN RAILWAY COMPANY,
Petitioner,

v.

FREEMAN AYERS, *et al*.,
Respondents.

On Writ of Certiorari to
the Circuit Court of Kanawha County,
West Virginia

BRIEF OF RESPONDENTS

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QUESTIONS PRESENTED

The Federal Employer's Liability Act (FELA), 45 U.S.C. § 51, provides that a railroad is liable in damages for injuries to railroad employees "resulting in whole or in part" from the railroad's negligence. Respondents prevailed in a jury trial brought pursuant to FELA against petitioner based on injuries resulting from petitioner's negligence in exposing respondents to asbestos at the workplace. The questions presented are:

1. Whether the trial judge properly instructed the jury that a plaintiff railroad employee who has a reasonable fear of cancer because he is suffering from a physical disease caused by the defendant railroad employer's negligently exposing the plaintiff to asbestos is entitled to be compensated for that mental injury under FELA.

2. Whether the trial judge properly declined to instruct the jury in a FELA lawsuit to apportion damages between the defendant railroad employer and absent third parties where the plaintiff railroad employees were suffering from indivisible injuries caused by the railroad's negligence.

LIST OF ALL PARTIES

In addition to the parties listed in the caption, the following were plaintiffs below and are respondents in this case:

Carl Butler

Doyle Johnson

John Shirley

James Spangler

Clifford Vance

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STATEMENT

Petitioner Norfolk & Western Railway Company seeks to overturn a jury verdict reached after a two week trial in a negligence action brought in a West Virginia state trial court by respondents pursuant to the Federal Employer's Liability Act (FELA), 45 U.S.C. § 51. The jury found that petitioner negligently exposed respondents, six former railway workers, to asbestos while in petitioner's employment and that they were each suffering from a physical disease (asbestosis) that had been caused by that exposure. The trial court denied petitioner's motion for judgment notwithstanding the verdict or for a new trial and the state supreme court denied review.

I. Background: Asbestos, Asbestosis, and Cancer

Asbestos refers to a family of crystalline hydrated silicates that are strong, flexible, resistant to heat, and very durable. Because of these physical characteristics, asbestos was used by many industries during the 19th and 20th centuries, especially for fireproofing and insulation. As trumpeted by one early industry publication, asbestos "[s]o closely * * * fit the needs of this new world of steam, electricity and blazing furnaces, that it seems to have been almost purposely designed." Johns-Manville, Inc., *Johns-Manville Service to Railroads*, 5 (1923). Railroads used asbestos in their steam locomotives because asbestos kept the heat in the boiler. Railroad workers wired layers of asbestos blocks around the boilers and then used a cement mix of asbestos powder and water to fill in the gaps. Railroads also used asbestos in brake linings, pipes, and roofings. JA155-56; App., *infra* A1-A2 (trial exhibit photos of asbestos on engines).

Railroads, such as petitioner, overhauled the steam locomotive engines every few years. The areas of greatest exposure to asbestos were in the rooms where the overhauling took place. To overhaul an engine, the asbestos would be stripped off, collected from the floor, ground up, reprocessed back into an asbestos-mud, and finally reapplied to the engine. The entire process led to clouds of asbestos dust. Other major sources of asbestos exposure were working steam engines,

overhead pipes, and roofing. JA 155-56.

Asbestos is hazardous to human health because the small size and shape of its fibers allow their entry into the small airways in the lower areas of the lungs. The lungs extract oxygen from the air and move it into the bloodstream for transportation throughout the body. The lung is very flexible because it contains elastic, very thin connective tissue that allows the oxygen in the air to be breathed in and out by the lungs for diffusion into the blood stream. JA 85-88.

Breathing in asbestos fibers can cause asbestosis -- diffuse interstitial fibrosis of the lungs -- because of the particular way that lung tissue reacts to the presence of asbestos fibers that reach the air spaces within the lung. As the number of fibers increases, the lung is unable to rid itself of the fibers and the lung responds to their presence by forming scar tissue in a process called "fibrosis." This scar tissue impairs the respiration capacity of the lungs in two distinct respects. First, as the otherwise thin walls become thickened with scar tissue, the lung itself become stiff and inflexible. This stiffness restricts an individual's ability to breathe. Second, the diffusion capacity of the lung becomes compromised because oxygen and carbon dioxide cannot move as efficiently through an area with scar tissue. The air spaces that contain the tiny capillary blood vessels responsible for spreading oxygen throughout the body become blocked by the scar tissue. JA 85-92; App, *infra*, A3-A11.

Only a small percentage of those who are exposed to asbestos fibers get asbestosis. Whether asbestosis results depends on many factors, such as the intensity of exposure, duration of exposure, circumstances of exposure, fiber type, and individual susceptibility. Approximately one-third of the lung needs to be scarred before asbestosis is detectable by chest x-ray, with an average latency period between exposure and the disease of twenty years. Asbestosis is generally a progressive disease, meaning it continues to worsen long after the initial period of exposure is over. The fibers remain in the lung and the amount of scarring can increase over time. JA 87-88, 91-92, 150, 211, 421, 457; Trial Trans. 147-48 (4/15/98).[1]

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[1] The scarring that results from asbestosis is distinct from scarring on

Medical diagnosis of asbestosis generally requires application of a series of criteria set forth by the American Thoracic Society (ATS). Because it is too harmful to the patient to obtain samples of lung tissue for direct analysis, the ATS sets forth two necessary elements and four specific medical inquiries of "recognized value" to support a diagnosis of asbestosis. The medical profession has further developed a series of examinations that a doctor can pass in order to be certified as possessing particular expertise for determining from a chest x-ray whether a patient has a pulmonary lung disease such as asbestosis and, if so, the disease's current stage. JA146-47, 158-67, 178, 198-99, 239; App., *infra*, A11-A21 (ATS guidelines).

The most common physical symptom of asbestosis is progressively worsening shortness of breath, which can be extremely debilitating. See note 10 *infra*. This sensation is directly linked to marked decrease in lung flexibility and reduction in diffusion capacity. Asbestosis can itself be fatal as the degree of the scarring and lung impairment increases over time. There is no effective treatment. JA 85, 87-92, 150, 464.

There are two major forms of cancer caused by asbestos exposure. The first, mesothelioma, is a cancer of the lining of the lung and is a very painful disease that is almost always fatal. The second form is lung cancer. It is currently not possible to predict with reasonable medical certainty that any exposed person will develop either cancer. JA 93, 96, 154.

Persons suffering from asbestosis, however, are far more likely to get both types of cancer than those without asbestosis, because their asbestosis confirms the intensity of their exposure, the extent of lung infiltration, and their body's particular adverse reaction to the fibers' presence, which varies by individual. For lung cancer, many scientists believe (including petitioner's own expert) that the increased risk is present only

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the lining of the lung, which is called "pleural plaque." Unlike asbestosis, pleural plaque does not infiltrate the lung and does not, standing alone, generally cause lung impairment. The physical damage caused by asbestosis is physically distinct from that caused by smoking. Smoking impairs the ability of an individual to exhale (expiration), while asbestosis impairs the ability to inhale (inspiration). JA 90-91, 216, 421-23

for those with asbestosis and not for those just exposed to asbestos.[2] Although that is not true for mesothelioma, ten percent of those with asbestosis die of mesothelioma. Thirty-nine percent of patients with asbestosis who smoke die of lung cancer, compared to lung cancer rates of only ten to fifteen percent for smokers who have not even been exposed to asbestos. The lung cancer rate for nonsmokers exposed to asbestos is between two and five percent. JA 92-97, 470-71.

II. Proceedings Below

This action is a consolidation of the complaints filed by respondents, six former railway employees, in the Circuit Court of Kanawha County, West Virginia, against petitioner Norfolk & Western under FELA for injuries allegedly caused by petitioner's negligence in exposing respondents to asbestos. Because the trial resulted in a jury verdict in respondents' favor, the trial evidence must now be considered in the light most favorable to respondents, which means the Court "must draw all reasonable inferences in favor of [respondents]" and "disregard all evidence favorable to the [petitioner] that the jury [wa]s not required to believe." Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 150, 151 (2000).

1. At trial, respondents, all West Virginia residents who worked for petitioner in West Virginia, established that because of petitioner's negligent conduct they were each substantially exposed to asbestos while in petitioner's employment and are now suffering from asbestosis as a result. All the respondents worked for significant periods of time in those employment

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[2] See Andrew Churg & Francis Green, *Pathology of Occupational Lung Disease,* (1987) ("It should be appreciated that asbestosis is the only generally accepted indicator of an asbestos etiology for lung cancer."). Although petitioner's own expert agreed (J.A. 470) that the increased risk of lung cancer exists only for those exposed individuals who have asbestosis, other reputable scientists believe that those exposed but without asbestosis also face heightened cancer risks, simply much less so. *E.g.*, Kevin Browne, *Is Asbestos or Asbestosis the Cause of the Increased Risk of Lung Cancer in Asbestos Workers?* 43 British J.Indus. Med. 145 (1986).

areas where concentrations of asbestos fibers in the air were especially high, including where asbestos was directly handled and where asbestos was stripped off and reapplied to steam engines.[3] "[T]errible" and "extreme" clouds of asbestos dust resulted from those practices. JA 340. Respondents were also exposed to asbestos from pipes, freight houses, brakes, and operating steam engines in working for petitioner. JA 112, 192-93, 198, 201, 205, 282-86, 303-04.[4]

Each respondent is suffering from asbestosis according to objective medical diagnoses performed by a Board-certified medical expert in pulmonary and lung disease who is also National Institute of Occupational Safety and Health-certified to read chest x-rays for the diagnosis of asbestosis. The diagnoses rely on the necessary threshold facts that each respondent was subjected to substantial asbestos exposure and

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[3] Respondents Vance, Ayers, Johnson, and Butler all worked where the asbestos stripping and reapplication occurred (JA 102-07, 112, 167-68, 198, 201, 266-73, 303-04, 328); respondent Shirley handled asbestos sheets and cleaned up broken bags of asbestos (JA 192-93, 282-86); and respondent Spangler was directly involved in the stripping and the application of asbestos on the engines (JA 205, 338-39). See P. Tr. Exhibs. 2-3. Photos, App., *infra* A1-A2. Almost all of the respondents were employed for decades by petitioner, ranging over 4, 5, 14, 30, and 38 years (JA 106, 192, 198, 201, 205), except for respondent Butler. Although Butler was subject to asbestos exposure for only three months in petitioner's employment, and further exposed in his future employment as a pipefitter, Butler's exposure at petitioner's workplace was especially intense. He worked during that time in the repair shop in close proximity to where asbestos was stripped and reapplied and where, as a result, the air he inhaled was exceedingly dusty with asbestos fibers. JA 249-50.

[4] Although petitioner learned of the public health hazards of asbestos exposure in the workplace beginning in the 1930s, petitioner took none of the industry-recommended precautions on behalf of any respondent. Petitioner did not advise any of them of asbestos hazards. Petitioner did not tell respondents how to reduce the amount of asbestos dust in the air or otherwise make the workplace less hazardous. Respondents were not told to wet down the dust or instructed to wear masks or respirators of any kind. Finally, petitioner did not take any dust measurements during respondents' employment or promote respondents' obtaining chest x-rays. JA 113-14, 252-53, 293-94, 343-44.

a sufficient amount of time has elapsed since that exposure for asbestosis to develop. Most tellingly, the diagnoses are based on the ATS-established diagnostic tests of "recognized value."[5]

Respondents are suffering from serious physical and mental injuries because of asbestosis and their impairment is progressively worsening. One respondent stated that his "shortness of breath" meant that he "just can't breath. * * * I just feel like I'm gonna fall dead * * *." JA 114. Others explained that the physical effect was so debilitating that they could not "walk a distance" or could walk only about a block. JA 262, 276, 330. One respondent requires six minutes to walk 110 feet to get the mail and back, after which he has to sit down and rest. JA 206, 356. The impact on another respondent's lung is so severe that

[5] The chest x-rays of each respondent reveal asbestosis of the lung. JA 178-81, 184, 193, 198, 199, 202, 204, 205-06. For respondent Spangler, the asbestosis has already progressed to an even more advanced stage, but the disease is likely to worsen for all respondents over time. JA 206; see *id.* at 171, 186, 195, 198, 203. Five respondents also suffered from diffusion impairment consistent with asbestosis. JA 169-70, 193-94, 200, 202, 206. Physical examination of the lungs, using a stethoscope, revealed rale sounds in the chests of several respondents, including the one whose diffusion capacity appeared normal, which further corroborated asbestosis. JA 168-69, 184, 193. At trial, a medical expert testified that some respondents also exhibited lung damage from smoking, but that the evidence of asbestosis -- especially the chest x-rays and diffusion impairment -- was physically distinct for diagnostic purposes from that caused by either smoking or pleural plaques. JA 171, 185, 189, 202, 208-09.

Petitioner improperly now tries to relitigate the facts and in doing so misstates the trial evidence. Respondents' expert did not "concede[] the absence of ATS-recommended criteria" for respondent Ayers. Pet. Br. 7 & n.6. The expert found those criteria met. JA 201-03. Petitioner's reference to "corrected" diffusing capacity is misleading because, as established at trial, this so-called correction does not measure for asbestosis impairment, which is why it is not used by the ATS guidelines for measuring respiratory impairment Petitioner's own expert conceded just that. JA 165-66, 477-78, 483, 522-23. Petitioner is likewise mistaken in now contending (Br. 4 n.3) that a lung profusion reading of 1/1 is required to support a diagnosis of asbestosis. The evidence at trial established that a 1/0 reading is sufficient evidence of abnormality to support an asbestosis diagnosis according to the author of the ATS guidelines and to both petitioner's and respondents' medical experts. JA 199, 240, 432, 460.

"no matter what I do, I could just be talking and I'll run plum out of breath." JA 294-95.

At trial, respondents established the seriousness of the mental injuries caused by their asbestosis. In addition to the obvious trauma from their growing physical incapacity to engage in normal life activities, there was testimony about the emotional trauma directly linked to shortness of breath. Respondent Spangler described how his worsening condition was causing him emotional distress. JA 357. Respondent Shirley stated it was making "a nervous wreck out of me" and he "g[o]t depressed sometimes." JA 298.

Respondents also proved at trial both their fear of getting either lung cancer or mesothelioma and the reasonableness of that fear based on their asbestosis. There was trial testimony regarding the significantly enhanced risk of those cancers for those with asbestosis (see pp. 3-4, *supra*), as well as the mental injury caused by the knowledge of those risks. There was also testimony that respondents were the kind of individuals who understated their fears. JA 116, 255, 277, 299, 331, 354.

2. During jury selection, the trial judge granted respondents' motion that petitioner not be allowed either to refer in *voir dire* or to introduce at trial evidence of other lawsuits or settlements that respondents may have filed against or entered into with other parties relating to their asbestos-related injuries. Trial Tr. 32-38, 148-49 (April 13, 1998); JA 66-73. In considering the motion, the trial judge repeatedly questioned whether petitioner was planning to introduce evidence of the negligence of other tortfeasors in support of apportionment of fault and, if not, what did petitioner suggest the jury was "going to apportion with?." JA 69. Petitioner denied intent to introduce evidence with respect to manufacturers and mentioned only the possibility of "apportionment" based on the fact that several respondents were smokers. JA 68-71. The trial court's order pertained only to evidence of the filing of other lawsuits and settlements, and it did not preclude petitioner from introducing evidence of the culpability of manufacturers or nonrailroad employers. See JA 126 ("evidence that [respondents] have sued

the manufacturers and might have received settlement").[6]

3. Petitioner also requested two jury instructions that the trial judge denied. Petitioner requested an instruction that there could be no award of "damages to plaintiff for fear of cancer" unless the jury found *both* that (1) "he has an actual likelihood of developing cancer" and (2) "he has experienced physical manifestations caused by fear of developing cancer." JA 548. Petitioner did not contend (as it does now) that physical manifestations would suffice for recovery or that mental injury must be "severe." The trial judge instead instructed the jury that "any plaintiff who has demonstrated that he has developed a reasonable fear of cancer that is related to proven physical injury from asbestos is entitled to be compensated for that fear as a part of the damages you award for pain and suffering" for that physical injury. JA 573. The judge further instructed that because "none of the plaintiffs have offered evidence that he actually has cancer or that he will, with reasonable certainty develop cancer in the future. * * * [Y]ou cannot award damages to plaintiffs for cancer or for increased risk of cancer." *Id.*

The trial judge also denied petitioner's "apportionment" instruction. Petitioner requested that the jury be instructed that if it finds that the "plaintiff in this case has a condition or disease which was caused by his employment with employers other than the railroad, plaintiff's recovery must be limited to only such damages as result from his railroad employment and he cannot recover damages which have been or will be caused by his non-railroad employment." JA 539. Petitioner further

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[6] Other evidence related to manufacturers denied admission by the trial judge was certain evidence concerning when manufacturers warned petitioner of asbestos hazards. Petitioner, however, sought to argue that the manufacturers were *nonnegligent* in lacking knowledge of asbestos hazards and, based on that alleged factual premise, hoping to persuade the jury that petitioner was likewise nonnegligent. See JA 127 ("The purported evidence would be that [the manufacturers] didn't warn because the general state-of-the-art was such that nobody knew enough to do anything.). In denying petitioner the freedom to suggest that the manufacturers were nonnegligent, the judge did not limit petitioner's ability to introduce evidence of manufacturer *negligence*, which both respondents and the court agreed was in bountiful supply. See JA 126-37.

proposed a verdict form that would have allowed the jury to allocate percentages of damages to petitioner, each respondent (based on smoking), and "Other Employment." JA 550-60

The trial judge instead instructed the jury that plaintiff's recovery should be "reduced" and "not * * * barred" if the jury found that "a plaintiff was negligent and that plaintiff's negligence caused in whole or in part, the plaintiff's lung impairment or injury." The verdict forms provided by the judge accordingly allowed the jury to determine the "percentage of negligence" attributable to "each of the parties" in the event that the jury first found any of them contributorily negligent. JA 578-79, 582-83, 586-87. The court further instructed the jury that it was no defense to petitioner's liability that there "may be more than one cause to any injury." JA 568.

4. The jury reached verdicts in favor of respondents, but reduced damages for three respondents based on their comparative negligence by smoking. The reductions were 37, 31, and 14 percent, amounting to a $776,954.44 overall decrease. The judge further reduced the verdicts to account for settlements that respondents had entered into with other non-FELA entities. The damages ultimately awarded in the final judgments totaled $4,891,603.20. See JA 590-613; Order Modifying Judgment (9/22/99). The judge subsequently denied petitioner's motion for judgment notwithstanding the verdict or in the alternative for a new trial. Pet. App. 3a-4a.

5. The West Virginia Supreme Court denied discretionary review. Pet. App. 1a-2a.

INTRODUCTION AND SUMMARY OF ARGUMENT

Petitioner sets forth two claims. Petitioner's first claim is that the trial court erred in allowing the jury to award any damages based on fear of cancer. Petitioner's second claim is that the trial court erred in holding petitioner liable for all of respondents' injuries rather than instructing the jury to apportion damages between petitioner and other non-party tortfeasors who may also have contributed to those injuries. Neither of these contentions has any merit. Both are premised on a misreading of settled tort doctrine, which supports the jury

instructions in all respects. Both also run afoul of the Federal Employer's Liability Act (FELA), which Congress enacted in order to expand a plaintiff's ability to recover for injuries caused by a railroad's negligence. Finally, petitioner misapprehends this Court's role in reviewing trial proceedings and jury verdicts by repeatedly questioning the sufficiency of the evidence at trial and by introducing new evidence and new arguments not presented at trial. The judgment of the trial court should, accordingly, be affirmed, or the Court may wish to dismiss the writ of certiorari as improvidently granted.

1. Petitioner's first contention contravenes settled tort doctrine that permits recovery of damages for reasonably-incurred mental injuries where, as in this case, the basis of those injuries is a physical injury caused by the defendants' negligence. Contrary to petitioner's repeated insistence, this case, unlike *Metro-North Commuter R.R. Co. v. Buckley*, 521 U.S. 424 (1997), does not involve a stand-alone tort claim for negligent infliction of emotional distress. Respondents are not relying on mere "asbestos exposure" in support of their claim for recovery of mental injuries. Nor are they asserting those mental injuries as what establishes their tort cause of action in the first instance.

Respondents alleged and proved at trial that they each suffer from a serious, debilitating physical disease -- asbestosis -- caused by petitioner's negligent conduct, and petitioner cannot and "does not challenge" (Br. 2) the jury's finding of asbestosis. Respondents further established at trial the reasonableness of their fear, arising from their asbestosis, that they may suffer in the future from two painful and potentially fatal forms of cancer: mesothelioma and lung cancer. The evidence was uncontradicted at trial that those who, like respondents, suffer from asbestosis are significantly more likely to develop these cancers than those who do not, including those who have been only exposed to asbestos. Pursuant to the trial judge's instruction, the jury concluded that respondents' fear of cancer was in fact reasonably related to their asbestosis and the sufficiency of that evidence can no longer be fairly questioned.

Based on traditional and longstanding tort doctrine, recovery for such mental injuries is permissible under FELA. Once a

plaintiff establishes that the defendant's conduct has caused a physical injury, such as a serious physical disease from asbestos exposure, the plaintiff is entitled to recover for all reasonably foreseeable physical and mental injuries proximately resulting from the same "conduct which cause[d]" the initial injury. See *Restatement (Second) of Torts,* § 456 (1965). The physical disease in that circumstance satisfies the "injury" element necessary for the tort cause of action, and the mental injuries are merely an aspect of damages for an otherwise established tort.

Nor is there anything about the jury verdict to suggest that respondents' asbestosis was merely a pretext for a damage award based mostly on respondents' fear of cancer. Wholly apart from fear of cancer, the evidence at trial established the seriousness of respondents' asbestosis and its debilitating and progressively worsening impact on their daily lives. Indeed, none of the respondents sought to prove that their fear of cancer was their most substantial injury, and at least one even expressly denied just that. Because, moreover, petitioner failed to seek or obtain a jury verdict that reveals how much was awarded for fear of cancer, petitioner cannot now presume that the jury awarded too much on that one ground.

2. FELA's plain terms and settled tort law also contradict petitioner's second claim that the trial court erred by not instructing the jury to apportion damages between petitioner and absent third parties who may have contributed to the injuries of two respondents. FELA and tort law permit a plaintiff to recover his entire damages from a defendant whose negligence jointly causes indivisible personal injuries, such as a physical disease, while allowing the defendant to seek contribution from other tortfeasors.

FELA expressly imposes liability on petitioner so long as its negligence caused respondents' injuries "in part." 45 U.S.C. § 51. As repeatedly stressed by this Court, this statutory standard is met when the "employer negligence played any part, even the slightest, in producing the injury * * *. It does not matter that, from the evidence, the jury may also with reason, on grounds of probability, attribute the result to other causes * * *." Rogers v. Missouri Pac. R. Co., 352 U.S. 500, 506-07 (1957). In contrast to FELA's adoption of comparative negligence, FELA

does not provide that a plaintiff's recovery must be reduced because other nonrailroad sources contributed to the plaintiff's indivisible injuries. Neither the common law in existence at the time of FELA's enactment nor the weight of common law authorities today dictate otherwise. Respondents' personal injuries resulting from asbestosis are classic "indivisible" injuries for which apportionment is not compelled.

Even if, contrary to our submission, FELA's plain language and applicable common law doctrine do not preclude apportionment for the type of indivisible physical and reasonable mental injuries resulting from asbestosis, petitioner cannot prevail by now claiming that a reasonable basis for apportionment exists. The burden of establishing any such "reasonable basis" necessarily falls on petitioner as the defendant. Here, however, petitioner made no such showing at trial, notwithstanding multiple opportunities to do so.

3. Although petitioner pays nominal lip-service to the irrefutable notion that, before this Court, petitioner may neither challenge the sufficiency of the evidence before the jury nor present new evidence not introduced at trial, petitioner's brief is riddled with efforts to do just that. Petitioner never accounts for the fact that all reasonable evidentiary inferences must now be made in respondents' favor as the prevailing parties at trial.

With regard to the first question presented, petitioner (1) questions whether respondents in fact suffer from asbestosis by repeatedly stressing the possibility of its misdiagnosis; (2) offers new evidence that asbestosis is not a serious debilitating disease; and (3) presents new evidence that respondents' fear of cancer is not reasonable. Petitioner's arguments on the apportionment issue are similarly infected by illegitimate factual allegations. Petitioner relies on fact evidence that could have been (but was not) introduced at trial to support a finding that a reasonable basis for apportionment of liability exists.

Petitioner is not entitled to a new trial based on its hypothetical notions of what it should have done at trial. Undoubtedly, there is room for "Brandeis Brief" presentations in cases raising legal issues where such historical facts may be legally relevant. Here, however, the Court has decided to review the propriety of a jury verdict and jury instructions that

were based on the evidence actually presented at trial. A party cannot introduce new evidence to impeach that verdict or those instructions or invite this Court to review the sufficiency of the evidence. For this reason, the Court may wish to consider dismissing the writ of certiorari as improvidently granted.

ARGUMENT

I. THE TRIAL JUDGE PROPERLY INSTRUCTED THE JURY THAT A PLAINTIFF WHO HAS A REASONABLE FEAR OF CANCER BECAUSE HE IS SUFFERING FROM A PHYSICAL DISEASE CAUSED BY THE DEFENDANT'S NEGLIGENCE IS ENTITLED TO RECOVER FOR THAT MENTAL INJURY AS PART OF HIS OVERALL DAMAGES

The trial judge in this case properly instructed the jury that "any plaintiff who has demonstrated a reasonable fear of cancer that is related to proven physical injury from asbestosis is entitled to be compensated for that fear as a part of the damages you may award for pain and suffering." JA 573. The trial judge's instructions were valid in all respects. It is longstanding, settled tort law that where, as in this case, a plaintiff has established that defendant's negligence has resulted in a physical injury, the plaintiff can recover for all physical and reasonable mental harms proximately related to that initial physical injury. For this reason, petitioner's claim of jury instruction error is little more than the very kind of dressed-up sufficiency of the evidence challenge that this Court has consistently declared inappropriate for plenary review.

A. Under Settled Tort Law, A Defendant Who Negligently Causes Physical Injury To The Person Of Another Is Liable For The Resulting Physical And Mental Harms, Including Reasonable Apprehension Of Future Physical Consequences

1. FELA "invests the injured employee with a right to such damages as will compensate him for his personal loss and

suffering." St. Louis I.M. & S.R. Co. v. Craft, 237 U.S. 648, 656 (1915). In construing the precise scope of damages recoverable under FELA, this Court considers, first, "FELA itself, its purposes and background," and, second, "because 'FELA jurisprudence gleans guidance from common-law developments,' * * * the common law treatment of the right of recovery asserted by respondents." Consolidated Rail Corp. v. Gottshall, 512 U.S. 532, 541-42 (1994), *quoting* Atchison, T. & S. F. R. Co. v. Buell, 480 U.S. 557, 568 (1987). Although FELA does not itself answer the question of the scope of physical and mental injuries for which a negligent defendant is liable, settled common law principles readily do.

Under settled tort law, where, as in this case, a defendant negligently causes a physical injury to another person, the defendant's liability is not confined to the physical injuries that immediately result. The initial physical injury satisfies the "injury" element necessary to establish a prima facie case of negligence, consisting of "breach of duty, injury and causation" (Gottshall, 512 U.S. at 550-551). But the defendant is liable for all physical and mental harms that proximately result from the threshold physical injury.

The scope of proximate mental injuries that may be recovered includes "pain and suffering" in the narrowest sense: pain that arises in the immediate aftermath of a physical wounding. But, contrary to petitioner's claim (Br. 15-16), it is not strictly confined to such immediate, direct pain. "In connection with proved physical injury, wrongfully caused [emotional disturbance] has long been an element in recovery, not merely where undistinguishable from 'physical pain,' but in further removed situations." Herbert F. Goodrich, *Emotional Disturbance as Legal Damage*, 20 Mich. L. Rev. 497, 509 (1921).

As described by Dean Prosser in the very first edition of his *Handbook of Torts*, "[w]ith a cause of action established by the physical harm, 'parasitic' damages are awarded, and it is considered that there is sufficient assurance that the mental injury is not being feigned." William L. Prosser, *Handbook of the Law of Torts*, 213 (1941). Hence, mental injuries that would not, standing alone, be sufficient to create liability, are recoverable as "parasitic damages" when they are the result of a physical

impact that produces a physical injury because the latter satisfies the "injury" element necessary to establish the tort cause of action. The essential correctness of this proposition, both at the time of FELA's enactment and since, cannot be seriously questioned.[7] As set forth in the *Restatement (Second) of Torts,* § 456 (1965): "If the actor's negligent conduct has so caused any bodily harm to another as to make him liable for it, the actor is also subject to liability for * * * fright, shock, or other emotional disturbance resulting from the bodily harm *or the conduct which causes it* * * *" (emphasis supplied).

2. Nor can it be gainsaid that it is has long been settled tort law that such recoverable mental injuries extend to the reasonable apprehension of future physical consequences. "[E]ven if the plaintiff cannot prove that a disease will result in the future, courts have permitted recovery for reasonable fears that the impact will inflict some future disease. * * * Such cases fit the pattern of parasitic damages – emotional harm results from an initial injury and is recovered as one element of damages for that injury." Dan B. Dobbs, *The Law of Torts*, 844 (2000); Thomas G. Shearman & Amasa A. Redfield, III *A Treatise on the Law of Negligence* § 761 (6th ed. 1913) ("The mental suffering which may be allowed for includes such as arises from the plaintiff's reflections upon what he personally has to endure."). There is simply no merit, therefore, to petitioner's contention (Br. 15-16) that mental injury based on fear of future consequences such as cancer are recoverable only as "stand-alone negligently inflicted emotional distress."

Cases involving fear of cancer based on asbestosis did not exist at the time of FELA's enactment, but there are plenty of historical and contemporary analogues in the case law. See

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[7] See Calvert Magruder, *Mental and Emotional Disturbance in the Law of Torts*, 49 Harv. L. Rev. 1033, 1048-49 (1936); Archibald Robinson Watson, *A Treatise on the Law of Damages for Personal Injuries*, 500-01 (1901); Francis H. Bohlen, *Right to Recover for Injury Resulting from Negligence Without Impact*, 50 Am. L. Rev. 141, 142 (1902); Thomas A. Street, I *The Foundations of Legal Liability – Theory and Principles of Tort*, 460 (1906); Francis H. Bohlen, I *Cases on the Law of Torts* 215 (1915); Fowler V. Harper, *Readings in Torts*, 1225-26 (1941).

David Minneman, Annot, *Future Disease or Condition, or Anxiety Relating Thereto, As Element of Recovery*, 50 A.L.R. 4th 13 (1986). Perhaps most directly analogous are the legion of dog bite and blood poisoning cases during the late 19th and early 20th centuries in which plaintiffs recovered damages both for the physical wounding of the immediate bite and for the fear of future disease (rabies, lockjaw) caused by the possibility that harmful germs were injected into the victim's bloodstream. The courts routinely allowed for recovery of mental injury based on fear of future disease, wholly apart from the physical harm (and immediate mental harm) caused by the initial wounding itself.

In *Ayers v. Macoughtry*, 29 Okla. 399 (1911), for instance, the plaintiff stated simply at trial that he was "in fear of acquiring [rabies]" and, because of that fear, "there was a good deal of anxiety, and I experienced it." *Id.* at 402. Based on that testimony, the Oklahoma Supreme Court upheld the trial court's instruction to the jury that in determining the amount of damages, "you may take into consideration the apprehension of poisoning from the bite of said dog and the fear of evil results therefrom." *Id.* at 404.[8] In *Buck v. Brady*, 110 Md. 568 (1909), another dog bite case, the defendant objected to the plaintiff's being allowed to testify in response to the question "Have you any fear now" of rabies, "Yes, sir; I still worry about it." The Maryland Supreme Court held that there was no error in allowing this testimony, relying on an earlier decision of the Vermont Supreme Court: "'The apprehension of poison from the bite of the dog, and the fear and solicitude as to evil results therefrom -- all pain, anguish, solicitude, occasioned by the bite -- were proper matters for the jury in estimating the damages." *Id.* at 573, *quoting* Godeau v. Blood, 52 Vt. 251 (1880); Warner v. Chamberlain, 12 Del. 18, 21 (1884) ("fear and apprehension of hydrophobia"); Serio v. American Brewing Co., 141 La. 290, 299 (1917) ("compensate the mental suffering resulting from the knowledge that he had been bitten by a mad dog").

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[8] See Heintz v. Caldwell, 9 Ohio Cir. Dec. 412 (1898) ("we hold that the court also erred in not permitting the plaintiff to testify to the mental suffering consequent upon her apprehensions of hydrophobia and lockjaw resulting from the dogs biting her").

The courts in these cases carefully distinguished between a plaintiff's right to recover for reasonable apprehensions of future consequences and the right to recover for the future consequences themselves. The courts specifically upheld the legitimacy of recovery for the mental injury based on such apprehensions even when the consequence were themselves too uncertain to be recoverable. See Bernadsky v. Erie R. Co., 76 N.J.L. 580 (1908). The courts also endorsed the reasonableness of fears based on microscopic bodily invasions notwithstanding their potentially lengthy duration: "The ghost of hydrophobia is raised, not to down during the life-time of the victim." The Lord Derby, 17 F. 265, 267 (E.D. La 1883); Gamer v. Winchester, 110 S.W. 2d 1190, 1193 (Tex. Civ. App. 1937) ("these mental fears may be considered by the jury").

3. In none of the longstanding tort law precedent allowing for recovery of mental injuries related to a physical impact or injury was there a further requirement that the mental injuries be "physically manifested." The mental injuries needed only to be related to a physical injury, reasonable, and, like injuries of any kind, supported by evidence sufficient to sustain a jury verdict. For that same reason, of course, we do not doubt that a jury is entitled to consider the absence of physical manifestations as evidence that a mental injury is less severe and therefore less deserving of a significant award. In this case, moreover, petitioner made just such a closing argument to the jury. See JA 576. But the jury's fair consideration of that argument is all that tort law requires.

B. A Plaintiff Who Reasonably Fears Cancer Because He Has Asbestosis May Recover Damages for that Fear From A Defendant Who Negligently Caused the Asbestosis

1. In *Metro-North* , this Court ruled that a victim of asbestos exposure could not recover for mental injuries based on fear of cancer because exposure to asbestos, alone, did not amount to the threshold "physical impact" necessary for such recovery. In the instant case, however, respondents are not the victims of mere exposure to asbestos. The evidence at trial established that petitioner's negligence in exposing respondents to asbestos

has resulted in their suffering from asbestosis, which is a serious, debilitating pulmonary lung disease that progressively worsens over time. Accordingly, under longstanding tort law, petitioner can prevail only either if (1) asbestosis does not supply the requisite physical injury or (2) if respondents' fear of cancer is not sufficiently related to asbestosis to be a legitimate additional aspect of damages.

Revealingly, almost none of the lengthy briefs filed by petitioner and its supporting amici discuss at any length these essential, threshold legal and factual issues. On the significance of asbestosis, petitioner can at most muster only a footnote (Br. 21 n.13) that declares, without any elaboration, that this Court in *Metro-North* "did not decide that asbestosis, or any specific asbestos-related disease, would in fact qualify a plaintiff" for recovery of related mental injury. At least one of petitioner's amicus seeks to fill the analytical gap in petitioner's position, albeit no more convincingly. According to amicus American Insurance Association (Br. 17-18), the asbestosis diagnosis does not change the result because "asbestosis is merely a proxy for exposure to asbestos." "[T]he presence of asbestosis – the only asserted factual difference between this case and *Buckley* – adds nothing to the legal analysis." *Id.*

Such propositions are simply untenable. The legitimacy and legal significance of respondents' asbestosis diagnosis is incontrovertible. Notwithstanding petitioner's repeated (and improper) efforts to cast doubt on the validity and seriousness of that medical diagnosis,[9] the evidence was more than ample to sustain the jury's verdict. There was substantial evidence of respondents' significant asbestos exposure at petitioner's employment. See p. 5, *supra*. A Board-certified medical expert applied the consensus American Thoracic Society guidelines in support of that diagnosis, which even petitioner acknowledges as "authoritative" (Br. 3) and which carefully distinguishes

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[9] See, *e.g.*, Pet. Br. 7 ("accounts of railroad exposure were riddled with vagueness and imprecision"); *id.* at 2 ("minimal proof of disease"); *id.* at 3 ("misdiagnosis is thus common"); *id.* at 5 ("commonly diagnose those who manifest even the slightest lung scarring as asbestotic"); *id.* at 6 ("scant evidence of asbestosis"); *id.* at 30 ("benign disease").

between lung impairments caused by asbestos and smoking. See note 1, *supra*. Contrary to petitioner's intimation (Br. 6, 8), respondents' asbestosis is not a mere, incidental inconvenience based on the "slightest lung scarring." As shown at trial, at least one-third of the lung must be scarred before asbestosis is even revealed by an x-ray, its restriction on lung inspiration capacity causes shortness of breath that significantly restricts the ability to engage in daily life activities, it worsens over time, and it is potentially fatal. See pp. 2-3, *supra*.[10]

No more subject to dispute before this Court is the jury's assessment pursuant to the jury instruction of the relationship of respondents' fear of cancer to their asbestosis. The sufficiency of that evidence is not a proper matter for this Court's review. But, in all events, the United States is simply wrong in asserting (Br. 5, 13) that "any increased risk of cancer or associated fear is not related to the physical injury that permits respondents to sue." The relationship is substantial and doubly-layered. Asbestosis is what makes respondents' fear of cancer reasonable. Indeed, petitioner's amicus, the American Insurance Association, correctly acknowledges (Br. 22) that asbestosis is "logically related" to the reasonableness of the fear

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[10] Petitioner's description of asbestosis -- a "benign disease" lacking "any severe impairment" and causing "only" shortness of breath (Br. 8, 30) -- sharply contrasts with the description of the disease set forth by the federal Occupational Safety and Health Administration:

> [I]ndividuals with asbestosis experience a relatively long and debilitating period of morbidity. Dr. Holstein, a pulmonary physician, described a typical case:
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> > The main symptom of asbestosis is progressive shortness of breath. When this has its onset in its typically insidious and gradual manner, the individual thinks that he is just getting older or getting a little overweight, can't run as fast as he used to, or gets out of breath more easily than he used to; and attributes it to factors such as the ones I mentioned. A little later on, the person begins to notice that in fact, he or she can't do the things that many other people the same age can do.* * * Eventually, in the very severe cases, a person's life consists of sitting in an armchair on the ground floor with an oxygen tank, and disconnecting it just long enough to get up and go to the bathroom.

51 Fed. Reg. 22612, 22622 (1986).

of cancer because "a present injury of asbestosis makes it more likely than it otherwise would be that a particular plaintiff who has been exposed to asbestos will eventually develop cancer."

Nor is that logical relationship insubstantial. As previously described (pp. 3-4, *supra*), 10 percent of individuals with asbestosis contract mesothelioma (cancer of the lining of the lung); 39 percent of those with asbestosis who also smoke contract fatal lung cancer, while the rate for nonsmokers with asbestosis is 2-5 percent, which is still a substantial risk. Significantly, as petitioner's own expert agreed at trial, it is a widely held view that the increased risk of lung cancer applies only to those who have asbestosis. JA 470; p. 4 & note 2, *supra*. The asbestosis confirms the degree of lung infiltration -- "the highest kinds of exposures" (JA 95) -- as well as a person's particular adverse biologic reaction to the fibers.

The second layer of the relationship binding together respondents' asbestosis and their fear of cancer is likewise significant. It derives from the essential fact that asbestosis and the fear of cancer are both caused by petitioner's same negligent conduct, commencing with the infiltration of the respondents' lungs with asbestos fibers and extending to asbestosis. Respondents' fear of cancer is, precisely as contemplated by the *Restatement (Second) of Torts*, "an emotional disturbance resulting from * * * the conduct which causes [asbestosis]." See § 456. Just as with the cases of dog bites and rabies more than a century ago, both asbestosis and cancer are caused by the same negligent conduct and respondents seek recovery only for damages based on fear and not for the cancer itself.[11]

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[11] Significantly, the relationship between asbestosis and fear of cancer clearly satisfies even petitioner's own test of the necessary corroboration of mental injury, as described in the petition for a writ of certiorari. As set forth in the "Questions Presented" of its petition, petitioner did *not* present the issue as whether emotional injury based on fear of cancer must be proved by physical manifestations. The petition was instead carefully written in the disjunctive, expressly allowing for the possibility of "*other corroboration of injury related to their alleged fear of cancer*." Pet. i (emphasis supplied). Proof of asbestosis, however, supplies just that corroboration which petitioner acknowledged would be sufficient. It is undeniably both

2. Petitioner and its amici are also mistaken that reasonable fear of cancer is not recoverable because "asbestosis and cancer are separate diseases." Pet. Br. 15-16; U.S. Amicus Br. 5, 11-13. Respondents did not seek and the trial judge did not permit the jury to award any damages based on cancer itself. See JA 573. The "'separate disease'" rule cited by the United States (Br. 12) is therefore neither implicated in this case nor inconsistent with the recovery of damages based on fear of cancer.

The "separate disease" rule originated in cases in which tort defendants, relying on "the well-established rule that a claim or cause of action may not be split," were arguing for "a judge-made rule that upon manifestation of any harm, the injured party must then, if ever, sue for all harms the same exposure may (or may not) occasion some time in the future." Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 117, 119 (D.C. Cir. 1982) (Ginsburg, J.). As proposed by the tort defendants in those earlier cases, a victim of asbestosis would have to sue for both asbestosis and for unrealized cancer at the same (earlier) time and would be able to obtain relief for the latter only if he could prove that he was then "reasonably certain" to get cancer. *Id.* at 120. The unfairness of requiring a plaintiff to bring a suit, if ever, when the evidence would invariably be insufficient is what prompted many courts to adopt the "separate disease" rule, which allows for the statute of limitations to run for each disease separately. *Id.* at 120-21.

In this case, however, respondents are not claiming damages

"injury" and it is "related" to the "fear of cancer." The evidence of asbestosis, furthermore, is itself corroborated by the very type of "objective medical evidence" upon which petitioner insists: a detailed expert medical diagnosis. Perhaps that is why petitioner sought, upon further reflection, to rewrite the question presented in its subsequent brief on the merits. *Compare* Pet. i *with* Pet. Br. i. Such a rewrite would seem to implicate the Court's rules, which allow for the "Question Presented" to be reworded, but do not allow the petitioner to "change the substance of the questions already presented." S.Ct Rule 24.1(a). But, in all events, petitioner's effort to revise the question presented is strikingly revealing of the fundamental weakness of its legal position. The judge's instruction to the jury in this case is entirely consistent with petitioner's original question. *Compare* JA 573 *with* Pet. i.

for cancer. JA 573. They are instead seeking damages not for a future physical injury, but for their *present* mental injury, which exists whether or not that future physical injury occurs. The United States is correct that FELA's "text clearly focuses on present injuries" (Br. 15), but equal wrong in characterizing respondents' mental injury as not "present." Respondent's "fear is happening now." Beeman v. Manville Corp., 496 N.W.2d 247, 252 (Iowa 1993).

Unlike either petitioner or the United States, the trial judge in this case correctly distinguished between the reasonable apprehension of future consequences and the consequences themselves, allowing recovery only for the former. JA 573. It is the same distinction evident in the rabies cases discussed above. It is also, of course, the same distinction that defines the essential difference between the independent torts of assault (apprehension of a harmful contact) and battery (harmful contact). Restatement (Second) Torts, §§ 13, 18, 21.

No inconsistency is presented between the "separate disease" rule and distinguishing between present and future injury. Many of the jurisdictions adopting that rule have also allowed plaintiffs with asbestosis to recover damages for fear of cancer in their asbestosis claims. See, *e.g.*, Eagle-Picher Indus. v. Cox, 481 So. 2d 517, 521, 528 (Fla. Dist. Ct. App. 1986); Devlin v. Johns-Manville Corp., 202 N.J. Super. 556, 563, 567 (1985); Griffin v. Keene Corp., 1990 U.S. Dist. Lexis 7424, slip op. 4 (N.D. Ill. 1990). Those courts all recognize that the present injury based on reasonable fear is distinct from the future consequences of cancer and presents no more a problem of double recovery than does recovery for both assault and battery. These judicial rulings also avoid the unfairness that would otherwise result because many current victims of asbestosis would be unlikely ever to be made whole for their present mental injuries, such as those victims who die of asbestosis or other causes before cancer occurs or a lawsuit can be brought. Most persons die of mesothelioma within 12 months of its diagnosis. See H. Corwin Hinshaw & John F. Murray, *Diseases of the Chest* 731-32 (4th ed. 1980).

3. Although this Court did not rule in *Metro-North* on the

precise question, the Court's opinion left little doubt that a plaintiff with asbestosis could recover damages for reasonable fear of cancer under FELA. The Court held that FELA "permits 'recovery of emotional injury' by 'those plaintiffs who sustain a physical impact as a result of a defendant's negligent conduct." 521 U.S. at 430, *quoting*, Gottshall, 512 U.S. at 547-48. The Court also made clear that under settled tort doctrine, a disease such as asbestosis would satisfy the threshold physical injury requirement. The Court both described how "[c]ommon law courts do permit a plaintiff who suffers from *a disease* to recover for negligently caused emotional distress"(521 U.S. at 432 (emphasis supplied)) and affirmatively ruled that a railroad employee "cannot recover unless, and until, he manifests symptoms of *a disease*" (*id.* at 436 (emphasis supplied)). The *Metro-North* opinion even cites favorably to the lower court's ruling in *Lavelle v. Owens-Corning Fiberglass Corp.*, 30 Ohio Misc. 2d 11 (Ct. Common Pleas, Cayahoga Cty. 1987), which this Court described as allowing recovery for fear of cancer because the "emotional distress damages [were] sought by an *asbestosis-afflicted plaintiff*." 521 U.S. at 437 (emphasis supplied).

Indeed, unlike in this case, the railroad petitioner in *Metro-North* and the same amici who support petitioner in this case, made quite clear in the legal briefs that they filed in *Metro-North* that an asbestosis-afflicted plaintiff *would* be able to recover for reasonable fear of cancer as part of his overall damages.[12] The American Insurance Association (AIA), amicus both in *Metro-North* and here, made explicit its promise to future asbestosis-inflicted plaintiffs. The AIA declared in its *Metro North* amicus brief (*Metro North* AIA Amicus Br. 14) that "[t]he question here is not *whether* respondent can sue, but *when*. There is no doubt that if respondent does, in fact, suffer a physical injury from exposure to asbestos, he will be able to bring a cause of action to recover not only for his physical injuries, but also for *any*

[12] See, *e.g.*, *Metro-North* Pet. Rep. Br. 18 ("Indeed, if plaintiff's medical records contained any objectively verifiable functional impairment, he would have an old-fashioned personal injury claim, and there would be no need to talk about a zone of danger test, physical impact, or the like.").

emotional injury" (emphasis in original and supplied).[13]

Such acknowledgments were hardly surprising in *Metro-North* because of the clarity of settled tort law. What is surprising is how the petitioner railroad in this case and the same amicus now claim otherwise. As correctly described by the petitioner railroad in its *Metro-North* brief (Br. 20 & n.12), the "better rule in asbestos cases" is the one "adopted by the overwhelming majority of courts, namely to restrict recovery for emotional distress to plaintiffs with actual physical injury caused by asbestos exposure." The lower courts have, in fact, routinely upheld jury instructions that allow a jury to include damages based on reasonable fear of cancer where, as in this case, "the exposure to asbestos * * * has already actually resulted in some physical harm" such as asbestosis. Dobbs, The Law Of Torts, *supra*, 844 & n. 5, *citing* Eagle-Picher Industries v. Cox, 481 So.2d 517 (Fla. Dist. Ct. App. 1985); see, *e.g.*, Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 413-415 (5th Cir.1986) (en banc); Griffin v. Keene Corp., 1990 U.S. Dist. Lexis 7424, slip op. 4 (N.D. Ill. 1990); Beeman v. Manville Corp., 496 N.W.2d 247, 251-53 (Iowa 1993); Capital Holding Corp. v. Bailey, 873 S.W.2d 187, 194 (Ky. 1994); Hoerner v. ANCO Insulations, Inc., 812 So.2d 45, 77 (La. Ct. App. 2002); Denton v. Southern Railway Co., 854 S.W. 2d 885, 888-89 (Tenn. Ct. App. 1993).

4. Finally, there is nothing about the jury verdict in this case to support the Chamber of Commerce's suggestion (Br. 3) that respondents' asbestosis was merely a pretext for a damage award almost exclusively based on fear of cancer. There is instead every reason to presume the opposite. The trial evidence established the serious impairments caused by respondents' asbestosis, ranging from their major physical impact on daily life activities – walking short distances, talking,

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[13] In strikingly similar language and identical emphasis, the United States asserts in this case that "the question is not *whether* damages for fear of cancer may be recovered, but *when*." U.S. Amicus Br. 5 (emphasis in original). The answer to that question, however, is provided in the *Metro-North* brief from which the question apparently originated: when "the respondent does, in fact suffer a physical injury from exposure to asbestos." AIA *Metro-North* Br. 14.

singing – to the sheer terror caused by being unable to breath because of progressively worsening shortness of breath. See, *e.g.*, JA 114 ("shortness of breath" means "just can't breath[e]"); pp. 6-7, *supra*. No one testified, nor did their trial counsel argue to the jury, that fear of cancer was the most significant of their injuries. One respondent stated that his greatest source of anxiety was not cancer but his worsening "shortness of breath" by causing him to "clos[e] out more and more every day. * * * The only thing I know is pray * * *." JA 299.

Because, moreover, petitioner neither sought nor obtained a special jury verdict that separated out the damages attributable to fear of cancer from respondents' other injuries, there is no way of knowing whether any respondent received significant, or even any, damages on that ground. Nor can petitioner now fairly pierce the verdict and presume otherwise. A general jury verdict on appellate review is entitled to a virtually irrebutable presumption of regularity as to how the jury allocated damages between a plaintiff's various injuries. A defendant cannot prevail on appeal by arguing that the jury might have awarded all of the damages for one of a plaintiff's injuries and none for any of the others. *Cf.* Gallick v. Baltimore & O.R. Co., 372 U.S. 108, 119 (1963) ("it is the duty of the courts to attempt to harmonize the [jury] answers, if it is possible under a fair reading of them"). In sum, even if, as petitioner argues, the evidence did not support awarding large sums for respondents' fear of cancer, there is no reason to presume that the jury did so.

C. None Of Petitioner's Various Arguments Is Relevant To The Question Whether A Railroad Employee Suffering From Asbestosis May Recover Under FELA For Fear of Cancer Based On Such Asbestosis

Petitioner and its amici dedicate volumes to legal issues not presented by the facts and procedural posture of this case. They contend that a plaintiff should not be able to maintain a claim for negligent infliction of emotional distress unless the emotional distress is sufficiently "severe" to be corroborated by "physical manifestations." They argue, more particularly, that such emotional distress claims based on fear of cancer should be

subject to especially rigorous scrutiny because of the background risks of cancer everyone faces. And petitioners and its amici contend that the nation faces an asbestos litigation "crisis" that warrants the judiciary's guarding against any expansion of tort remedies to those with apprehensions of future physical injuries. See, *e.g.*, Pet. Br. 16-31.

The short answer to all these contentions is that unlike the railroad employees in *Metro-North*, respondents here are *not* maintaining a stand-alone claim for negligent infliction of emotional distress. They were not merely exposed to asbestos; they were not mere bystanders to the physical injury of others; and they are not complaining of some incidental, trivial physical impact with only a tangential relationship to their principal injury. Respondents are not physically unimpaired plaintiffs.

Consistent with the trial judge's instructions (JA 573), respondents are instead claiming the right to recover damages for mental injuries as an element of *damages* for a tort otherwise established that caused physical injury.

Petitioner's basic error lies in its confusing two distinct legal categories for the recovery of mental injuries: (1) Where mental injuries are simply an additional aspect of damages for a tort cause of action otherwise established (sometimes referred to as "parasitic" damages); and (2) Where no physical injury occurred and the mental injuries themselves purport to satisfy the injury element necessary to establish the *prima facie* case necessary for tort recovery. See generally William L. Prosser, *Handbook of the Law of Torts* 213 (1941); Thomas A. Street, I *The Foundations of Legal Liability – Theory and Principles of Tort*, 460 (1906); Restatement (Second) of Torts, Ch. 2, Intro. Note, p. 23; *id.* at § 924(a) & comment (a). This case implicates the first legal category. Because, moreover, all of the legal authorities and policy arguments vigorously asserted by petitioner and its amici presuppose application of the second category, they are erected on a foundational mischaracterization of the case at hand. And, like a house of cards, petitioner's entire argument utterly collapses upon removal of that single, fictional card.

1. Petitioner devotes most of its brief (Br. 16-31) to the proposition that the common law requires physical manifestations of severe mental injury. The legal precedent and

authorities upon which petitioner principally relies, however, are all cases in which the petitioner is maintaining a stand-alone claim for recovery of emotional distress either intentionally or negligently inflicted. Many are bystander cases. None is relevant to this case.[14]

We do not deny that *for stand-alone emotional distress claims* there is precedent providing that the mental injury element necessary for liability must be "severe" and sometimes even established by physical manifestations.[15] This precedent includes claims for negligent infliction of emotional distress for persons not physically impacted or injured but only a bystander

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[14] *Jones v. CSX Transportation*, 287 F.3d 1341 (11th Cir. 2002) is completely out of step with both traditional tort law and the vast majority of judicial rulings addressing whether victims of asbestosis can also recover for their reasonable fear of cancer. The court erred by completely rejecting the longstanding and established distinction between stand-alone claims for negligent infliction of emotional distress and recovery of damages for mental injury "simply as an element of damages in an ordinary negligence action." *Id.* at 1348.

[15] The result in this case, however, would not change even if, contrary to our submission, the relationship of respondents' mental injury to their physical injury (asbestosis) was not deemed sufficient to make this a parasitic damages claim. Although some courts imposed additional limits on the recovery of mental injury when they expanded recovery to plaintiffs in the "zone of danger" but lacking physical impact and injury, those precedents do not intimate an intention simultaneously to contract recovery where, as here, such an impact and injury are both present. As this Court has itself noted, moreover, the precedent is not nearly as one-sided as petitioner suggests, and not all jurisdictions are so insistent on such proof of physical manifestations even for stand-alone claims of negligent infliction of emotional distress. See Gottschall, 512 U.S. at 549 n.11; see, *e.g.*, Taylor v. Baptist Medical Center, 400 So.2d 369 (Ala. 1981); Molien v. Kaiser Foundation Hospitals, 27 Cal.3d 916 (1980); Leong v. Takasaki, 55 Haw. 398 (1974); Culbert v. Sampson's Supermarkets, Inc., 444 A.2d 433 (Me. 1982); Versland v. Caron Transport, 206 Mont. 313 (1983); Burd v. Sinn, 486 Pa. 146 (1979). In all events, whether formally recovered as "parasitic" damages or on the basis of a "stand-alone" tort, the policy reasons for imposing the physical manifestation requirement (the only issue raised by the question presented) on mental injury are not present in this case where respondents are suffering from asbestosis.

within the "zone of danger." But *no* comparable substantial precedent exists for instances where the plaintiff is not seeking recovery of mental injury on a stand-alone basis for negligent infliction of emotional distress. Quite the opposite is true. The reasons for requiring greater degrees of proof for stand-alone claims for mental injury are simply not present, which is why it would be "absurd[to] apply[] the bystander rule to a case where the direct victim is seeking recovery for emotional distress which is reasonably related to a physical injury." McAdams v. Eli Lilly, 638 F.Supp. 1173, 1178 (N.D. Ill. 1986).

As described by this Court in *Metro-North*, the common law "does not examine the genuineness of emotional harm case by case." 521 U.S. at 436. There is consequently no rule of tort law generally applicable to mental injuries that makes such injuries recoverable only if they are "severe" and are "physically manifested." Courts have instead decided that whether a form of "emotional distress" is recoverable should turn on whether "the distress falls within specific categories." *Id.* at 429. The limitations that apply to the recovery of mental injuries vary widely between categories.[16] What is entirely absent from tort law's categorical approach is any support for petitioner's claim that there are universally applicable requirements that mental injuries, including emotional distress, are recoverable only if they are severe and physically manifested.

Even more significantly, the *Metro-North* Court expressly identified respondents' circumstances as one such "category" of

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[16] For some of those categories, there are courts that require that the mental injury be severe, such as for intentional infliction of emotional distress in general (see Restatement (Second) Torts, § 46), and some even further require that the emotional distress result in "bodily harm" (*id.* § 46 (2)(b) (where tortious conduct directed at third party who is not a member of the plaintiff's immediate family)). But such categorical rules are context-specific and without general applicability. For example, false imprisonment (*id.* § 35), assault (§ 21), or offensive battery (§ 18) are all torts where, unlike this case, the mental injury provides the injury element necessary to establish the tort in the first instance, but no such severity or physical manifestations requirement applies to any of those torts. See, *e.g.*, *id.* § 21 comment c ("It is not necessary that [the assault] should directly or indirectly cause any tangible and material harm").

plaintiffs that is entitled to recovery for mental injury: "that category of plaintiffs who suffer from a disease" caused by the defendant's negligent conduct. 521 U.S. at 436. The reasons the Court offered for that categorical rule are those which justify full recovery where, as in this case, the plaintiff has otherwise established his tort based on physical injury and merely seeks to recover for "related" mental injury (*id.*) as "parasitic damages": "a desire to make a physically injured victim whole or because the parties are likely to be in court in any event" (*id.* at 436-37). Because of their asbestosis, respondents are just those "physically injured victim[s]" who will "be in court in any event" and are therefore entitled to be made "whole" for all their injuries caused by petitioner's negligence.

Tort law's categorical approach to the recovery of mental injuries is also why petitioner is mistaken in relying (Br. 28-30) on any of the "general policy reasons" previously identified by this Court for why courts have restricted recovery of mental injury. See Metro-North, 521 U.S. at 433. The very reason for the categorical approach is to address those policy concerns by substantially limiting the number of potentially valid plaintiffs. Hence, where, as in this case, the plaintiff fits in a traditional tort category because he is suffering from a physical disease, the category has itself already "separat[ed] valid, important claims from those that are invalid or 'trivial.'" *Id.* Likewise dissipated by the categorical bounds is the "threat of 'unlimited and unpredictable liability,'" or "the 'potential for a flood' or comparatively unimportant, or 'trivial,' claims." *Id.*

It is especially noteworthy in this respect that the categorical requirement that a plaintiff suffers from a physical disease such as "asbestosis" does in fact dramatically limit the number of potential plaintiffs who can maintain a valid cause of action. At trial, it was established that only a small percentage of those exposed to asbestos suffer from the intensity of lung scarring and pulmonary impairment necessary for a diagnosis of asbestosis. JA 95-96, 211.[17] Petitioner in this case is consequently

[17] Petitioner acknowledges this essential fact, but fails to account for its significance. See Br. 22 n.16 , *quoting* In re Hawaii Fed. Asbestos Cases, 734 F. Supp. 1563, 1570 (D. Haw. 1990) ("'of those exposed to asbestos,

hard pressed to claim that allowing asbestosis plaintiffs to recover for all their injuries according to traditional tort law will unduly open the litigation floodgates.

2. Equally lacking in merit is petitioner's assertion (Br. 21-25) that fear of cancer is *per se* unreasonable. According to petitioner, such "knowledge-based fears" are too "inherently subjective" and, "[e]specially when measured against the high background risks every individual faces, * * * not the kind of information that reasonably causes severe emotional injury to the normally constituted person." *Id.* at 12, 21-22, 24.

Petitioner's error is two-fold. First, petitioner's argument is premised on the same false notion that infects its entire brief, which is that the mental injury must be "severe" to warrant recovery. As previously described, no such severity requirement generally applies where, as here, the plaintiffs are not asserting a stand-alone claim for mental injury.

Petitioner's second error, however, is even more fundamental. Stripped of its exaggerated rhetoric, petitioner's attack on what it dubs "knowledge-based fears" is little more than a thinly-guised effort to challenge the sufficiency of the evidence. Because any fear is necessarily based on personal "knowledge," petitioner's indictment must be that the information upon which respondents' fear was based in this case was insufficient to sustain any jury award. Petitioner supports its argument by citing to a series of miscellaneous articles (Br. 22-24 & nn.17-21) that discuss asbestos exposure (not asbestosis) and mesothelioma or lung cancer.

We could easily respond to this argument by lengthy discussion of substantial competing scientific authority concerned with asbestosis and not just asbestos exposure,[18] but

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only a small percentage suffer from asbestos-related physical impairment.'"). During the *Metro-North* oral argument, the railroad counsel was similarly clear, advising the Court that "it is undisputed that the overwhelming majority of exposure-only plaintiffs will never develop asbestos-related injuries." *Metro-North* Oral Arg. Trans. 14-15.

[18] *E.g.*, Churg & Green, *Pathology of Occupational Lung Disease, supra*; Browne, *Is Asbestos or Asbestosis the Cause of the Increased Risk of Lung Cancer in Asbestos Workers?*, *supra*.

the proper course is instead to rely on the factual record actually produced in the trial court. As previously described, that trial evidence, which included the introduction of scientific studies subject to cross examination, was more than sufficient to establish the reasonableness of respondents' fear of cancer based on asbestosis. See pp. 3-4, 7, *supra*. A reasonable person would not have to view a 10 percent risk of mesothelioma, or a 39 percent risk of fatal lung cancer for smokers as "trivial," "small," or "incremental. " Pet. Br. 25, 30.

What petitioner plainly cannot now do is either introduce new evidence or invite this Court to reweigh the evidence. Petitioner had ample opportunity at trial to introduce evidence that an asbestosis victim cannot reasonably apprehend cancer. Petitioner cannot now supplement the trial record without improperly invading the jury's factfinding responsibilities and the supervisory authority of the trial judge. "Courts are not free to reweigh the evidence and set aside the jury verdict merely because the jury could have drawn different inferences or conclusions * * *." Tennant v. Peoria & P.U.R. Co., 321 U.S. 29, 35 (1944). Nor is it a fair objection "to say that the jury's verdict involved speculation and conjecture. Whenever facts are in dispute * * * a measure of speculation and conjecture is required on the part of those whose duty it is to settle the dispute." Lavender v. Kurn, 327 U.S. 645, 653 (1946). This Court, moreover, has long made especially clear the impropriety of challenges to the *amount* of jury awards in FELA cases.[19]

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[19] For instance, the Court in *St. Louis I. M. & S.R. Co. v. Craft*, 237 U.S. 648, 661 (1915) readily dismissed a claim "that the award of $5,000 as damages for pain and suffering" was "excessive." While acknowledging that "[t]he award does seem large," the Court ruled that "the power, and with it the duty and responsibility, of dealing with this matter rested upon the courts below. It involves only a question of fact and is not open to reconsideration here." *Id.* (citations omitted). Petitioner's implicit challenge to the amount of the jury award in this case is even thinner. The railroad defendant in *Craft* at least knew that the plaintiff had been awarded a substantial sum: $5,000 in 1915. Notwithstanding its reference (Br. 2, 6) to "staggering recoveries" and "massive verdicts," petitioner can make no such comparable claim with regard to the jury's assessment of damages for respondents' fear of cancer. Here, the record does not reveal

3. Finally, petitioner's assertion that respondents should be denied any recovery for their reasonable fear of cancer because the nation faces an asbestos litigation "crisis" is no more persuasive. As described in the very documents upon which petitioner relies, those who claim that a crisis exists focus on the litigation burden presented by thousands of lawsuits filed by so-called "exposure only" plaintiffs -- those who have been exposed to asbestos, but do not suffer from any physical disease or impairment as a result. They contend that this litigation threatens to overwhelm the courts and thereby deny judicial relief to those deserving victims who are actually suffering from a physical disease. They single out victims of asbestosis as examples of those "clearly entitled to compensation." See James A. Henderson, Jr. & Aaron D. Twerski, *Asbestos Litigation Gone Mad: Exposure-Based Recovery for Increased Risk, Mental Distress, and Medical Monitoring*, reproduced in Pet. Lodging, p. 27. Respondents, however, represent the very victims of asbestosis – the "individuals who actually have asbestos-related illnesses" – routinely acknowledged as legitimate plaintiffs. See, *e.g.*, Chamber of Commerce Amicus Br. 2.

The policy arguments advanced by petitioner and its amici are further misdirected because neither this Court nor FELA is the proper avenue for securing the law reform they seek. If current tort law is incapable of addressing the claims brought by thousands negligently exposed to asbestos, then it is for Congress and state legislatures, and not this Court, to change the applicable law.[20] FELA would, in all events, be an especially

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how much, if any, damages the jury awarded based on such fear.

[20] Congress has, in fact, been considering legislative action to reform tort law and related civil procedural matters for the past several years in response to the challenges presented by mounting asbestos litigation. See, *e.g.*, S. 2546, Fairness in Asbestos Compensation Act of 1998, 105th Cong. 2d Sess. (1998); H.R. 1283, Fairness in Asbestos Compensation Act of 1999, 106th Cong. 1st Sess. (1999). Notably, in those legislative proceedings, those supporting petitioner in this case freely admitted that legislative, rather than judicial, action was the only legitimate avenue for addressing the complex issues. See, *e.g.*, *Fairness in Asbestos Compensation Act of 1999*, Hearing Before the House Committee on the Judiciary, 106th Cong., 1st Sess. 320 (1999) (testimony of Conrad Mallet, Jr., Chairman, Coalition for

inappropriate vehicle for the kind of tort reforms sought by petitioner and its amici. Not only does FELA play only a peripheral role in asbestos litigation, but as long emphasized by this Court, FELA is a "broad remedial statute" and its statutory language must be interpreted "'liberally' in light of its humanitarian purposes." Atchison T. & S.F.R. Co. v. Buell, 480 U.S. 557, 562 (1987); Metro-North, 521 U.S. at 429, *quoting*, Gottshall, 512 U.S. at 543. As described by the Court decades ago in rejecting a similar effort to limit FELA's deliberate expansion of railroad employee recovery, "[i]n the face of the legislative policy embodied in [FELA] * * * considerations of public policy of the general kind relied upon * * * cannot be permitted to encroach further upon the special policy expressed by Congress in the Act." Still v. Norfolk & W. R. Co., 368 U.S. 35, 44-45 (1961).

II. THE TRIAL COURT PROPERLY DECLINED TO INSTRUCT THE JURY TO APPORTION RESPONDENTS' DAMAGES BETWEEN PETITIONER AND ABSENT THIRD PARTIES

Petitioner argues that the trial judge should have instructed the jury to apportion damages to various absent third parties that petitioner alleges are partially responsible for respondents' injuries. Petitioner's initial argument (Br. 32-42) is that apportionment was warranted because respondents' injuries were "divisible" based on causation. Petitioner's alternative proffer (Br. 42-47) is that even if causation does not provide a basis for apportionment, the Court should now devise for FELA a new, unspecified scheme of comparative fault for

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Asbestos Reform) ("resolution of the [asbestos litigation] dilemma lies not with the judiciary, but with Congress"); 145 Cong. Rec. S3510 (March 25, 1999) (statement of Senator John Ashcroft) ("Judges who make legal rules out of whole cloth in the absence of constitutional or statutory text damage the standing of the judiciary and our constitutional structure. * * * [A] legislative solution to th[e asbestos] problem * * * provides the proper incentives for courts to be restrained and reinforces the proper roles of Congress and the Judiciary.").

apportionment. Both arguments should be rejected.[21]

A. FELA Provides That A Railroad Employee Can Recover In Full From The Railroad For Injuries Caused "In Whole Or In Part" By The Railroad's Negligence

1. Contrary to petitioner's submission (Br. 32-35), FELA's "simple and direct" language establishes a "relaxed standard of causation" that compels rejection of petitioner's proposed "relaxed" apportionment standard. Coray v. Southern Pac. Co., 335 U.S. 520, 524 (1949); Gottshall, 512 U.S. at 543. FELA unambiguously answers the question whether a railroad employer is liable for an employee's personal injuries for which the railroad's negligent conduct was only a partial cause. According to the express terms of the statute, a railroad "shall be liable in damages" to the injured employee "for such injury or death resulting *in whole or in part* from the negligence" of the railroad. 45 U.S.C. § 51 (emphasis supplied). It is therefore well settled that it is neither a complete nor a partial defense to an employee's lawsuit for complete recovery that the employee's injuries were "caused jointly by the fault of the carrier and third persons." See, *e.g.*, Gaulden v. Burlington Northern, Inc., 654 P.2d 383, 391(D. Kan. 1983) ("bear all of the loss").

This Court's own decisions are fully in accord. In *Rogers v. Missouri Pacific R. Co.*, 352 U.S. 500, 506 (1957), this Court reversed a state court ruling that had construed FELA to impose a test of causation under which the railroad defendant's negligence had to be "the sole, efficient, producing cause of

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[21] Petitioner's apportionment arguments pertain at most only to respondents Ayer and Butler because only for those two did petitioner argue below that there was evidence of asbestos exposure at nonrailroad workplaces. See JA 647; note 3, *supra*. Petitioner did not assert asbestos manufacturers liability in its proposed jury instruction or verdict form and declined to put on evidence as to their culpability. JA 539, 550-60; pp. 7-8, *supra*. Petitioner's oblique references (Br. 8, 49) to respondent Spangler's 2 years of service on a Navy submarine fall far short of the minimum for apportionment, no matter what the legal standard, given the lack of any evidence concerning the extent or nature of his asbestos exposure there.

injury." Emphasizing the "in whole or in part" language, the Court held that causation is established when "the proofs justify with reason the conclusion that employer negligence *played any part*, even the slightest, in producing the injury or death for which damages are sought." *Id.* (emphasis supplied). See, *e.g.*, Sentilles v. Inter-Carribean Shipping Corp., 361 U.S. 107, 109 (1959); Urie v. Thompson, 337 U.S. 163, 187 (1949).

To be sure, the Court in *Rogers* did not elaborate on the precise scope of damages recoverable by an employee when the railroad's negligence "played any part" in causing the injury, and there was also a contributing third party cause. 352 U.S. at 507. But there is no merit to petitioner's suggestion that the *Rogers'* ruling does not bear on that question. The *Rogers* Court described as "drastic" the employer's duty to pay damages for injury "due 'in whole or in part' to its negligence." *Id.* The Court characterized FELA as having "stripped [an employer] of his common law defenses" to such a degree that "for practical purposes the inquiry in these cases today rarely presents more than the single question whether the negligence of the employer played any part, however small, in the injury * * *." *Id.* at 507-08. Finally, the Court deemed as wholly "irrelevant" "whether the immediate reason" for the injury was "some cause not identified by the evidence." *Id.* at 503.

Hence, in *Lillie v. Thompson*, 332 U.S. 459, 461-62 (1947), the Court similarly described as "irrelevant" even "[t]hat the foreseeable danger was from intentional or criminal misconduct." The railroad "nonetheless had a duty to make reasonable provision against it" and "[b]reach of that duty would be negligence." *Id.* Rejecting the railroad's defense, the Court held that "we cannot say as a matter of law that petitioner's injury did not result at least in part from such negligence." *Id.*

Under petitioner's view by contrast, apportionment would be required whenever an injury is "caused by successive independent causes" (Br. 32) and the existence of a contributing cause would be highly "relevant" whether intentional, criminal, negligent, or even nonnegligent in nature. FELA litigation would regularly rather than "rarely" present more than the "single question" whether the employer's negligence played

"any part." FELA litigation would become encumbered by the far more complex, nonbinary inquiry of the precise percentage of the employer's causal contribution to the injury. In short, injected into FELA would be the very kind of limitation on liability that Congress intended to eliminate by rejecting the assumption of risk and fellow servant rule defenses and by making employers liable for injuries they caused "in part."

Finally, petitioner's radical reading of FELA is contradicted by the virtual absence in almost a century of FELA litigation of any indication in either the judicial precedent or the litigation practices of railroads that a railroad's liability to a plaintiff must be reduced in inverse proportion to its causal contribution. Not once in this Court's many decisions reaffirming the specialized and liberal nature of FELA's "in whole or in part" causation language has the Court even hinted at the existence of such a major limitation on defendant liability. Instead, the federal and state reporters are replete with contribution cases brought by FELA defendants under state law. See Annot., *Right of Railroad Charged with Liability for Injury to or Death of Employee Under Federal Employer's Liability Act, to Claim Indemnity or Contribution from Other Tortfeasors*, 19 A.L.R. 3d 928 (1968).[22] Those cases arose because those railroad defendants were entirely liable

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[22] See, *e.g.*, Mills v. River Terminal Ry. Co., 276 F.3d 222, 222 (6th Cir. 2002); Gaines v. Illinois Central Ry. Co., 23 F.3d 1170, 1171 (7th Cir. 1994); Ellison v. Shell Oil Co., 882 F.2d 349, 353-54 (9th Cir. 1989); Ala. Great. S. R.R. v. Chi. & Northwestern Ry., 493 F.2d 979, 983 (8th Cir. 1974); Kennedy v. Penn. R. Co., 282 F.2d 705, 710 (3d Cir. 1960); Southern R. Co. v. Foote Mineral Co., 384 F.2d 224, 226 (6th Cir. 1967); Fort Worth & Denver Ry. v. Threadgill, 228 F.2d 307, 312 (5th Cir. 1955); Patterson v. Penn. R. Co., 197 F.2d 252, 253 (2d Cir. 1952); Stephens v. S. Pac. Transp. Co., 991 F. Supp. 618, 620 (S.D. Tex. 1998); Tucker v. Reading Co., 335 F. Supp. 1269, 1271 (E.D. Pa. 1971); Reynolds v. Southern Ry. Co., 320 F. Supp. 1141, 1142-43 (N.D. Ga. 1969); Spielman v. New York, New Haven & Hartford R. Co., 147 F. Supp. 451, 453-54 (E.D.N.Y. 1956); Engvall v. Soo Line R., 632 N.W.2d 560, 569 (Minn. 2001); Freeman v. Norfolk S. Ry. Co., Inc., 714 So.2d 832, 835 (La. App. 1998); Walter v. Dow Chem. Co., 195 N.W.2d 323, 324-25 (Mich. App. 1972); Gulf, Mobile & Ohio R. v. Arthur Dixon Transfer Co., 98 N.E.2d 783, 785-86 (Ill. App. 1951); Seaboard Air Line Ry. v. American Dist. Elec. Prot. Co. 143 So. 316, 317 (Fla. 1932).

under FELA and sought to recover part of the damages by suing a third party that jointly caused the injuries.[23]

2. Petitioner and its amici seek to overcome FELA's plain meaning by relying on two other statutory clauses that they contend mandate apportionment of damages between joint causes. Petitioner's reliance on both clauses is misguided.

a. According to petitioner (Br. 32-33 n.26) and amicus Coalition for Asbestos Justice (Br. 24-27) FELA's adoption of comparative fault for plaintiff's negligence (45 U.S.C. § 53) demonstrates congressional intent in favor of apportionment in this case. Rather than support petitioner's view, however, this Court has previously made clear that the fact that Congress took such an explicit step reinforces the opposing view that Congress intended no similar reduction in plaintiff recovery on account of the joint liability of nonrailroad third parties. While 45 U.S.C. § 53 provides that when the employee's own negligence causes his injury, "the damages shall be diminished by the jury in proportion to the amount of negligence attributable to such employee," no comparable provision exists with regard to third party causes. As this Court pointedly explained in *Edmonds v. Compagnie Generale Transatlantique*, 443 U.S. 256, 268 n.23 (1979), "[i]t would be particularly curious for Congress to refer expressly to the established principle of comparative negligence, *yet say not a word* about adopting a new rule limiting the liability of the [defendant] on the basis of the nonparty employer's negligence" (emphasis supplied). Hence, both the "in part" causation standard and comparative negligence standard set forth in 45 U.S.C. §§ 51, 53 affirmatively reinforce the full scope of railroad liability.

Nor is there any merit to the suggestion of petitioner and its

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[23] Petitioner properly relegates to a footnote (Br. 33 n.26) *Dale v. Baltimore & Ohio R.Co.*, 552 A.2d 1037, 1041 (Pa. 1989), which served as the centerpiece of its petition (pp. 20-21) and reply (pp. 6-7). The *Dale* court found "implicit" in FELA a reduction in damages for third party causes, somehow based on FELA's treatment of contributory negligence and the *Rogers* decision. 552 A.2d at 1041. We think that the reasoning of the *Dale* dissenters (*id.* at 1043-44 (Papadakos, J., joined by Larsen, JJ), which is consistent with the overwhelming precedent, is more persuasive.

amicus that FELA's imposition of complete liability on a railroad is inconsistent with FELA's adoption of comparative fault for plaintiff's negligence. FELA adopted a comparative fault approach in order *to expand* an employee's ability to recover by eliminating the contributory negligence defense that otherwise would have barred recovery altogether. Petitioner's proffered apportionment standard, by contrast, would *limit* employee recovery by placing the burden on the employee, rather than on the railroad employer, to establish the liability of other third parties and to assume the risk that those other third parties are judgment proof. Indeed, because petitioner contends that its liability must be reduced if there are other contributing *nonnegligent* causes (Br. 36), unlike even the rule for comparative fault, petitioner's unprecedented theory of limited defendant liability would virtually guarantee that plaintiffs would be denied full recovery for their injuries.

Accordingly, because comparative fault and joint and several liability were both intended to expand employee recovery, they reinforce rather than oppose each other. It is therefore not at all surprising that many federal and state liability schemes combine the two approaches, thereby directly contradicting petitioner's claim of their fundamental incompatibility. See McDermott, Inc. v. AmClyde, 511 U.S. 202, 220 (1994); Edmonds, 443 U.S. at 260-61 & n.7; Coats v. Penrod Drilling Corp., 61 F.3d 1113, 1123, 1129 (5th Cir. 1995) (en banc); Dobbs, *supra*, at 1086 & n.2; Jerome H. Nates, *Damages in Tort Actions*, § 48.03[6] (1993 & 1997 Supp.).

b. Equally without merit is petitioner's claim (Br. 32) that FELA "makes clear that railroads are not liable for employee injuries that result from outside causes" because 45 U.S.C. § 51 provides that railroads are liable only "to any person suffering injury *while* he is employed by such carrier." The single word "while" has no bearing on the joint causation issue.

First, petitioner's unfortunate phrasing "result from outside causes," obscures the vital distinction between (1) the scope of railroad liability for injuries that result *exclusively* from "outside" or nonrailroad causes; and (2) the scope of railroad liability for injuries that result from a combination of railroad and "outside" causes. Under the first scenario, the railroad is

plainly not liable. A railroad must be a legal cause of the injury to be liable. But the apportionment question raised in this case concerns only the second scenario, and it is equally plain that the "while he is employed" language upon which petitioner relies does not remotely address the distinct circumstance of joint causation. The more natural, and historically accurate, reading of the language is simply that it ensures that FELA's remedial scheme would be available to persons injured in the course of their employment with an interstate common carrier.[24]

Second, the statutory reference to "while" would have, in any event, been an especially inapt means of addressing the joint causation issue. Multiple-tortfeasor situations typically occur when the employee's injuries are caused by more or less simultaneous and concurrent railroad and nonrailroad causes. See, *e.g.*, Rogers, *supra*. The statutory language "while he is employed" offers no more guidance as to whether damages should be apportioned in that circumstance than it does if the multiple causes are not concurrent. If, moreover, petitioner is suggesting that the word "while" means that an employee is entirely barred from recovering for diseases traceable to railroad conduct, but which remain latent until long after employment has ended, this Court has already rejected such a crabbed view of FELA's remedial scope. See Urie, 337 U.S. at 187 ("We do not think the mere difference in the time required for different acts of negligence to take effect and disclose their harmful, disabling consequences would justify excluding the one type of injury from the Act's coverage.").

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[24] Congress added "while he is employed" in two provisions when it reenacted FELA in 1908 in order to address the constitutional concerns this Court raised in striking down FELA's predecessor law, by ensuring that the regulated activities had sufficient nexus to interstate commerce. See 35 Stat. 65 (1908); 34 Stat. 232 (1906); 42 Cong. Rec. 4526-27 (1908) (Sen. Dolliver); The Employer's Liability Cases, 207 U.S. 463, 504 (1908).

B. Traditional And Settled Common Law Liability Rules Also Support The Trial Judge's Refusal To Instruct The Jury To Apportion Damages In This Case Between The Railroad And Absent Third Parties

The trial judge's refusals to give petitioner's proposed apportionment instruction and special verdict forms to the jury are also consistent with the common law liability rules applicable under FELA. Petitioner misstates the role of apportionment under both traditional and evolving common law principles, which provide for the possibility of apportionment only in circumstances far narrower than petitioner suggests and not for the kind of indivisible injuries suffered by respondents.

1. To avoid FELA's plain meaning, petitioner alternatively claims (Br. 35-39) that FELA silently incorporated a common law rule allegedly prevalent in 1908 mandating apportionment of damages in multiple-cause cases. Not only would such a rule fail to overcome FELA's language and remedial purposes (Sinkler v. Missouri P.R. Co., 356 U.S. 326, 329 (1958); Rogers, 352 U.S. at 508), but petitioner's exaggerated account of the common law at the time of FELA's enactment is wrong. It is simply not true that "[s]everal liability was not only the general rule, but the overwhelming rule." Pet. Br. 35.

FELA's common law liability scheme was expressly modeled upon the "liberal interpretations * * * that now prevail in the admiralty courts of the United States" (42 Cong. Rec. 4536 (1908) (introductory statement of Senator Dolliver)), which in 1908 firmly embraced joint and several liability. See Thomas J. Schoenbaum, *Admiralty and Maritime Law* § 5-155 (2d ed. 1994). As described by the Court in *Phoenix Ins. Co. v. The Atlas*, 93 U.S. 302 (1876), in which two vessels negligently collided and caused the sinking of a third vessel owned by the plaintiff, "[n]othing is more clear than the right of a plaintiff, having suffered such a loss, to sue in a common-law action all the wrong-doers, or any one of them * * * and it is equally clear, that, * * * *he is entitled to judgment in either case for the full amount of his loss*." *Id.* at 315 (emphasis supplied), *citing* Murray v. Lovejoy, 3 Wall. 19 (1863); Smith v. Hines, 2 Sumn. 348 (Me.

1836). Nor was the then-prevailing admiralty rule out of step with common law at the time. The admiralty rule favoring joint and several liability was "in accord with the common law" in "allow[ing] an injured party to sue a tortfeasor for the full amount of damages for an indivisible injury that the tortfeasor's negligence was a substantial factor in causing * * *." Edmonds, 443 U.S. at 260-61 & n.7. See Pet. 22 (describing joint and several liability as "the traditional rule").

Unlike petitioner, we are willing to acknowledge that there was "considerable difference of opinion" in 1908 concerning the precise scope of joint and several liability.[25] Universal consensus, however, is not required for the application of such a standard under FELA both because joint and several liability then reflected the clear majority view and because it is the view consistent with FELA's remedial purposes and plain language. The 1906 edition of Judge Cooley's celebrated treatise on torts surveyed the case law and concluded that, notwithstanding "considerable difference in opinion," the "weight of authority" supported application of joint and several liability "where the negligences of two or more persons concur in producing a single, indivisible injury" even in the absence of any "common

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[25] Because scholars in 1906 found it impossible to "harmonize all the authorities" (T. Cooley, *Treatise on the Law of Torts*, 246 (3d ed. 1906)), petitioner can find some early cases that press for a strict rule of causal apportionment in multiple tortfeasor cases. But petitioner cannot possibly maintain its claim that several liability was so "overwhelming[ly]" the rule (Br. 35) that Congress must be deemed, *sub silentio*, to have adopted it. At least one of petitioner's citations, sampled because of its illustrious author, is even wholly inapposite. Justice Holmes' opinion for the court in *Middlesex Co. v. City of Lowell*, 21 N.E. 872, 873 (Mass. 1889), arose from a bill of equity to *abate* a nuisance caused by two polluters and hence says little about the availability of joint liability in *damages actions* at common law. In 1902, the same court applied joint and several liability to independent tortfeasors who caused a single personal injury. See Corey v. Havener, 65 N.E. 69 (Mass. 1902). Because, moreover, some of those courts' preference for several liability was based on restrictions on contribution among joint tortfeasors long since abandoned, those rulings provide an especially poor historical basis for petitioner's arguments. See *Prosser & Keeton on Torts*, § 52 (5th ed. 1984).

duty, common design or concert[ed] action." T. Cooley, *Treatise on the Law of Torts*, 247 (3d ed. 1906); Dobbs, *supra*, § 390 (same). There can be no question, moreover, regarding what standard of liability is more in harmony with FELA, even if FELA's statutory language did not already plainly impose entire liability on railroads whose negligence was at least a "part[ial]" cause of the employee's injury. A "progressive rule of liability that [i]s less restrictive * * * [is] more consistent with * * * FELA's broad remedial goals." Gottshall, 512 U.S. at 555 (adopting zone of danger test).

2. Petitioner's claim that the common law has since evolved away from joint and several liability for the kind of indivisible injuries suffered by respondents in favor of apportionment is no more persuasive. Both the *First* and *Second Restatement of Torts* confirm the pedigree and contemporary acceptance of joint and several liability for indivisible injury.

Section 879 of the *First Restatement* (1939) provides that "each of two persons who is independently guilty of tortious conduct which is a substantial factor in causing a harm to another is liable for the entire harm, in the absence of a superseding cause." The commentary explains that "[a] person whose tortious conduct is otherwise one of the legal causes of an injurious result is not relieved from liability for the entire harm by the fact that the tortious act of another responsible person contributes to the result." *Id.* § 879 comment a.

The *Second Restatement of Torts*, published in 1965 and 1979, is entirely in accord. Section 875 provides that "[e]ach of two or more persons whose tortious conduct is a legal cause of a single and indivisible harm to the injured party is subject to liability to the injured party for the entire harm." The *Second Restatement* also makes clear that the kind of injuries being suffered by respondents in this case constitute the paradigmatic example of the kind of "indivisible harm" for which joint and several liability rather than apportionment applies. Respondents suffer from a physical disease, asbestosis, and from a variety of physical and mental impairments resulting from that disease. The *Second Restatement* commentary explains that, "[c]ertain kinds of harm, by their very nature, are normally incapable of any logical, reasonable, or practical division" and offers as

examples of such "indivisible" harms "death" and "any single wound," which fairly describes the impact of asbestosis upon the lung. *Id.* § 433A comment i ("By far the greater number of personal injuries *** are thus normally single and indivisible.").

Relevant Restatement provisions also specifically reject petitioner's claim (Br. 36) that the common law distinguished between joint causation caused by successive and simultaneous torts of independent actors. According to the *First Restatement*, there is liability for the entire harm "where both are simultaneously negligent * * * and also where the act of one either occurs or takes harmful effect after that of the other."§ 879 comment a. The *Second Restatement* even more directly refutes petitioner's claim. Section 879 provides that where joint and several liability is otherwise applicable, "each is subject to liability for the entire harm, irrespective of whether their conduct is concurring or consecutive."

3. Contrary to petitioner's claim (Br. 40-42), Section 433A of the *Second Restatement* does not support petitioner's view that the common law rule provides for apportionment in the kind of factual circumstances presented by this case. Section 433A provides for apportionment between multiple causes only for "divisible" injuries, which are present only if either "there are distinct harms" or "there is a reasonable basis for determining the contribution of each cause to a single harm." Respondents, however, are not suffering from distinct harms, as are presented, for instance, when a victim is suffering from a broken leg caused by one action and a broken arm caused by another. Nor are they suffering from the kind of single harm for which there could remotely exist a "reasonable basis" for determining the causal contribution. Instead, as previously described, their injuries arise from their asbestosis, which is quintessentially an "indivisible" personal injury under longstanding and contemporary tort law principles. See, *e.g.*, Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076, 1094-96 (5th Cir. 1973) (asbestosis as indivisible injury); Owens Corning Fiberglass v. Parrish, 58 S.W.3d 467, 476-77 (Ky. 2001) (same). The accompanying *Second Restatement* commentary specifically explains that "indivisible" injury is *not* subject to

apportionment and contrasts "personal injury," which is generally indivisible, from injury to real property in nuisance law, which is more susceptible to being considered divisible. Second Restatement § 433A comments d & i; see First Restatement § 881 (apportionment for nuisance).[26]

Petitioner's reliance on common law apportionment rules is, in all events, misguided because the burden is on the party seeking to "apportion" damages based on causation to establish that a reasonable basis of apportionment exists and therefore that the injury at issue is in fact divisible.[27] At trial, however, petitioner introduced hardly any evidence on the question, despite multiple opportunities. Petitioner's effort to construct a basis for apportionment for the first time now, based exclusively on sketchy testimony, is too little, too late.

The beginning and end of the evidentiary basis for petitioner's current claim that an apportionment instruction should have been given was testimony by respondents' witnesses that two of the respondents (Butler and Ayers) may have been exposed to asbestos in nonrailroad employment.[28] When respondents'

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[26] This longstanding judicial distinction between real property and personal injury in applying joint and several liability is also why petitioner is mistaken (Br. 38-39, 49) in relying on nuisance, trespass, and polluted stream cases as "analogous" to "pollution of a lung by asbestos, and the resulting asbestosis" (*id.* at 49).

[27] See Second Restatement § 433B(2) ("Where the tortious conduct of two or more actors has combined to bring about harm to the plaintiff, and one or more of the actors seeks to limit his liability on the ground that the harm is capable of apportionment among them, the burden of proof as to the apportionment is upon each such actor."); Third Restatement § 26 comment h ("Whether damages are divisible is a question of fact. A party alleging that damages are divisible has the burden to prove that they are divisible."); Dobbs, *supra*, § 174; Second Restatement App. §§174-423, at pp. 271-302 (1995) (listing cases); Tracy v. Cottrell, 206 W.Va. 363 (1999).

[28] The trial judge during voir dire specifically asked petitioner's counsel whether they intended to put on evidence regarding negligence and causation of third parties. JA 69-70. In the ensuing colloquy, the only third parties counsel mentioned were asbestos *manufacturers.* Petitioner's counsel at first denied any intent to introduce evidence regarding the manufacturers, but then suggested that they might. *Id.* But, in all events,

medical expert was asked on direct examination about the relative asbestos exposure to which Ayers had been subjected in his railroad job as compared to his automotive maintenance job, the doctor simply replied "Well, It's hard for me to say. I'm just going to say that they're probably equivalent." JA 205. On direct examination, the same witness testified, in addressing the relative exposure to which Butler was subjected in his three months working in the locomotive engine repair shop as compared to his thirty years as a pipefitter, that the railroad employment was a "contributing cause" and the nonrailroad employment was "a bigger contributor." JA 195. On cross examination, the witness refused to acquiesce in petitioner's counsel's characterization of the exposure during railroad employment as "very minimal" and instead said the role was "minimal" but "I don't know how much," at which point petitioner's counsel declined to allow the witness to elaborate any further. JA 236-37. In describing the contribution of nonrailroad employment to Butler's asbestos exposure, petitioner's own expert likewise acknowledged that because he "didn't take any measurements" at those locations, he could conclude only that Butler had "ample opportunity for exposure" at nonrailroad employment. " JA 376. He further conceded he could not even recall how one possible "model for attributing causation in asbestos disease" might apply. JA 392.

Such evidence establishes at most that there may have been other nonrailroad causes of the two respondents' injuries. The evidence does not remotely establish that their personal injury is divisible based on causation. The paucity of evidence is no doubt why the trial record is devoid of any argument by petitioner, in support of his apportionment instruction, verdict

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petitioner never introduced such evidence (see pp. 7-8 & note 6, *supra)* and both its proposed jury instruction, verdict form, and new trial motion referred exclusively to nonrailroad employment and made no mention of manufacturers. JA 539, 550, 647-49. Thus, despite petitioner's plea (Br. 50), it long ago forfeited its opportunity to base apportionment on asbestos manufacturers. Respondents' settlements with some manufacturers were also the basis of setoffs from the final award. See p. 9, *supra*.

forms, or new trial motion, actually setting forth a "reasonable basis" for apportionment. Petitioner made no argument because a personal injury such as asbestosis, including the physical and mental harms resulting from that physical disease, is precisely the kind of classic "indivisible" injury appropriate for joint and several liability and not subject to apportionment.

Nor can petitioner now, in any event, correct its lapses at trial. The evidence must be read in the light most favorable to respondents as the prevailing party and petitioner cannot proffer possible bases for apportionment and new evidence. Hence, while petitioner now suggests that damages might be apportioned based on "volumetric evidence" (Br. 38, 49), derived presumably from "the length of the plaintiff's periods of exposure, the quantity of asbestos contained in each product, and the extent to which those products emitted asbestos fibers" (Br. 42, 49), petitioner could have introduced such specific evidence with regard to Butler or Ayers, but did not do so. No reasonable basis for apportionment was ever proffered at trial.

Indeed, petitioner's own brief undercuts its theory (Br. 49) that the mere fact that Butler worked at one location for three months and at other locations for a nonrailroad employer for 30 years creates a reasonable basis for apportionment. The causal mechanics of asbestos exposure to asbestosis are hardly so simple. As petitioner itself explains (Br. 3, 24), because the risks created by asbestos exposure, including asbestosis are "dose-related," they "vary significantly with fiber type" as well as with "intensity and duration of asbestos exposure." See *id.* at 24 & n.19 ("certain asbestos fibers are less hazardous"). While there was evidence that the asbestos fibers at petitioner's employment were hazardous and that the exposure, especially in the repair shop where Butler worked for three months without any protection, was particularly intense (see note 3, *supra),* petitioner failed to introduce *any evidence* of fiber type, intensity or duration of actual exposure, presence or absence of protective measures, or ventilation, at any nonrailroad employment, let alone of the similarly absent "epidemiological evidence" to which petitioner now elusively refers (Br. 49).[29]

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[29] OSHA regulations reflect the complexity of the causal mechanics

In arguing that a more "relaxed" apportionment standard should apply, petitioner also confuses the essential distinction between *apportionment* principles that limit a plaintiff's recovery and *contribution* principles that do not limit a plaintiff's recovery but apply instead only in lawsuits between jointly responsible defendants. Precisely because contribution does not affect the plaintiff's ability to recover in full for her injuries, the courts do in contribution cases apply a dramatically reduced standard of divisibility and are much more willing to engage in rough speculation in allocating damages between various defendants. United States v. Brighton, 153 F.3d 307, 319 (6th Cir. 1998). Petitioner nonetheless cites in support of relaxed apportionment, which would deny plaintiff recovery, cases that are contribution actions. For instance, in *Moore v. Johns-Manville Sales Corp.*, 781 F.2d 1061 (5th Cir. 1986), cited by petitioner (Br. 42), the court was merely allocating damages in contribution between defendants. In direct conflict with petitioner's apportionment arguments here, the *Moore* court made clear that each of the defendants was jointly and severally liable for the plaintiff's entire injury. *Id.* at 1063. We do not deny the availability of contribution actions under FELA, and, as previously noted, FELA defendants have routinely filed such actions in the past. See p.36 & note 22, *supra.* But the availability of contribution, which diminishes the harshness of joint and several liability without doing violence to FELA's purposes, is a reason why apportionment is *not* available. It is *not* evidence of judicial acceptance of a relaxed standard of apportionment.[30]

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related to asbestos exposure and resulting disease. See, *e.g.*, 29 C.F.R. § 1910.1001 (exposure rate depends, *inter alia*, on fiber concentration, air flow rate, and fiber size); 59 Fed. Reg. 40964, 40970, 40992 (1994) (regulatory changes based on complexity).

[30] Petitioner similarly mischaracterizes the import of lower court cases arising under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9601 *et seq*. Although courts have held that "apportionment is available" (Pet. Br. 44), they have further held that pursuant to "traditional and evolving common law principles" it is available *only* when the injury is divisible and not, as in this case and virtually all CERCLA cases, where the injury is indivisible. See, *e.g.*, Chem Nuclear System v. Bush, 292 F.3d 254, 259-61 (D.C. Cir.

4. Finally, FELA's language, structure, and well-established remedial purposes would compel rejection of any more relaxed standard for apportionment pursuant to either petitioner's unsupported account of common law principles (Br. 42-43) or its penultimate invitation (Br. 45-48) to this Court to adopt a new fault-based standard of apportionment.

As previously described, FELA's "simple and direct" language leaves no doubt that Congress intended for joint and several liability to apply where, as in this case, a railroad's negligence has been a partial cause of an indivisible injury. See pp. 34-39, *supra.* Pursuant to the statute's plain meaning, "[i]t does not matter that, from the evidence, the jury may also with reason, on grounds of probability, attribute the result to other causes * * *" or that "the immediate reason" for the injury was "some cause not identified by the evidence." Rogers, 352 U.S. at 503, 506-07. For this reason, petitioner's characterization of how the common law should evolve to be more consistent with petitioner's "policy considerations" (Br. 45) is wholly beside the point. Petitioner's preferred policies cannot trump FELA's. In FELA, Congress "introduced a new policy and quite radically changed the existing law" to further "humanitarian purposes"

2002); U.S. v. Hercules, 247 F.3d 706, 716-19 (8th Cir. 2001); Brighton, 153 F.3d at 317-18 (6th Cir.); O'Neil v. Picillo, 883 F.2d 176, 178-80 (1st Cir. 1989); U.S. v. Monsanto, 858 F.2d 160, 171-73 & n.23 (4th Cir. 1988); U.S. v. Chem-Dyne, 572 F.Supp. 802, 808 (S.D.Ohio. 1983). In determining, moreover, when such indivisibility is present, the courts have uniformly rejected the kind of unduly simplistic volumetric approximation that petitioner here suggests (Br. 38, 49). See Monsanto, 858 F.2d at 172; Chem-Dyne, 572 F.Supp. at 811. In both *U.S. v. Alcan Aluminum Corp.*, 990 F.2d 711, 722 (2d Cir. 1993) and *U.S. v. Alcan Aluminum Corp.*, 964 F.2d 252, 270 (3d Cir. 1992) cited by petitioner (Br. 45), the courts did not apportion damages; they simply concluded that a defendant was liable for no damages if it was not a cause of the injury in the first instance. And, in *In re Bell Petroleum Servs.*, 3 F.3d 889, 903-04 (5th Cir. 1993), unlike in this case, the source of the injury was the same facility operated by different defendants and the defendant offered extensive, numerical evidence of the relative contribution for each time period. See *id.* at 903-04; Hercules, 247 F.3d at 718 ("Evidence supporting divisibility must be *concrete and specific*.") (emphasis supplied); Chem Nuclear Sys., 292 F.3d at 261 (ruling "some circumstantial evidence" insufficient for geographic divisibility).

by "permit[ting] recovery, in cases where recovery could not be had before, and tak[ing] from the defendant defenses which formerly were available." Winfree v. Northern P. R. Co., 227 U.S. 296, 302 (1913); Gottschall, 512 U.S. at 543.

Indeed, petitioner's account of what the common law should be or is becoming is both fictional and self-defeating. It is simply not true either that "most States now apportion even indivisible harms" or that joint and several liability has been "long abandoned" Pet. Br. 42, 50. Joint and several liability for indivisible harms clearly remains a dominant rule.

Most directly relevant to this case, joint and several liability remains today the settled rule in admiralty cases (see Schoenbaum, *supra,* § 514; Edmonds, 443 U.S. at 260-61)[31] and under the Jones Act, 46 U.S.C. App. § 688, which "adopts 'the entire judicially developed doctrine of liability' under [FELA]." American Dredging Co. v. Miller, 510 U.S. 443, 456 (1994), *quoting* Kernan v. American Dredging Co., 355 U.S. 426, 439 (1958). Federal courts apply joint and several liability under the Jones Act because, as this Court explained in *Edmonds*, describing the policies favoring joint and several liability in admiralty, otherwise "there will be many circumstances where the [employee] will not be able to recover in any way the full amount of the damages determined in his suit * * *." 443 U.S. at 269; see Joia v. Jo-Ja Service Corp., 817 F.2d 908, 916-17 (1st Cir. 1983); Self v. Great Lakes Dredge & Dock Co., 832 F.2d 1540, 1548 (11th Cir. 1987); Coats v. Penrod Drilling Corp., 61 F.3d 1113, 1134 (5th Cir. 1995) (en banc). Similar uniformity is evident in federal hazardous waste law. Virtually every federal court to address the issue has concluded in the past two decades that "traditional and evolving common law principles" mandate the application of joint and several liability for indivisible injuries. See note 30, *supra*.

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[31] The Court's treatment in *McDermott* of the impact of settlement on defendant liability is similarly not inconsistent with the defendants' joint and several liability. In *McDermott*, the Court made clear that it was addressing only the impact of settlement and not disputing the threshold applicability of joint and several liability or otherwise disturbing its prior endorsement of that standard in *Edmonds*. See 511 U.S. at 210 n.10.

Nor does the *Restatement (Third) of Torts* (2000) compel a contrary view. The *Third Restatement* itself "takes no position on whether joint and several liability, several liability, or some combination of the two should be adopted for independent tortfeasors who cause an indivisible injury." § 17 comment a. The *Restatement* instead presents a varied list of five different possible approaches that reflect the diversity of state legislative efforts. *Id.* §§ A18-E21. The *Restatement's* accompanying survey further reveals that as of its writing 14 States and the District of Columbia had retained joint and several liability substantially unmodified and of the states adopting hybrid schemes, many would apply joint and several liability in the circumstances of this case, involving toxic substances and absent third parties. *Id.* at § 17 comment a (pp. 149-59). Thus, approximately the same number of jurisdictions embrace traditional joint and several liability as did the "zone of danger" test characterized by this Court as "well-established" in *Gottshall*, 512 U.S. at 555.

But even the fact that some states have recently decided to adopt more limited joint and several liability standards undermines, rather than supports, petitioner's case. Almost all of these tort reform initiatives have resulted from the action of state *legislatures* responding to the competing and complex factors relevant to fashioning a liability standard. Whatever the respective merits of the many, widely divergent hybrid schemes emerging from that legislative process, they clearly reflect an evolutionary process suited to legislative action. They do not supply a precedential basis for judicial amendment of a compensation system, like FELA, which is "an interface of statutory and judge-made law," because "[o]nce Congress has relied upon conditions that the courts have created, [the Court is] not as free as we would otherwise be to change them." Edmonds, 443 U.S. at 272-73.

CONCLUSION

The judgments of the circuit court should be affirmed or in the alternative the petition for writ of certiorari should be dismissed

as improvidently granted.[32]

Respectfully submitted.

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[32] Were this Court not to affirm the judgments below in their entirety, in no event would full reversal be warranted. On the first issue, only the amount of damages would be at issue, and petitioner's liability would not need to be retried. On the second issue, only the judgments for Butler and Ayers would be subject to remand because only for those two did petitioner argue below that there was evidence of asbestos exposure at nonrailroad employment that required an apportionment instruction.

APPENDIX

Plaintiffs Exhibit No. 2 (17RR-1)

Plaintiffs Exhibit No. 3 (17RR-2)

Defendant's Exhibit No. 1

THE DIAGNOSIS OF NONMALIGNANT DISEASES RELATED TO ASBESTOS

THIS OFFICIAL STATEMENT OF THE AMERICAN THORACIC SOCIETY WAS ADOPTED BY THE ATS BOARD OF DIRECTORS, MARCH 1986

Objective

The health effects of asbestos have become a cause of serious concern in recent years. It has been estimated that from 1940 to 1979, in the United States alone, 27,500,000 individuals were exposed to this mineral at work. Recognition of the diseases caused by asbestos exposure has led manufacturers to reduce exposure in a variety of ways, such as by using alternative materials and by instituting improved work practices. It has also led to wide-spread public concern over the presence of asbestos in the environment, and fear on the part of persons with minimal exposure. This and projections of future asbestos related illness have posed important public policy questions -- whether to remove all asbestos in public buildings and what to do about the enormous estimated legal liability. In this context, physicians are commonly asked for advice. Furthermore, they are also consulted regarding the diagnosis of an asbestos-related respiratory condition in an exposed individual. While abundant literature exists on the health effects of asbestos, there is much that is conflicting. Accordingly, this report has been prepared by a group of experts to present an authoritative consensus view of the current state of knowledge while pointing out areas where additional information is necessary. An attempt is made to summarize our present knowledge on the diagnosis of nonmalignant asbestos-related pulmonary disease and provide the sources on which the opinion is based.

Asbestos -- the Mineral

The generic term "asbestos" is used to describe a group of minerals which, when crushed, break into fibers rather than dust. They are hydrated fibrous silicates which have great tensile strength, heat resistance, acid resistance, and some varieties are also flexible. This weavable rock has numerous important uses in an industrial society, and world production and use climbed steadily since its commercial introduction in the late 19th century. Geology, mineralogy, and uses have been well described elsewhere (1,2). World production of asbestos has dropped markedly since the mid 1970's. The cumulative production of asbestos, however, continues to increase. There has been a good deal of debate about the mineralogic definitions of asbestos and asbestiform fibers. The most complete recent discussion on trends in asbestos production and now widely accepted mineralogic definitions are found in the NAS Report on asbestiform fibers (3).

Asbestos in Lung Tissue

Inhaled asbestos that is retained in the lung can become coated with a proteinaceous iron staining material. The resulting asbestos or ferruginous body is a most characteristic index of asbestos exposure. It is usually recognized by its beaded-necklace or drumstick appearance. The longer fibers are more likely to become coated (2-22). The core of asbestos, i.e., bodies found in human lungs, is more likely to be an amphibole fiber than to be chrysotile, perhaps due to the greater ability of the former to survive in lung tissue, while chrysotile tends to disappear over time. The majority of the lung burden of asbestos, however, is uncoated and consists of short fibers, i.e., less than 5 microns (2-21). These are poorly visible or invisible on light microscopy but have been demonstrated by phase microscopy and electron microscopy. Asbestos bodies are commonly found in small numbers in lungs of city dwellers at routine autopsies in the absence of occupational exposure to

asbestos and asbestos related illness. These are usually few in number and unassociated with pathologic abnormality in the parenchyma. This observation emphasizes the importance of developing standardized techniques to quantify the number and type of asbestos fibers in lung tissue (to be discussed below).

Benign Pleural Abnormalities Associated with Asbestos

Asbestos causes pleural plaques, pleural thickening and pleural effusion. Pleural plaques are discrete, elevated, opaque, shiny, rounded lesions. They characteristically occur on the posterolateral aspect of the lower parietal pleura or diaphragm, but usually not on the visceral pleura, at the costophrenic angles, or at the apices. Thin plaques are smooth and grayish-white. Thicker ones are ivory-colored or gray and may have either a smooth surface or bosselated surface, or be coarsely nodular with the consistency of cartilage. Plaques are of two types, diffuse or nodular, and elevated. They can vary in size and shape. On inspection of gross specimens, calcification may be present but is not common. Microscopically, plaques are seen to be laminated collagenous connective tissue, acellular, with few inflammatory or fibrocytic nuclei; many are covered by a thin layer of regular and well-differentiated mesothelial cells. Capillaries are rare (23, 24). Elastic staining shows intact lamellae beneath the plaque in continuity with the surrounding normal parietal pleural connective tissue, suggesting that plaques are extrapleural and develop between the latter and its covering layer of mesothelial cells (23). On microscopic examination, calcium deposition is present in a large proportion of plaques, and occurs as deposits along with the course of the collagen fibers, ceasing abruptly where the connective tissue changes into normal pleural tissue (23). Well-differentiated cuboidal mesothelial cells are present on the surface and the edges of the plaque (23); metaplastic changes are uncommon (24, 25).

Although coated asbestos fibers have not been reported in

relation to pleural plaques in the extensive series of 172 sections examined by Meurman (23) using polarized light, the presence of many uncoated fibers may be noted when ashed tissue is studied (26, 27). Recent studies of the digestate of a small number of plaques has demonstrated the presence of submicroscopic fibers of both chrysotile and amosite fiber in these structures. It is of interest that these are more concentrated in the calcified zones than in the fibrous zones (28).

The usual effect of asbestos on the visceral pleura is a focal or diffuse thickening. This varies from a thin, milky white discoloration, detectable only on gross visualization to a thick peel encasing the lung and easily seen on chest roentgenogram. In contrast to plaques, which are frequently diagnosed roentgenologically in asymptomatic persons, pleural fibrosis may cause symptoms and impair pulmonary function.

Pleural effusion may be caused by inhalation of asbestos; this is an early manifestation and is usually an exudate. On rare occasions it may persist for months or years. It may recur on the same or the opposite side after several years of exposure. In unusual circumstances it may be bilateral. Macroscopically, the fluid may be blood stained with variable numbers of erythrocytes, macrophages, lymphocytes, and mesothelial cells (29).

Pulmonary Asbestosis

Definition

The term asbestosis should be reserved for the interstitial fibrosis of the pulmonary parenchyma in which asbestos bodies or fibers may be demonstrated. While pleural abnormalities are commonly associated with a parenchymal disease, they should be separately classified as there are differences between pleural and parenchymal fibrosis in epidemiology, clinical features, and prognosis.

Pathologic Features

In lungs with minimal or moderate fibrosis, the changes may be subtle and difficult to demonstrate. On examination of gross specimens, they appear as gray opaque areas devoid of air spaces in an otherwise brown lung. The microscopic changes in pulmonary asbestosis vary from small areas of basal fibrosis to a diffuse, fine fibrosis of both lungs.

In general, the more extensive the process the smaller the volume of the lungs. The cut surface of the lung has a dark brown color with streaks of a fine, gray-colored fibrosis that generally appears to affect subpleural areas first and, frequently, in multiple and separate areas. This fibrosis may accentuate lobar and lobular septa and extends projections into the lung parenchyma. The parenchymal fibrosis, which has a linear and reticular appearance by X-ray, affects the lower lobes first, and extends upward with prolonged or heavy exposure (10, 30, 31). The fibrosis may take one of three forms. One is a diffuse fibrosis without air space enlargement; a second form is called honeycombing. This form may affect the lower lobes and subpleural regions (31). The third form is a combination of both diffuse fibrosis and honeycombing. This latter form is the one most frequently observed. The honeycombing is characterized by enlarged thick-walled air spaces ranging in size from 1 to 15 mm (32). The pleural surface adjacent to the fibrosis is invariably involved in the fibrotic process, either mildly with the appearance of a milky covering to the fibrosis, or with widespread fibrosis and symphysis (30, 31). The hilar lymph nodes are only sightly enlarged and soft unless other disease coexists. While emphysema has been reported in the past, it is unusual, and may have been incorrectly labeled as honeycombing (10, 33).

Microscopic Appearances

There is little information on the early pathophysiology of

asbestosis in humans. Current opinion is largely based on inferences from animal studies. Some evidence exists that release of lysosomal enzymes may result from the partial ingestion of the asbestos fibers and the incomplete fusions of the phagosome membrane, so allowing the release of enzymes into the medium from lyosomes which have fused with the phagosome. The cytotoxic activity of asbestos exhibited by the release of lysosomal enzymes may result from the fibers penetrating intracellular structures, such as the nucleus and lysosomes, by preventing the movement of organelles within the cytoplasm, or by disrupting the cytoplasmic organization provided by microfilaments and microtubules (34). In any case, the initial reaction to asbestos fiber introduced into the lung is the immediate exudation of neutrophils and macrophages into the alveolar spaces in the locus of asbestos. This exudate varies with the age of the lesion. In the initial stages the exudate may be predominantly neutrophilic. Macrophages are the most common cells in the infiltrate. The inflammatory infiltrate soon is associated with varying degrees of organization with fibrosis (35, 36). The process is believed to be concentrated initially in peribronchiolar regions (10, 30). The initial lesion after exposure by inhalation is in the region of the respiratory or terminal bronchioles. There is a macrophage exudate in the lumen associated with asbestos fibers and bodies. Metaplasia of the cuboidal epithelium to squamous type may occur. In the early states, fibrosis may be minimal but, when present, is in the respiratory and terminal bronchiolar regions and in the alveoli arising from the most proximal alveolar ducts. Alternatively, there may be coboidalization of the epithelial cells. Characteristically, in early stages only an occasional pulmonary subunit is involved. More advanced cases show a diffuse fibrosis, involving the interstitium, frequently associated with areas of extensive fibrosis with obliteration of air spaces and condensation of the bronchovascular structures. Areas adjacent to the fibrosis may show accumulation of alveolar macrophages, some of which have ingested asbestos fibers or other fragments. Alveolar epithelial hyperplasia may also occur. When moderate

or severe degrees of fibrosis are present, the small pulmonary arteries and arterioles are thickened and sclerotic (30). (The presence of uncoated asbestos fibers and asbestos bodies in the presence of interstitial fibrosis is mandatory for the pathologic diagnosis of asbestosis.)

Before a pathologic diagnosis of asbestosis can be made we must consider a number of problems, including the following:

1. There are numerous other causes of interstitial fibrosis.

2. The distribution of interstitial fibrosis in asbestosis may be irregular, and therefore, adequate sampling of the lung must be done. The lingula and the right middle lobe are particularly prone to nonspecific fibrosis and sampling must take this into consideration.

3. While advanced asbestosis characteristically shows numerous asbestos bodies, they may not always be found because many fibers are cleared from the lungs and some, particularly chrysotile, may undergo dissolution and fragmentation with time (32). Thus, in unusual cases it may be difficult to demonstrate fibers or asbestos bodies in the histologic preparation. When that is the case, 5 to 10 additional sections from the same block, and 5 to 10 additional new blocks from areas with fibrosis, should be prepared, stained, and surveyed for asbestos bodies. If they are not found, the diagnosis of asbestosis is unlikely.

4. Even in the absence of a history of asbestos exposure, the presence of several or more asbestos bodies in areas of extensive interstitial fibrosis is sufficient evidence for a morphologic diagnosis of asbestosis.

5. Not everyone who inhales an asbestos fiber, or even a few fibers, develops even microscopic asbestosis. Normal lung defense mechanisms remove fibers via several well-

described mechanisms.

The Pneumoconiosis Committee of the American College of Pathologists and National Institute for Occupational Safety and Health dealt with these considerations when formulating the following statement with which we concur:

> "The criteria that permit the pathologist to establish the diagnosis of asbestosis have evolved during a review of many cases of the disease. Presently, the minimal features that permit the diagnosis are the demonstration of discrete foci of fibrosis in the walls of respiratory bronchioles associated with accumulations of asbestos bodies. These morphologic findings, although adequate to establish the diagnosis of asbestosis in an early evolutionary stage, have not been shown to result in functional and radiologic alterations. The demonstration of asbestos bodies in the absence of fibrosis is insufficient evidence to justify the diagnosis of asbestosis. Conversely, a definite diagnosis of asbestosis cannot be made by the pathologist in cases that show characteristic fibrosis in the absence of asbestos bodies or other evidence of fibers. Because asbestos bodies are unevenly distributed in tissue, an adequate number of samples should be examined thoroughly." (32)

They further state that although the demonstration of asbestos fibers by the electron microscopic study of tissue digestates provides evidence of exposure, ultrastructural technique alone cannot be used to establish definitively the etiologic role of asbestos in disease (32).

This Committee has published guidelines for methods of assessing lung fiber concentration and pathologic grading of asbestosis. The certainty of the cause and effect relationship of asbestos to the fibrotic process increases with increasing numbers of such particles and fibers visualized by light microscopy. Electron microscopy of digested lung preparation

from documented cases of asbestosis shows very large numbers of uncoated fiber fragments (37).

Since asbestos bodies and fibers appear in lungs without evidence of asbestos-related disease, the question arises as to how many such bodies are necessary to infer a cause and effect relationship between asbestos particles and fibrosis. No precise answer exists, but efforts to quantify the numbers of asbestos particles in known cases indicate that it is high. In the cases of asbestos studied by Whitwell, the lungs nearly always showed three million light visible fibers per gram; control lungs generally show less than 20,000 fibers per gram (38).

Electron microscopy is a more sensitive index of asbestos exposure than light microscopy. It will detect 10 to 100 times more fibers than seen by light microscopy. Fibers seen only by light or electron microscopy, in the absence of parenchymal fibrosis, indicates only that exposure to asbestos has occurred. Additional studies are required to define the number of fibers in the lungs of persons with a variety of occupational exposures, and with varying periods of exposure, as well as in nonoccupational populations.

Investigations have demonstrated that as many as a million fibers per gram of dry tissue of chrysotile may be present in the lungs from nonoccupational exposures in the general population. By contrast, lungs containing a million fibers of amosite or crocidolite per gram are considered to reflect substantial occupational exposure to asbestos dust (39). An electron microscopic field of necessity represents a small sample of the lung and analysis of multiple fields is required to reflect the true asbestos lung burden. In our opinion, additional studies on the numbers and types of asbestos fibers in the lungs of control and exposed persons must be performed to provide the informational bases for interpretation of quantitative data concerning asbestos fibers in the lung and their relation to the presence of asbestosis or other asbestos related diseases.

Exposure History

Numerous studies have shown that asbestosis has a relatively close association with both the magnitude and the duration of exposure to inhaled asbestos; the more intense and longer the exposure, the greater the numbers of affected workers and the greater the severity of their illness. There is no evidence that casual or indirect exposure, such as occurs in the general population, causes asbestosis. The major problem facing the clinician is to assess whether an exposure has been sufficient to cause disease. Although dust levels have been measured in many industries for many years, they are not usually available to or easily interpreted by clinicians. Nevertheless, some general statements can be made. A careful sequential history of all exposures to all potentially harmful substances is obviously important. Particular attention should be paid to occupations in which direct contact with asbestos has occurred. Consultation with physicians trained in occupational medicine or with industrial hygienists may be helpful in unclear cases.

Evidence of asbestosis has been found many years after relatively brief but extremely heavy exposure. Such exposure often occurred in the asbestos textile industry over 50 years ago and has occurred more recently in workers who have not used respiratory protection while spraying dry asbestos on steel beams. Fortunately, such exposure is rare at this time. With levels of exposure common in the past few decades, the latent period between the state of the exposure and the discovery of the manifestations of asbestosis is likely to be a minimum of 15 years, and more often considerably longer. With exposures below the current recommended permissible exposure limit value, asbestosis is not likely to be found during he course of a working career. With proper engineering controls, work practice, and where necessary, personal respiratory protective devices, asbestosis should not occur.

Clinical Diagnosis

In the usual clinical setting, the diagnosis of asbestosis has to be made in the absence of histologic examination of lung tissue. Open lung biopsy is rarely indicated in the assessment of workers for compensation purposes. The benefit of the doubt should be given whenever the clinical features and occupational exposure data are compatible with the diagnosis. In most instances, the clinician and epidemiologist must still rely on indirect methods of diagnosing asbestosis. These principles of diagnosis are based on observations from pathologically proven cases. When biopsy is done, careful attention must be paid to the sampling considerations mentioned above and the surgical technique employed (40). Assessment of lung dust burden in such biopsy material is desirable. Diagnosis of asbestosis does not mean that measurable impairment of lung function or physical disability is necessarily present.

Clinical Features

In advanced stages, asbestosis is a restrictive lung disease associated with dyspnea, clubbing of the fingers, basilar crackles and wide-spread irregular opacifications on roentgenograms. The latter are usually more prominent at the lung bases. Pleural thickening and calcification may also be present as noted above. The vital capacity is usually reduced with preservation of the FEV_1/FVC ratio and gas exchange impaired. Cor pulmonale may occur in advanced disease. When many or all of these features are present the diagnosis is made without difficulty. However, in the absence of the opportunity to examine lung tissue microscopically, the diagnosis is always inferential. The certainty increases with increasing numbers and severity of typical clinical abnormalities.

The chest roentgenogram appears to be the most valuable examination in diagnosing asbestosis. A diffuse irregular interstitial pattern coupled with evidence of pleural disease, e.g.,

plaques or extensive pleural thickening in a person with known exposure, presents little diagnostic difficulty. The difficulty with the use of the chest roentgenogram relates to the detection of lesser degrees of interstitial fibrosis. Efforts have been made to standardize the interpretation of roentgenograms in the pneumoconioses. The most widely accepted and extensively studied method for assessing the degree of roentgenologic involvement in the pneumoconiosis was developed by the International Labour Office and is currently called the ILO-1980 Classification (41). This scheme evolved from studies of miners and focused initially on the detection of silicosis. The X-ray appearance of silicosis is characterized initially by small rounded opacifications. The classification was later broadened to describe abnormalities which occur in asbestosis and do not have a rounded appearance. These are fine, medium and coarse, small irregular opacifications, and they are called s, t, and u, respectively. The classification, originally developed for describing radiologic changes in epidemiologic studies, has also been used in the clinical context for case detection and/or diagnosis. In the latter instance, the information given in the chest radiograph is added to all other information about the individual in order to arrive at a diagnosis.

The number of these abnormalities in a given area of the chest film, whether rounded or irregular, is called their profusion. The profusion was initially graded as 0 for none, 1 for slight, 2 for moderate, and 3 for severe.

It became apparent, however, that even experienced readers had difficulty in grading specifications into these categories in a reproducible fashion. However, if observers were asked to give two classifications, i.e., the one category they thought was most likely and another which they thought might also be considered, the observer reliability (i.e., in terms of reproducibility) was considerably improved. This method of giving the observer two options (the one he thought most likely and next most likely) was called the expanded classification. It formed a 12-point

scale that has proven to be very useful epidemiologically.

It is likely that an individual who develops asbestosis moves more or less uniformly from the normal roentgenologic appearances (-/0, 0/0, 0/1) to the abnormal (½, 2/1, 2/2, etc.). The problem is that the interpretation of the lesser degrees of abnormality on this scale is subjective and that numerous causes of such roentgenologic shadowing other than asbestosis exist. In the presence of marked diffuse pleural thickening, it is difficult to diagnose or grade the severity of interstitial fibrosis. Accordingly, criteria other than roentgenographic ones have been sought.

Dyspnea

Asbestosis has been described as a monosymptomatic disease, dyspnea being the major complaint of the affected individual (42). There is no doubt that shortness of breath is common and troublesome in individuals with clinically significant interstitial fibrosis. Dyspnea, however, is a nonspecific symptom, common in many other cardiopulmonary disorders, and it is particularly subject to emotional factors likely to be relevant in instances of suspected industrially-related disease. Accordingly, it is not adequate to use dyspnea as the only evidence on which to base a clinical diagnosis of asbestosis in an individual at risk.

Clubbing

Clubbing of the fingers occurs more commonly in asbestos-exposed workers than in controls (43, 44, 45). The diagnostic usefulness of clubbing is limited, however, by two important considerations. There are many other causes of clubbing and clubbing, when present, is a late finding in pulmonary asbestosis (46). Since the majority of persons with significant asbestosis do not have clubbing, and asbestos workers with clubbing may have it for reasons other than pulmonary fibrosis, the diagnostic usefulness of clubbing is limited.

Basilar Crackles

Crackles have been recognized as a feature of asbestosis for over 50 years and are believed by many to be an early finding (47, 48, 49). They have been described as characteristic in their sound ("fine", "cellophane," "velcro," "close to the ear") and in their bilateral, basilar distribution (50). They differ in quality and timing from the crackles of bronchitis which tend to be fewer in number and earlier in timing. Bronchitic crackling begins with the beginning of inspiration and usually discontinues prior to mid or late inspiration. Characteristically, the crackles of interstitial fibrosis are pan inspiratory or have an end inspiratory accentuation. They appear first at the bases in the mid-axillary lines and tend to spread toward the posterior bases. As the disease advances, the crackles become distributed at progressively high levels up from the bases (50). They are often difficult to distinguish from the crackles of congestive heart failure. Reported rates vary, but about half of the persons considered to have asbestosis on clinical grounds have crackles (47, 51, 52, 53); prevalences in exposed populations range from about 10-20%. Such prevalences depend on duration of exposure, the age of the population, and prevalence of other disease causing fine crackles. Observer variability exists in chest auscultation, but this can be reduced by training and waveform analysis (54, 55, 56). In summary, under carefully controlled circumstances crackles can be useful in diagnosing interstitial fibrosis. However, they are not also specific for the interstitial fibrosis related to asbestos.

Pulmonary Function

The characteristic features of pulmonary asbestosis are those of a restrictive lung disease, i.e., a reduction of lung volumes, with inspiratory capacity and vital capacity being primarily affected, functional residual capacity being less affected, and residual volume even less. These changes are consistent with a decrease in pulmonary compliance. Hypoxemia may be present at rest or

develop with exercise. Diffusing capacity is also usually impaired, depending on the extent of the disease. By contrast, large airway function as reflected in the FEV_1/FVC ratio is generally well preserved. Review of the prediction formulas for pulmonary function tests reveals there is no one set applicable to all laboratories and patient populations. Predicted normal values used in pulmonary function laboratories should be based on regression equations from studies whose testing equipment, methodologies and control populations most clearly resemble the patients under study. Numerous studies have shown that the effects of asbestos on lung function are dose related (57, 58, 59).

There is convincing evidence that an asbestos related pulmonary abnormality can occur in the absence of definite radiologic change. These pathologic changes of early asbestosis have been demonstrated in biopsy material from asbestos-exposed individuals with minimal or no radiologic abnormality (60). Likewise, exposure response relationships for certain pulmonary function abnormalities (including reduced lung compliance and impaired flow at low lung volumes) have been demonstrated in asbestos-exposed subjects without radiologic abnormalities or reduction in vital capacity (58), and their occurrence subsequently confirmed in large animal models with biopsy confirmation of the associated pathologic changes. The impairment associated with such abnormality is usually modest.

Diffusing Capacity

Diffusing capacity or transfer factor has been the subject of numerous studies with somewhat conflicting results. In most studies of unexposed populations it is lower in asbestos exposed workers than in normal controls although not always at a statistically significant level (44, 45, 57, 62, 63). There is not always a clear relationship to dust exposure indices (58, 64). It has, however, been shown to correlate with the severity of the histologic lesion in interstitial fibrosis (64), and its reduction can precede roentgenologic abnormalities. At this time a reduction

of the diffusing capacity in an asbestos worker, in the absence of other known causes for impaired gas exchange, would provide suggestive evidence for asbestosis, but further population studies are necessary to elucidate the precise role of this test.

Other Studies

Various other measurements have been employed for monitoring persons exposed to asbestos. A reduction in roentgenologic lung volume appears promising since it is applicable to serial studies of patients, but it requires careful control of inspiration (66). This approach has not yet been taken in a large number of subjects exposed to asbestos.

Inspiratory capacity was shown to be suitable for surveillance of workers but is not likely to add much more than vital capacity (VC) as the two tests are highly correlated (59). This finding suggests that tests for small airways disease might in the future be applicable to early detection (67). In one study, neither closing volume nor closing capacity correlated with the duration of exposure or with the asbestos dust index (68). Gallium scanning, bronchoalveolar lavage, and transbronchial biopsy need further evaluation with respect to their usefulness in diagnosing asbestosis. CT scanning is of particular value in detecting and quantitiating pleural disease and aiding in the differentiation of pleural from parenchymal disease. The value of CT scanning in the detection of interstitial fibrosis also needs to be further evaluated. Thus, at this time, criteria other than crackles, restrictive lung functional abnormality, reduced diffusing capacity of the lung (D_L), and roentgenogram consistent with interstitial fibrosis of 1/1 or more are either impractical, of unproven value, or are not likely to yield additional information because of their high correlation with one of these four.

In our opinion, combinations of these abnormalities are more reliable in terms of specificity, relation to duration of exposure,

consistency, and predictive value; however, little work has assessed combinations of abnormalities.

Combinations

Combinations of abnormal test results are not likely to prove more effective in detecting the earliest changes in asbestosis. Intuitively, one test is likely to become abnormal first. It is likely that the first abnormality is not always the same one (e.g., one worker may have only an abnormal D_L [69], and another only crackles as the first manifestation). This has been demonstrated with respect to restrictive lung function pattern and reduced D_L. It is likely that observations will have to be made in large groups over long periods to delineate clearly the best single test for early diagnosis of asbestosis if, indeed, a single initial abnormality exists.

Differential Diagnosis

Streaky densities on chest films consistent with a parenchymal disease have many causes. All alternative diagnoses must be considered before accepting the presumptive diagnosis of asbestosis.

Occasionally, asbestosis is coexistent with chronic obstructive pulmonary disease. Evidence is accumulating that obstruction may also be related to an individual's occupational exposure (70). The relative importance of cigarette smoking and asbestos in the development of the combined problem of restrictive and obstructive disease may be difficult or even impossible to assess.

Since a not uncommon feature of asbestos exposure is bilateral pleural thickening, the question arises as to the helpfulness of such thickening in indicating that a patient with pulmonary fibrosis has asbestosis. Indeed, asbestos appears to be a rather potent stimulus for the development of pleural abnormalities. Selikoff found pleural fibrosis in 65% of persons he studied 40

years from the onset of their initial exposure to asbestos. With patients with no known exposure to asbestos or other known hazardous materials (71), the question arises as to whether an indirect or occult exposure to asbestos might have caused the pleural thickening. Severe diffuse pleural thickening is not common even in asbestos exposure. It was present in only 2.5% of the asbestos workers studied by Selikoff. Since there were no controls in that study, it is difficult to be certain that asbestos was the cause of the pleural fibrosis in those subjects. Indeed, Gilson reported in 1969 that pleural thickening was found on 187 of 3,860 (0.05%) routine roentgenograms of the chest in Great Britain (72). He conducted one of the few objective studies of pleural thickening by comparing the asbestos exposure of 113 of the 187 subjects with that of 113 age- and sex-matched controls. He found "a slight but unimpressive excess of positive histories of exposure to asbestos among the cases." Thus, it is not necessary to assume an occult exposure to asbestos in every instance of pleural thickening; the presence of pleural thickening is not definitive evidence of asbestos exposure. In another study, bilateral pleural thickening was found in 52 of 824 consecutive patients admitted to the hospital. Only 13 of these 52 had definite asbestos exposure as compared to 2 of 32 age-matched controls. In contrast to the relatively nonspecific finding of pleural thickening, the demonstration of pleural plaques with or without calcification is better evidence of asbestos exposure. Unfortunately, the latter usually occurs only many years after the onset of the exposure, thus limiting usefulness of early diagnosis.

A major problem exists in the differential diagnosis when more than one disease is present, whether it is congestive heart failure, COPD, or other chronic lung disease. There are diseases unrelated to asbestos exposure but with similar symptoms, and these may occur in some persons with asbestos exposure. However, given a clear history of exposure to asbestos, a diffuse interstitial fibrosis can be presumed to be due to the asbestos as other forms of interstitial fibrosis are relatively uncommon. The

prevalence of lesser degrees of interstitial fibrosis is not well known and considerable caution has to be exercised in attributing all such phenomena to asbestos exposure, either known or occult.

Summary

This document has focused on clinically detectable interstitial fibrosis due to asbestos exposure. While direct examination of lung tissue is the most reliable method of diagnosis, as stated above, this is rarely indicated in the assessment of workers for compensation purposes. Open lung biopsy is indicated in our opinion only when a clear health, rather than financial, benefit is likely to be provided. In the absence of pathologic examination of lung tissue, the diagnosis of asbestosis is a judgment based on a careful consideration of all relevant clinical findings. In our opinion, it is necessary that there be:

1. A reliable history of exposure.

2. An appropriate time interval between exposure and detection (see pages 9-10)

Furthermore, we regard the following clinical criteria to be of recognized value:

1. Chest roentgenographic evidence of type "s," "t," "u," small irregular opacifications of a profusion of 1/1 or greater
2. A restrictive pattern of lung impairment with a forced vital capacity below the lower limit of normal
3. A diffusing capacity below the lower limit of normal
4. Bilateral late or pan inspiratory crackles at the posterior lung bases not cleared by cough

Of these, the findings on the chest roentgenogram are the most important. When this criteria is not met, considerable caution is warranted. The specificity of the above criteria increases with

increasing numbers of positive criteria. As in all clinical judgments, confounding variables, such as the presence of other clinical conditions that affect these criteria, should be evaluated.

It is possible that interstitial fibrosis may be present even though none of these criteria are satisfied, but, in our opinion, in these circumstances the clinical diagnosis cannot be made.

This statement was prepared by an Ad Hoc Committee of the Scientific Assembly on Environmental and Occupational Health in conjunction with the American College of Chest Physicians. The members of the Committee were:

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