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PLAINTIFF'S EXHIBIT
USG-564

CAUSE NO. 2000-05-1962-C

ROBERT HENRY VILLARREAL, **Individually and as Personal Representative of the Heirs and Estate of JOHN HENRY VILLARREAL**	§	IN THE DISTRICT COURT OF
Plaintiffs,	§	
vs.	§	CAMERON COUNTY, TEXAS
GAF CORPORATION HOLDINGS, INC.), ET AL.	§	
Defendants.	§	197TH JUDICIAL DISTRICT

MEMORANDUM OF LAW IN SUPPORT OF MOTION *IN LIMINE* OF DEFENDANT UNITED STATES GYPSUM COMPANY TO EXCLUDE EVIDENCE AND ARGUMENT RELATING TO THE CLAIMS OF OTHER COMPANIES' EMPLOYEES

Defendant United States Gypsum Company ("U.S. Gypsum") hereby submits this memorandum of law in support of its motion *in limine* for an order excluding any evidence or argument relating to claims of asbestos-related disease made by employees of other companies. U.S. Gypsum anticipates that plaintiff will attempt to introduce at trial documents and testimony regarding claims that two former employees of the National Asbestos Manufacturing Company ("National Asbestos")[1/] developed asbestos-related disease as a result of working for that company. Neither of the individuals ever worked for U.S. Gypsum.

Both individuals worked as employees of National Asbestos at its manufacturing facility in Jersey City, New Jersey. The only "nexus," if it can even be called that, between the two individuals and U.S. Gypsum is that, after both individuals stopped working at the plant, U.S. Gypsum

1/ There was never any corporate relationship between National Asbestos and U.S Gypsum.

purchased the Jersey City facility from National Asbestos in 1936. Moreover, as part of an ongoing process of assessing health and safety issues in its plants, U.S. Gypsum, immediately upon acquiring the plant, retained a noted expert in dust and disease, Dr. LeRoy Gardner, to survey the plant and make any necessary recommendations regarding health and safety. Dr. Gardner found that the conditions under which National Asbestos had operated the plant were extremely dusty, and made a number of recommendations, each of which was implemented by U.S. Gypsum. Thus, the conditions under which the two National Asbestos employees apparently became sick were rectified by U.S. Gypsum, which operated the plant in an entirely different manner. U.S. Gypsum never received any asbestos-related claims from any of its Jersey City plant employees during the thirty-nine years it owned that plant.

One of the individuals in question was a bookkeeper for National Asbestos. Certain correspondence suggests that he later filed a claim alleging asbestosis against National Asbestos. As clearly demonstrated by Dr. Gardner's report on the Jersey City plant and other documents relating to his employment, the bookkeeper was exposed to the extremely high dust levels created by the handling of raw asbestos. Thus, his exposure does not in any way constitute, as plaintiff may suggest, evidence of disease from "non-occupational" or "bystander" exposure. *See, e.g., Sealover v. Carey Canada*, 793 F. Supp. 569, 578-79 (M.D. Pa. 1992) (Exhibit A) ("evidence that U.S. Gypsum was on notice that a bookkeeper in one of its [sic] manufacturing plants contracted asbestosis does not equate to knowledge that construction bystanders, such as [plaintiff], were equally at risk"); *School District of the City of Independence, Missouri, No. 30 v. United States Gypsum Co.*, 750 S.W.2d 442, 448 (Mo. App. 1988) (Exhibit B) (no error in excluding documents regarding bookkeeper because they related only to U.S. Gypsum's "general knowledge of the hazards of asbestos exposure").

The same is true of the second individual. The evidence regarding his exposure consists of an angry letter written to U.S. Gypsum in 1950. The author, a Ben Miriello, claimed that his father had worked in the Jersey City plant, and had later died of asbestosis as a result of the conditions there. The letter is little more than a diatribe by a bitter, grieving son lamenting the loss of his father. The letter suggests that the death of the writer's mother is imminent as well, and pleads with U.S. Gypsum "for the sake of God and humanity" to clean up the Jersey City plant. U.S. Gypsum had, of course, already done so when it acquired the plant from National Asbestos almost 15 years earlier. A U.S. Gypsum investigation conducted upon receipt of the letter revealed that Mr. Miriello's father had never worked for U.S. Gypsum, but rather, that he had worked for National Asbestos under the deplorable conditions that marked its ownership of the facility. The Miriello letter has been excluded by numerous courts. *See County of Anderson v. United States Gypsum Co.*, No. CIV-3-83-511, Tr. at 1324-25 (E.D. Tenn. Feb. 26, 1985) (Exhibit C) (Miriello letter lacked probative value due to extreme levels of exposure suggested by document), *defense verdict aff'd sub nom. Anderson County Bd. of Educ. v. National Gypsum Co.*, 821 F.2d 1230 (6th Cir. 1987); *Jacobs v. Owens-Corning Fiberglas Corp.*, No. 97-4-13222, Tr. at 23 (Tex. Dist., Calhoun Cty. Feb. 8, 2000) (Exhibit D); *Durham v. Able Supply, Inc.*, Cause No. 98-758-B (Tex. Dist., Gregg Cty. Feb. 2000); *Rugani v. Asbestos Defendants*, No. 302355, Tr. at 2 (Cal. Super., S.F. Cty. Feb. 16, 2000) (Exhibit E); *State of Maryland v. Keene Corp.*, No. 1108600, Tr. at 6016 (Md. Cir. Anne Arundel Cty., Jan. 8, 1991) (Exhibit F).[2/]

In addition to the fact that they are utterly irrelevant to U.S. Gypsum or any of its conduct, the two purported claims by National Asbestos employees are beset with other evidentiary problems.

2/ The documents also lack foundation, and are cumulative to other evidence regarding conditions at the Jersey City plant. U.S. Gypsum reserves these objections, but does not present them fully herein.

Both are based upon decades-old correspondence directed to U.S. Gypsum. There is little, if any, way to verify any of the facts relating to the individuals in question, their work histories at National Asbestos or elsewhere, or the nature or cause of their medical conditions. The letters contain multiple layers of hearsay, repeating statements and allegations purportedly made by persons other than the authors, who cannot be cross-examined.

The letters also contain characterizations, or more properly mischaracterizations, of U.S. Gypsum and its conduct. Merely because the claims were directed to U.S. Gypsum in letters written decades ago does not make them true. In some cases they are demonstrably untrue, such as the suggestion U.S. Gypsum had, by 1937, confronted asbestos-related claims from its own employees, or that the senior Miriello worked for U.S. Gypsum. There is no independent evidence for either assertion, both of which are flatly contradicted by other documents. These statements should not be placed before the jury in a manner which can only mislead and confuse them.

Finally, presentation to the jury of the claims of other companies' employees threatens U.S. Gypsum with unfair prejudice far outweighing any conceivable probative value the evidence may have. In particular, the Miriello letter is fraught with sarcastic, angry language. The only purpose for introducing such evidence is to try to persuade the jury that U.S. Gypsum was a "bad company" because, decades before any alleged exposure of plaintiff to any U.S. Gypsum product, U.S. Gypsum purchased a plant that the former owner operated under extremely dusty conditions. Any such misuse of the documents would prejudice U.S. Gypsum by allowing plaintiff to suggest to the jury an improper basis upon which to render a verdict against U.S. Gypsum.

Moreover, evidence relating to the purported claims of other companies' employees can only confuse and mislead the jury by suggesting that this case somehow involves exposures resembling the conditions which existed in National Asbestos' Jersey City plant. There is no evidence that any exposure alleged by plaintiff to any U.S. Gypsum product involved such conditions. Presentation of evidence relating to the employees of other companies working in dissimilar conditions more than 60 years ago, and the need for U.S. Gypsum to respond to such issues, can only add to the length and complexity of the trial by injecting tangential issues and evidence. *See County of Anderson, supra*, Tr. at 1325-26 ("any probative value . . . this letter has is substantially outweighed by the danger of prejudice and confusion of the issues here and is therefore misleading to the jury"); *State of Maryland, supra* (Miriello letter would unfairly prejudice jury); *Wesley Theological Seminary of the United Methodist Church v. United States Gypsum Company*, 876 F.2d 119, 123 (D.D.C. 1989) (Exhibit G) (affirming exclusion of Jersey City document as unduly prejudicial) *cert. denied*, 494 U.S. 1003 (1990).

Accordingly, U.S. Gypsum respectfully requests the Court exclude any evidence or argument relating to the claims of disease in individuals employed at National Asbestos' manufacturing facility.

Respectfully submitted,

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ATTORNEYS FOR DEFENDANT UNITED STATES GYPSUM COMPANY

CERTIFICATE OF SERVICE

I hereby certify that a true and correct of Defendant United States Gypsum Company's Memorandum of Law in Support of Motion in Limine has been forwarded to Plaintiffs' counsel of record either by first class mail, return receipt requested, delivery or facsimile on this the 12th day of January, 2001.

Exhibits for:

Memorandum of Law in Support of Motion *In Limine* of Defendant United States Gypsum Company to Exclude Evidence and Argument Relating to the Claims of Other Companies' Employees

Exhibit A

Alma M. SEALOVER, individually, and in her capacity as Administratrix of the Estate of Donald Sealover, deceased, Plaintiff,
v.
CAREY CANADA, et al., Defendants.

No. CV-88-0643.

United States District Court,
M.D. Pennsylvania.

April 3, 1992.

Widow of deceased construction worker brought products liability action, both individually and as administratrix of her husband's estate, seeking to recover damages from asbestos manufacturers. On manufacturers' motions for summary judgment on widow's punitive damages claim, the District Court, McClure, J., held that: (1) to recover punitive damages from asbestos manufacturers, widow had burden of showing that manufacturers had actual knowledge, prior to worker's exposure, of the serious health risks posed by their products, and (2) manufacturers' knowledge that asbestos fibers might cause cancer in laboratory animals exposed to massive quantities of asbestos could not be equated with knowledge that construction workers would suffer same ill effects to same degree.

Motion granted.

[1] DAMAGES ⇐ 91(1)
115k91(1)
To recover punitive damages from asbestos manufacturers, widow of deceased construction worker had burden of showing that manufacturers had actual knowledge, prior to time of construction worker's exposure, of the serious health risks posed by their products.

[2] DAMAGES ⇐ 91(1)
115k91(1)
Widow of deceased construction worker failed to show that asbestos manufacturers had actual and not just constructive knowledge of health risks posed by their products, so that manufacturers were not liable for punitive damages, where only evidence of causal connection between asbestos and cancer involved laboratory mice and manufacturing or mining employees, each of whom was exposed to asbestos dust in far greater quantities than typical construction worker.

[3] DAMAGES ⇐ 179
115k179
Evidence regarding asbestos manufacturer's knowledge of dangers associated with their products at time subsequent to construction worker's exposure thereto was inadmissible, as irrelevant to punitive damages issue and as to whether manufacturers had actual knowledge of dangers associated with their product at time of worker's exposure.

[4] DAMAGES ⇐ 94
115k94
Any limitation on extent of asbestos manufacturer's liability for punitive damages, in order to preserve fund for payment of subsequent compensatory asbestos claims, was matter more properly addressed to legislature than to district court.

*569 John McN. Broaddus, Deborah K. Hines, Shepard A. Hoffman, Connerton, Ray & Simon, Washington, D.C., for plaintiff.

Robert B. Lawler, Beth Evans Valocchi, Wilbraham & Coleman, Philadelphia, Pa., for defendant U.S. Gypsum Co.

James P. Gannon, Barnard and Gannon, Media, Pa., for defendant W.R. Grace & Co.

MEMORANDUM

McCLURE, District Judge.

BACKGROUND

Plaintiffs Alma M. Sealover and Donald E. Sealover filed this products liability action *570 against defendants W.R. Grace Company, ("W.R. Grace"), United States Gypsum Company ("U.S. Gypsum") [FN1] among others. Plaintiffs alleged that as a result of Donald Sealover's exposure to asbestos during his sojourn in the Merchant Marines and during his forty-year career as a carpenter, he contracted mesothelioma, [FN2] asbestosis and other asbestos-related diseases which ultimately led to his death on May 2, 1988. Alma Sealover, acting both individually and as Administratrix of her husband's estate, sought to recover for her husband's illness and for his death.

FN1. U.S. Gypsum is part of a group of defendants, affiliated for purposes of defending actions such as this, which are known as the Center for Claims Resolution Defendants or "CCR defendants." The other defendants which are part of that group are: (a) GAF Corporation (b) National Gypsum Company and (c) Turner & Newall Of the four, plaintiff seeks punitive damages only against U.S. Gypsum. (Record Document No. 232, filed Sept. 11, 1991)

FN2. Mesothelioma is a terminal cancer of the lining of the lung.

The trial was bifurcated with the first phase on strict liability only. The first phase of the trial concluded with the jury awarding compensatory damages of $400,000 to the estate and $210,000 to Alma Sealover. The negligence and punitive damage claims have yet to be tried. Defendants W.R. Grace and U.S. Gypsum have moved to defer indefinitely trial of plaintiff's punitive damage claim.

Before the court are: (1) a motion (Record Document No. 234, filed October 29, 1991) by U.S. Gypsum to bar plaintiffs from proceeding with their punitive damage claim or, in the alternative, to defer indefinitely the trial on punitive damages; (2) a motion (Record Document No. 238, filed November 15, 1991) by W.R. Grace for summary judgment on the punitive damage claim; (3) and a motion by U.S. Gypsum to exclude evidence on punitive damages. [FN3] For the reasons set forth below, the court will grant all three motions and direct entry of summary judgment in defendants' favor on the punitive damage claims. [FN4]

FN3. Also outstanding are plaintiff's motion for delay damages; defendants' motions for a new trial or j.n.o.v.; plaintiff's motion to sever the case against GAF; and defendants' motions to treat Johns-Manville as a settled defendant and mold the verdict. These motions will be addressed in a separate memorandum.

FN4. The parties have agreed that the court should treat the motions filed by W.R. Grace and U.S. Gypsum as motions for summary judgment on plaintiff's punitive damage claims.

DISCUSSION

Summary judgment standard

The parties have agreed that the court should treat the motions to bar plaintiff from trying the punitive damage claim as a motion for partial summary judgment. We will, therefore, apply the summary judgment standard in determining the sufficiency of plaintiff's evidence.

Summary judgment is appropriate if the "pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed.R.Civ.P. 56(c) (Emphasis supplied).

> ... [T]he plain language of Rule 56(c) mandates the entry of summary judgment, after adequate time for discovery and upon motion, against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, an on which that party will bear the burden of proof at trial. In such a situation, there can be 'no genuine issue as to any material fact,' since a complete failure of proof concerning an essential element of the nonmoving party's case necessarily renders all other facts immaterial. The moving party is 'entitled to judgment as a matter of law' because the nonmoving party has failed to make a sufficient showing on an essential element of her case with respect to which she has the burden of proof.

Celotex v. Catrett, 477 U.S. 317, 323-24, 106 S.Ct. 2548, 2553, 91 L.Ed.2d 265 (1986).

*571 The moving party bears the initial responsibility of stating the basis for its motions and identifying those portions of the record which demonstrate the absence of a genuine issue of material fact. He or she can discharge that burden by "showing ... that there is an absence of evidence to support the nonmoving party's case." Celotex, supra, 477 U.S. at 323 and 325, 106 S.Ct. at 2553-54.

Issues of fact are "genuine only if a reasonable jury, considering the evidence presented, could find for the non-moving party." Childers v. Joseph, 842

F.2d 689, 694 (3d Cir.1988), citing Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249, 106 S.Ct. 2505, 2510, 91 L.Ed.2d 202 (1986). Material facts are those which will affect the outcome of the trial under governing law. Anderson, supra, 477 U.S. at 248, 106 S.Ct. at 2510. In determining whether an issue of material fact exists, the court must consider all evidence in the light most favorable to the non-moving party. White v. Westinghouse Electric Company, 862 F.2d 56, 59 (3d Cir.1988).

Evidentiary issues

Defendants contend that: (1) plaintiff will be unable to meet the high standard of proof Pennsylvania law requires for an award of punitive damages; (2) plaintiffs in personal injury asbestos actions have in the past been unable to muster such evidence and the Pennsylvania courts [FN5] have consistently precluded plaintiffs from proceeding to trial on punitive damage claims; and (3) the plaintiff in this case has offered no new evidence which would warrant this court reaching a different conclusion.

FN5. All parties agree that Pennsylvania law applies under Erie R.R. v. Tompkins, 304 U.S. 64, 58 S.Ct. 817, 82 L.Ed. 1188 (1938) and its progeny.

In Martin v. Johns-Manville Corp., 508 Pa. 154, 494 A.2d 1088, 1096 (1985), the Pennsylvania Supreme Court held that to recover punitive damages, a plaintiff must show, by a preponderance of the evidence, [FN6] that the defendant's conduct met the requirements of Section 908(2) of the Restatement (Second) of Torts:

FN6. Although some courts require a higher standard of proof, the Pennsylvania courts have rejected that approach and require plaintiff to prove entitlement to punitive damages by a preponderance of the evidence only. Martin, supra, 494 A.2d at 1098 n. 14 ("We believe the goal of limiting punitive damage awards in the context of products liability litigation is best served by focusing on the nature of the defendant's conduct instead of increasing the plaintiff's burden of persuasion.")

(2) Punitive damages may be awarded for conduct that is outrageous, because of the defendant's evil motive or his reckless indifference to the rights of others. In assessing punitive damages, the trier of fact can properly consider the character of the defendant's act, the nature and extent of the harm to the plaintiff that the defendant caused or intended to cause and the wealth of the defendant.

The court's holding was stated in a plurality opinion written by Justice Hutchinson. Justice Hutchinson rejected a constructive knowledge (i.e. reasonable man) standard in favor of a standard requiring actual knowledge of the hazard on the part of the defendant. Although a majority of the other justices joined in the result, they did not specifically adopt the actual knowledge standard endorsed by Hutchinson, generating confusion as to the appropriate standard.

In Burke v. Maasen, 904 F.2d 178, 181 (3d Cir.1990), the Third Circuit analyzed in considerable detail the state of Pennsylvania law on punitive damages:

... [the plurality in Martin] held that a jury may award punitive damages only where the evidence shows the defendant knows, or has reason to know, of facts which create a high degree of risk of physical harm to another, and deliberately proceeds to act in conscious disregard of, or indifference to, that risk.... (Citation omitted.) ... [I]t is not sufficient to show that a reasonable person in the defendant's position would have realized or appreciated the high degree of risk from his actions ... (Citation omitted.) ... The Martin plurality opinion rejects Restatement § 500's general definition of 'reckless disregard of safety' as the standard for imposition of punitive damages. *572 That section states, 'In order that an actor's conduct may be reckless, it is not necessary that he himself recognize it as being extremely dangerous.... It is enough that he knows or has reason to know of circumstances which would bring home to the realization of the ordinary reasonable man the highly dangerous character of his conduct.' ... Restatement § 500, comment c. Instead, Martin requires the more culpable mental state of conscious indifference to another's safety as the test for mental state of conscious indifference to another's safety as the test for 'reckless indifference' under Restatement § 908. There must be some evidence that the person actually realized the risk and acted in conscious disregard or indifference to it.... (Citation omitted.) ...

The opinion announcing the judgment of the court in Martin is not clearly the law of Pennsylvania on this issue. Only Justices Hutchinson and Flaherty joined in the reasoning of the plurality opinion.... Thus, a majority of the Supreme Court has not decided whether punitive damages may be awarded only where there is proof of conscious disregard of a known risk, or whether disregard of a risk that would be obvious to a reasonable person would suffice.... [I]n subsequent cases, Pennsylvania's Superior Court has not applied a 'reasonable man' standard, but followed the lead of Justices Hutchinson and Flaherty, adopting and applying the 'conscious disregard' formulation.... (Citations omitted.).... [T]he rule of the opinion announcing the judgment of the court in Martin furthers the purpose of punitive damages, which is to punish and deter 'conduct involving some element of outrage similar to that usually found in crime.' ....In sum, we predict the Pennsylvania Supreme Court would adopt the standard set forth in the Martin plurality opinion were it to confront the issue today.

Burke, supra, 904 F.2d at 181 (Emphasis original). Accord: Villari v. Terminix International, Inc., 663 F.Supp. 727, 734 (E.D.Pa.1987).

The only post-Martin Pennsylvania Supreme Court decision on this issue is SHV Coal, Inc. v. Continental Grain Co., 526 Pa. 489, 493, 587 A.2d 702, 704-05 (1990). There, the Court excerpted the portion of the Hutchinson opinion in Martin, supra, which adopts the actual knowledge standard. SHV Coal, coupled with the Third Circuit's analysis in Burke, supra, leave no doubt that the actual knowledge standard applies to this case. See also: Tunis Brothers Company, Inc. v. Ford Motor Company, 952 F.2d 715, 740 (3d Cir.1991).

[1] Thus, to recover, Sealover must prove that W.R. Grace and U.S. Gypsum were aware, prior to Donald Sealover's exposure, that the exposure of construction workers to asbestos released during the installation of their products was a health hazard and failed to warn of that risk.

In Smith v. Celotex Corp., 387 Pa.Super. 340, 564 A.2d 209, 211-13 (1989), the Pennsylvania Superior Court discussed the quantum of evidence necessary to prove such knowledge. Using Martin as the foundation for its analysis, the court stated:

The evidence deemed insufficient in Martin was testimony by two doctors concerning what the medical profession knew of the risks posed to appliers of finished asbestos products and when they knew it.... Justice Hutchinson ... emphasized that plaintiff had not produced sufficient evidence of the awareness of the defendants of the specific risks associated with application of finished asbestos products, as opposed to risks associated with the manufacture of asbestos products. Justice Hutchinson distinguished those cases where the plaintiffs were employees of manufacturers of asbestos products and produced evidence of the specific knowledge of the defendants as to the risks posed to manufacturing employees such as the plaintiffs long before the defendants took any measures to protect the employees. See, e.g. Neal v. Carey Canadian Mines, Inc., 662 F.Supp. 64, 70-71 (E.D.Pa.1987).

*573 Smith, supra, 564 A.2d at 211 (Emphasis supplied.) Finding such evidence lacking, the Superior Court reversed the jury's award of punitive damages, stating:

[h]ere, the evidence submitted ... did not establish either that the management of appellant knew or had reason to know of facts indicating that appellant's conduct posed a substantial risk of physical harm to an applier of finished products like plaintiff.... There is no [medical] testimony specifically relating to knowledge by the medical profession as to the risks posed by finished asbestos products to those who installed or applied them. We, therefore, conclude that Dr. Sturgis offered no testimony in any way probative of outrageous conduct by appellant vis-a-vis plaintiff.

Smith, supra, 564 A.2d at 211. (Emphasis supplied.) The court dismissed as immaterial evidence of workmen's compensation claims filed against the manufacturer, explaining that:

[t]he existence of those claims alone, with no evidence demonstrating anything relating to how they were ultimately resolved, does not indicate anything regarding appellants knowledge of the risks posed to appliers of asbestos products for numerous reasons. Most importantly, we note that the claimants were manufacturing employees and not appliers. Thus we do not see how the mere fact that these workers' compensation claims were made is relevant to plaintiff's punitive damages claim.

Smith, supra, 564 A.2d at 212 (Emphasis supplied.). See also: Catasaugua Area School

District v. Raymark Industries, Inc., 662 F.Supp. 64, 70-71 (E.D.Pa.1987) (evidence of punitive damages insufficient where plaintiff failed to demonstrate defendant's awareness of risks associated specifically with the installation of finished asbestos products in schools).

In Moran v. G. & W.H. Corson, Inc., 402 Pa.Super. 101, 586 A.2d 416, 422-26 (1991), the outcome was the same. The Pennsylvania Superior Court overturned a verdict assessing punitive damages against Corson, finding insufficient evidence that Corson, an asbestos supplier, was aware of the hazard asbestos posed to construction workers prior to the exposure of plaintiff's husband. There was, the court stated, "no support in the record for the assertion that officials or managerial employees of G. & W.H. Corson were aware in the mid 60's that exposure to asbestos fibers could result in cancer." Plaintiff had attempted to prove such knowledge through: (1) testimony from G. & W.H. Corson Vice President John Evans about general discussions he had, prior to 1969, with business colleagues about the hazards of asbestos; (2) Evans's testimony that he took no action to relay this information to his customers or warn them of the potential danger, but relied instead on the manufacturer, Baldwin Hill, to take such action; (3) Evans's testimony that he had never discussed the issue of asbestos with Baldwin Hill; and (4) articles about the hazards of asbestos published in medical and trade journals circulated in Europe and the United States since the turn-of-the-century. Noting, among other things, the absence of any proof that "anyone at Corson knew or had reason to know of these articles or any medical research studies on the risks involved in the use of insulation materials containing asbestos", the Superior Court found that such evidence did not prove knowledge on the part of Corson that asbestos exposure posed a threat to Moran. Moran, supra, 586 A.2d at 425.

Pennsylvania is not unique in adhering to the "actual knowledge" standard. Missouri follows the same standard and its courts have likewise rejected punitive damage claims against asbestos suppliers and manufacturers in cases in which there was insufficient evidence that the defendant actually knew that even exposure to relatively moderate levels of asbestos posed a serious health risk. In Angotti v. Celotex Corp., 812 S.W.2d 742 (Mo.Ct.App.1991), the Missouri Court of Appeals found insufficient evidence that Celotex actually knew, at the time of plaintiff's exposure, of the hazard asbestos posed to construction workers, stating:

> ....The record here shows that information in regard to the harmful effect of *574 asbestos was still developing, but it does not establish that, at the relevant times ... there was already information available to show that Philip Carey's finished products were actually known to present a health hazard to insulators. In other words, the record does not reflect that scientific knowledge even existed, at the relevant times [from 1951 through 1973] ... to establish legal causation sufficient to submit punitive damages against Celotex for the injuries of William Angotti as a result of his exposure, as an insulator, to Celotex's products. Without even a showing of scientific knowledge sufficient to establish legal causation, Celotex can not be held to have had actual knowledge of the danger to William Angotti on the basis of the record in this case.

Angotti, supra, 812 S.W.2d at 746-47. See also: School District of the City of Independence v. U.S. Gypsum, 750 S.W.2d 442, 446-48 (Mo.Ct.App.1988), (Court found insufficient evidence that U.S. Gypsum had actual knowledge at the time of sale that the ceiling tiles sold for installation in schools would release asbestos fibers if abraded [rubbed against or scraped], thereby posing a health risk to school employees and students).

Evidence proffered by Sealover

Plaintiff's principal witness on Sealover's exposure to defendants' asbestos products was Martin Brehm. Brehm was Sealover's brother-in-law and, like Sealover, worked as a carpenter in the Harrisburg, Pennsylvania area. Brehm and Sealover worked on the same construction projects on several occasions during the late 1950's and early 1960's. It was during that time that Sealover was exposed to defendants' asbestos products. Brehm testified that Sealover was exposed to (1) Zonolite, a W.R. Grace fireproofing spray, [FN7] during construction of the Cumberland County Courthouse in Carlisle, Pennsylvania in 1960-61; [FN8] (2) Red Top plaster, a U.S. Gypsum product, and to Zonolite, during construction of the Archives Building in Harrisburg, Pennsylvania in 1961-62; [FN9] and (3) Red Top plaster, during construction of the William

Penn Museum [FN10] in Harrisburg, Pennsylvania in 1962-61. [FN11] As a carpenter, Donald Sealover was not involved in the actual installation of asbestos products, but worked near locations where such products were used.

FN7. W.R. Grace acquired the assets of the Zonolite Company in April, 1963 and argues that punitive damages should not be assessed against it because it was not a manufacturer of asbestos products prior to 1963. Plaintiff argues W.R. Grace is liable as a successor corporation to Zonolite. Our ruling on the sufficiency of the evidence disposes of plaintiff's claim and eliminates the need to consider this issue.

FN8. N.T., July 8, 1991, pp. 23-31 and 64 (Brehm, M.).

FN9. N.T., July 8, 1991, pp. 32-35, 38-39 (Brehm, M.).

FN10. N.T., July 8, 1991, pp. 36-41, (Brehm, M.).

FN11. Brehm testified that Sealover was also exposed to Gold Bond products manufactured by National Gypsum on the three construction projects: the Cumberland County Courthouse, the Archives Building in Harrisburg, and the William Penn Museum. Plaintiff is not seeking punitive damages against National Gypsum.

To recover on her punitive damage claim, the plaintiff must prove that W.R. Grace and U.S. Gypsum had actual knowledge, before 1960 and 1961 respectively, that the installation of their products presented a serious health risk to construction bystanders and failed to warn of the danger.

Plaintiff bases her case against U.S. Gypsum on information derived from two sources: [FN12] (1) experiments performed on animals at Lake Saranac laboratory in New York during the 1930's by Dr. Leroy Gardner and the reports generated by those experiments (the "Lake Saranac" evidence); and (2) a suit filed by a bookkeeper formerly employed in one of its plants who alleged that he had contracted asbestosis as a result of working in an asbestos plant. [FN13]

FN12. We assume, without deciding, that for purposes of ruling on defendants' motions, that all evidence which plaintiff proffers would be admissible at trial.

FN13. The bookkeeper worked at an asbestos factory owned by the National Asbestos Manufacturing Co., and the suit was filed against that company. U.S. Gypsum plant acquired the factory in 1936.

*575 Plaintiff bases her case against W.R. Grace on the Lake Saranac evidence as well as on other information allegedly available to it through its acquisition of two companies in the 1950's and 1960's. W.R. Grace did not become involved in manufacturing asbestos-containing products until December, 1954 when it acquired the Dewey and Almy Chemical Company ("Dewey and Almy"). [FN14] Dewey and Almy had been involved in manufacturing products which incorporated asbestos since the 1930's when its acquired Multibestos, a company which manufactured brake linings. During the 1930's, Multibestos plant employees exhibited symptoms of asbestosis and their conditions and symptoms were reported in two articles published in medical journals.

FN14. Because we find the evidence proffered by plaintiff legally insufficient, we need not address W.R. Grace's contention that it cannot be held liable for punitive damages as a successor corporation to Zonolite, the corporation which manufactured the asbestos products to which Sealover was exposed.

In April of 1963, W.R. Grace acquired a second company involved with asbestos products, the Zonolite Company ("Zonolite"). Zonolite operated a vermiculite mine in Libby, Montana, a vermiculite mine in South Carolina, and several processing plants at which the ores mined at Libby were used to manufacture fireproof plaster, among other products.

The vermiculite ore mined at Libby was contaminated with asbestos, and Zonolite employees' had exhibited problems stemming from their exposure to asbestos during mining and processing operations. Zonolite was aware of such problems since at least the early 1950's, when it implemented regulations requiring Libby employees to wear respirators. Despite precautionary measures, such as the use of respirators, x-rays of Libby employees taken in the late 1950's revealed a high incidence of abnormal lung conditions. The conditions observed included pleural thickening, interstitial fibrosis and pneumonocosis or possible asbestosis. Troubling dust conditions in the Libby mine were noted and reported by public health officials. For example, a report generated during a 1956 inspection of the Libby mine by the Montana Board of Health found "the asbestos dust in the air" to be "of considerable toxicity."

Saranac Lake experiments

[2] The Saranac Lake experiments are the cornerstone of plaintiff's case against U.S. Gypsum. The experiments were performed in the late 1930's and the early 1940's by Dr. Leroy Gardner. Dr. Gardner exposed to mice, rabbits, cats and other animals to asbestos dust and other types of dust and documented the effect on their lungs. His initial intent was to study whether the animals exposed to asbestos developed asbestosis, the conditions under which it developed, etc. He was surprised when the results in mice revealed a high incidence of lung tumors which he believed to be cancerous. The population of mice exposed to the asbestos dust was small, numbering only eleven.

The significance of certain aspects of Dr. Gardner's experiments is vigorously disputed, but one point is clear. The experiments did not establish a definite causal relationship between asbestos exposure at levels comparable to those experienced by construction bystanders and cancer. Dr. Gardner found only a possible relationship between exposure to massive amounts of asbestos and malignant tumors of the lung in white mice. He himself stated that the implications were unclear and that the matter required further study before any clear conclusions could be drawn.

Further, possible flaws in the methodology were identified by Dr. Gardner and by others who later reviewed the results. Among the flaws was the fact that the strain of white mice studied was thought to be particularly susceptible to lung tumors. In February of 1943, Dr. Gardner released an "Outline of Proposed Monograph on Asbestosis", in which he characterized the significance of his findings as follows:

> These observations are suggestive but not conclusive evidence of a cancer stimulating action by asbestos dust. They are open to several criticisms. The strain of mice was not the same in the *576 asbestos experiment as in many of the other cited: apparently, the former were unusually susceptible. Not enough animals survived in the dust for longer than the 15 months apparently necessary to produce many tumors. There were no unexposed controls of the same strain and age, and no similar controls exposed to other dusts. It is hoped that this experiment can be repeated under properly controlled conditions to determine whether asbestos actually favors cancer of the lung.

(Record Document No. 245, filed December 11, 1991, p. 19 referencing plaintiff's exhibit USG-152 at 126-66-(7) through 126-66-(8) (emphasis supplied)). See generally: Angotti, supra, 812 S.W.2d at 746-49 (Responding to the alleged significance of a prediction by a physician working for the company that someday " 'even the minor use of asbestos may ... be considered ... dangerous to the general populace' ", the court stated: "A forecast of what may be determined in the future does not establish present knowledge that a health hazard existed for those working as insulators.")

In a letter and report to Johns-Manville dated February 24, 1943, Dr. Gardner again described the results as inconclusive and noted the need for further study on the question of a possible link to cancer:

> The question of cancer susceptibility now seems more significant than I previously imagined. I believe I can obtain support for repeating it from the cancer research group. As it will take two or three years to complete such a study, I believe it would be better to be omitted from the present report. If it should become possible to make this study, I hope I any [sic] count on some of your members to supply me with enough pure, long fiber asbestos for the purpose ...

(Record Document No. 245, filed December 11, 1991, p. 23, referencing plaintiff's exhibit USG-152 at 126-66-(7) through 126-66-(8)).

Plaintiff argues that the results of the Saranac Lake research were more definite than this and, as support for that assertion, points to a statement in a letter dated August 13, 1936 from W.L. Keady, a U.S. Gypsum executive. Keady summarizes the contents of a report by Dr. Gardner on conditions at a Jersey City plant which U.S. Gypsum had purchased from another asbestos manufacturer. Dr. Keady states at one point that "there was no safe level of exposure to asbestos." Plaintiff argues that, by this, he meant that exposure to any amount of asbestos, however minute, posed a hazard. Plaintiff's interpretation is inconsistent with the rest of the passage. The entire passage reads:

> Dr. Gardner points out that various authorities have tentatively suggested a concentration of five million particles of free silica per cubic foot of air as limits above which a silicosis hazard might exist, and this value has met with some recognition. There is no standard for safe concentration of asbestos dust comparable to the value just given for free silica dust.

(Record Document No. 245, filed December 11, 1991, Exhibit "N").

We are not the first court to consider the import of the Keady letter. The Court of Appeals for the District of Columbia Circuit considered the letter in Wesley Theological Seminary v. U.S. Gypsum Co., 876 F.2d 119, 123 (D.C.Cir.1989), and rejected plaintiff's proposed interpretation. The court explained:

> Dr. Gardner concluded that a serious asbestos dust hazard existed in the plant. He discussed other studies which proposed a maximum safe level of 'five million particles of free silica per cubic foot of air.' He distinguished silica duct from asbestos dust, however, and concluded that this standard was not necessarily applicable to asbestos dust.
>
> Wesley seeks to treat as a smoking gun the letter's observation that '[t]here is no standard for safe concentration of asbestos dust comparable to the value just given for free silica dust.' In context, however, this is simply a statement that, due to the absence of enough research, no one could yet identify the safe level for occupational exposure. Similarly, the letter's discussion of an *577 asbestos dust study which found a 10% asbestosis rate among workers exposed to five million particles per cubic foot of dust was of remote relevance at best. While it suggests that U.S. Gypsum was on notice that the safe level for occupational exposure to asbestos dust on a full-time basis was less than five million particles per cubic foot of air, it does almost nothing to establish Wesley's central thesis--that the defendant was aware that asbestos-containing ceiling tiles, once installed, created hazardous concentrations.

Wesley Theological, supra, 876 F.2d at 123 (Emphasis supplied.)

We are aware of the controversy concerning the alleged attempts of the Saranac study sponsors, a group of asbestos manufacturers which included U.S. Gypsum, to conceal the suspected link to cancer revealed by Dr. Gardner's study. It is not clear from the documents we have reviewed that U.S. Gypsum knowingly participated in any conspiracy to conceal the results by pressuring Dr. Gardner or his successors to omit any mention of cancer from the published reports of the study. This distinguishes its position from that of other asbestos manufacturers, such as Johns-Manville, with respect to which there is clear direct evidence of knowing participation in efforts to block publication of results linking asbestos-exposure in animals to cancer. Moreover, the Pennsylvania courts have found even such knowing participation an insufficient basis for imposing punitive damages. See: Martin, supra, and Angotti, supra, 812 S.W.2d at 746-49 (Efforts to keep a medical advisor's "observations and evaluation confidential does not show actual knowledge of a health hazard to an individual working as an insulator.") Cf. Neal v. Carey Canadian Mines, Ltd., 548 F.Supp. 357, 365 (E.D.Pa.1982).

Plaintiff has not pointed to any evidence that U.S. Gypsum was directly or knowingly involved in attempts to conceal Dr. Gardner's finding of a suspected cancer link or to curtail publication of his findings. The Lake Saranac experiments were sponsored by a group of asbestos manufacturers which included U.S. Gypsum. [FN15] Dr. Gardner was in contact with officers of Johns-Manville and Raybestos-Manhattan about his experiments, and such evidence, as well as attempts by the principals of those companies to suppress the study results, has been the basis for an award of punitive damages against them in a number of cases. Plaintiff has not, however, directed our attention to any evidence similarly linking U.S. Gypsum to efforts to conceal the results or to pressure Dr. Gardner or his successors to limit publication of their findings. Without such direct evidence, U.S. Gypsum cannot be tarred with the same brush as Raybestos or Johns-Manville.

FN15. W.R. Grace was not one of the sponsors. At the time the experiments were conducted, it was not involved in the mining or processing of asbestos. It did not acquire asbestos-related industries until the 1950's.

Further, without the underpinnings of evidence establishing actual knowledge of the hazard asbestos posed to those who even indirectly came into contact with their products, plaintiff's evidence of alleged attempts to conceal the Saranac Lake experiments, as well as its alleged failure to use alternatives to asbestos has no probative value. Such evidence alone does not establish culpable conduct.

U.S. Gypsum employee

The other evidence on which plaintiff relies to establish actual knowledge on the part of U.S. Gypsum is evidence that in the 1930's a bookkeeper employed at one of its manufacturing plants in Jersey City, New Jersey contracted asbestosis as a result of his employment. Plaintiff argues that this proves U.S. Gypsum knew that exposure to even relatively moderate levels of asbestos posed a significant health hazard. Such evidence does not equate to knowledge that construction bystanders were at risk. As the court pointed out in Angotti, supra, asbestos-plant workers were exposed to far greater quantities of asbestos dust than the average construction worker, because their work environments differed. The manufacturing processes generated enormous *578 quantities of dust. Day-after-day, each worker labored in the same location and was exposed to the same, extremely dusty conditions. Ventilation was ofttimes non-existent during the early manufacturing days, and the worker had no reprieve from the repetitive accumulation of asbestos dust. Knowledge that workers laboring under such conditions suffered from a cumulative exposure to asbestos cannot be equated with knowledge that construction workers, presumably laboring under less disagreeable conditions and less dusty conditions [FN16] would suffer the same ill-effects to the same degree. In Angotti, supra, the court commented:

FN16. See, e.g., Record Document No. 245, filed December 11, 1991, referencing plaintiff's exhibit USG-16 at p. 2.

> ... While there was evidence that sawing of asbestos products by insulators produced dust in varying degrees, depending on the type of material and the size of the cut, there was no evidence to show that the exposure of the plant employees with asbestosis was to the same degree as the exposure of an insulator. There are many products and environmental conditions that are known to create a health hazard to individuals exposed to a given degree which do not create a hazard to one exposed to a lesser degree....
>
> .... [T]he fact that workers at the Philip Carey plant exposed to high volumes of asbestos dust within the manufacturing process contracted asbestosis does not show actual knowledge by Philip Carey that a health hazard existed from the exposure of an insulator, who did not work in the manufacturing process and within the confines of its plant, but who worked with its finished products. The evidence did not establish that Philip Carey had actual knowledge that insulators were exposed to a dangerous level of asbestos fibers by use of their products or that Philip Carey was put on notice and consciously chose to ignore information that showed its products were actually known to be harmful to insulators.

Angotti, supra, 812 S.W.2d at 747-748 (Emphasis supplied.). See also: Martin, supra, 494 A.2d at 1099 n. 15 (noting the distinction between articles and research studying the risks associated with mining and manufacturing raw asbestos and the risks associated with installing or applying asbestos-containing products), and Smith, supra, 564 A.2d at 212. Clearly, then, evidence that U.S. Gypsum was on notice that a bookkeeper in one of its manufacturing plants contracted asbestosis does not equate to knowledge that construction bystanders, such as Donald Sealover, were equally at risk.

Libby mine workers

Of all of the evidence which plaintiff proffers against W.R. Grace, that which brings her closest to proving actual knowledge of the hazard asbestos posed to construction workers is proof that the workers who experienced problems were, purportedly, exposed to only relatively small amounts of asbestos contained in the vermiculite. Plaintiff argues that this served as notice that even casual or indirect exposure to relatively small amounts of asbestos can cause serious lung problems. She contends that this also distinguishes this case from others decided by the Pennsylvania courts in which the courts refused to equate longstanding knowledge of lung problems in plant workers with knowledge that asbestos would have an equally devastating effect on construction workers exposed to lesser quantities and lower concentrations. [FN17] See, e.g., Neal v. Carey Canadian Mines and Martin, supra. The conclusion which plaintiff seeks to draw from the problems experienced by the Libby mine and plant workers does not follow. Knowledge of their health problems does not equate under Pennsylvania law to actual knowledge that construction bystanders would suffer like problems from exposure on construction sites to asbestos-containing products. It stands to reason that exposure during the manufacturing process and during mining, when asbestos-containing *579 raw materials were being crushed, sorted, and otherwise manipulated, would pose a greater risk of more extensive exposure than would the installation of the manufactured product. See, e.g. Angotti, supra, 812 S.W.2d at 746-49 ("[A]rticles from medical literature relating to the 'hazards of asbestos exposure in industrial employment, and to the surrounding population.' .... and warnings by a medical advisor of 'possible liability to persons other than employees' does not establish actual knowledge and it does not establish that *information was available to show that* ... [defendant's] products were actually known to constitute a health hazard to insulators.") Further, the reports upon which plaintiff relies indicate that workers and miners were exposed to a large volume of dust. For example, a 1956 report from the Montana Board of Health states: "dust vibrates almost continuously off the rafters which have become loaded and are continuously loaded with dust generating from many sources." (Record Document No. 248, filed December 11, 1991 at p. 22, referencing W.R. Grace Exhibit 2). A letter written in 1961 by a Zonolite official expresses similar concerns, stating: "There is a relatively large amount of asbestos dust present in our mill and this is difficult to control." (Record Document No. 248, filed December 11, 1991 at p. 23). Thus, even though the dust workers were exposed to may have contained only trace amounts of asbestos, the fact that it was generated continuously and allowed to accumulate day after day distinguishes their situation from that of construction workers, where one would reasonably expect the volume of dust to be less. Once installation was completed installers move to a new location, so that one would assume that there is not the same opportunity for dust to accumulate day after day in the same location and endanger the health of bystanders. Cf. Wammock v. Celotex Corp., 835 F.2d 818, 822 (11th Cir.1988) (punitive damages award against National Gypsum upheld based, inter alia on evidence that National Gypsum was aware of hazards asbestos exposure posed to miners, plant workers and others exposed to high concentrations of the dust and could be found to be "consciously indifferent" to the threat posed to construction workers by failing to act on that information to protect such workers from exposure).

FN17. (See: Record Document No. 248, filed December 11, 1991 at p. 17. Emphasis supplied.)

Post-1961-1962 evidence

[3] Plaintiff's reliance on post-1961-1962 evidence is misplaced. Evidence that W.R. Grace and U.S. Gypsum learned of the hazards of asbestos sometime after Sealover's exposure is in no way probative of what they actually knew prior to Sealover's exposure. Although such evidence is relevant in some cases, depending upon the claims raised, it is not relevant to the issues before this court. Cf. Rowan County Board of Education v. U.S. Gypsum, 103 N.C.App. 288, 407 S.E.2d 860 (1991) (post-exposure evidence relevant to refute defendant's assertions that asbestos ceiling tiles it marketed were suitable for installation in schools) and Eagle-Picher Industries, Inc. v. Balbos, 84 Md.App. 10, 578 A.2d 228, 249-50 (1990) (post-exposure evidence relevant to prove a duty to alert plaintiff after exposure and avert possibility of him worsening his condition by continuing to smoke cigarettes and/or to prompt the persons exposed to seek treatment earlier and thereby perhaps prolong their lives).

Cases cited by plaintiff

Plaintiff urges the court to follow Ivins v. Celotex Corporation, 115 F.R.D. 159 (E.D.Pa.1986), in which Judge Newcomer found the Saranac documents sufficient to support a claim for punitive damages against Owens-Illinois and Owens Corning Fiberglas. Ivins is inapposite, because the court did not follow what we now know to be the Pennsylvania standard for imposing punitive damages. Although the court stated that liability had been established under both Martin and the line of cases which preceded it (cases which did not require the plaintiff to prove actual knowledge), its holding was framed in terms of what the defendants should have or could have inferred from the Saranac findings, not in terms of what they actually knew *580 about the effect of asbestos on construction workers. The court stated:

> [T]he Saranac documents could indicate that Owens-Illinois and OCF had knowledge of the danger sometime between 1948 and 1958. Second ... testimony with respect to OCF's familiarity with asbestos and the contemplated publication of the 'asbestos file' may support the inference that OCF was aware of the hazards of asbestos in mining and factory settings. Such evidence could also show that OCF knew or should have known of such facts as would cause a reasonable person to realize the existence of a serious danger. Since plaintiffs' proofs may support the inference that defendant OCF--long before it took ameliorative action--(1) knew of the risks associated with asbestos or (2) knew or should have known of facts which would cause a reasonable person to realize that exposure to asbestos caused significant health risks, it would be inappropriate to dismiss plaintiff's claim for punitive damages as a matter of law.

Ivins, supra, 115 F.R.D. at 166.

City of Greenville v. W.R. Grace & Co., 827 F.2d 975, 981-83 (4th Cir.1987) is distinguishable on its facts. The City of Greenville, South Carolina sued W.R. Grace to recover the cost of removing a fireproofing product called Monokote from the Greenville City Hall. The city was awarded compensatory and punitive damages on its negligence and breach of warranty claims. On appeal, the award was upheld by the Fourth Circuit Court of Appeals. Unlike the case before us, W.R. Grace sold the asbestos-containing Monokote to Greenville in 1971 to 1972, at a time when it was fully aware of the hazards associated with asbestos products, knew that the asbestos-containing Monokote was not suitable for the purposes for which it was sold because of its tendency not to bond to the surfaces to which it was applied, and, acting in response to well-publicized concerns about the health risks associated with asbestos exposure, had developed and was marketing commercially a non-asbestos Monokote product.

Repeated punitive damage awards

Defendants raise several policy reasons for not permitting punitive damages in this case, which we will address briefly. Defendants cite: (1) the compensatory and punitive damage judgments assessed against them in prior cases; (2) pending asbestos claims; [FN18] (3) the dire financial straits of other asbestos manufacturers as reasons for disallowing punitive damages in this case; and the fact that plaintiff has been fully compensated for her injuries. They argue under the circumstances, subjecting them to punitive damages would serve no purpose and "unreasonably endanger future litigants' chances to recovery compensatory damages" by further draining defendants' limited financial resources. If their coffers are further depleted by large punitive damage awards in cases such as this, they argue, the injuries of future claims will go uncompensated. Other injured parties, having an equal right to receive full compensation for their losses, will receive nothing. By allowing plaintiffs to proceed to trial on the punitive damage issue, defendants argue, the court would be sanctioning a practice contrary to the interests of other injured parties.

FN18. Untold numbers of asbestos personal injury actions have already been litigated to conclusion and statistics indicate that the stream of litigation is far from waning. Court records indicate that "presently in the federal system nearly two new asbestos actions are being filed for every action terminated, and that at the current rate, there will be more than 48,000 actions pending in the federal courts at the end of three years." In re: Asbestos Products Liability Litigation (No. VI), 771 F.Supp. 415, 418 (J.P.M.L.1991) (citing Report of the Judicial Conference Ad Hoc Committee on Asbestos Litigation, 8 (1991)).

The Third Circuit Court of Appeals has recognized the legitimacy of the concerns which defendants raise. In In Re School Asbestos Litigation, 789 F.2d 996, 1003-04 (3d Cir.1986), the court commented on the inappropriateness of punitive damages in mass tort litigation, stating:

> In the era when most tort suits were 'one-against-one' contests, a single act triggered a single punishment. The increasingly *581 prevalent mass tort situation, however, exposes a defendant to repetitious punishment for the same culpable conduct. The parallels between the assessment of exemplary damages and a fine levied in criminal

courts have led to suggestions that the concepts of double jeopardy and excessive punishment should be invoked in the civil field as well.... (Citations omitted.)....

Similar concerns have prompted highly respected judges to comment on the possibility that the due process clause might contain some constitutional limitation on the amount of exemplary damages to be awarded. 'Unlimited multiple punishment for the same act determined in a succession of individual lawsuits and bearing no relation to the defendants' culpability or the actual injuries suffered by victims, would violate the sense of "fundamental fairness" that is essential to constitutional due process.' In re Federal Skywalk Cases, 680 F.2d 1175, 1188 (8th Cir.1982) (Heaney, J. dissenting). 'There must, therefore, be some limit, either as a matter of policy or as a matter of due process, to the amount of times defendants may be punished for a single transaction.' In re 'Agent Orange' Product Liability Litigation, 100 F.R.D. 718, 728 (1983). In addition to a possible federal constitutional limitation, state substantive tort law could place restraints on repetitive punitive damage awards....

....

Thus powerful arguments have been made that, as a matter of constitutional law or of substantive tort law, the courts shoulder some responsibility for preventing repeated awards of punitive damages for the same acts or series of acts.

....

... [T]he tens of thousands of personal injury suits in which punitive damage verdicts have been and continue to be assessed ... are satisfied from the same pool of assets to which the school districts now look. If a limit is ever placed on the total punitive damages to be imposed on the asbestos defendants, then that limit probably would apply to all claims whether they arise in property damage or personal injury suits.

....

... [D]espite strong arguments favoring limitations on punitive damages and the increasing number of bankruptcies, the 'business as usual' attitude still prevails.... (Citations omitted.)

School Asbestos Litigation, supra, 789 F.2d at 1003-05 and 1007. Although the Third Circuit recognized the need for controls, it has not thus far adopted a rule limiting the number of punitive damage recoveries against a single defendant for a single product or course of action. The United States Supreme Court has also acknowledged that there are Fourteenth Amendment due process constraints on punitive damage awards. Pacific Mutual Life Insurance Co. v. Haslip, 499 U.S. 1, 111 S.Ct. 1032, 113 L.Ed.2d 1 (1991).

Defendants further argue that allowing plaintiff to proceed with her punitive damage claim would be inconsistent with the order of the Judicial Panel on Multi-District Litigation (the "Panel") dated July 30, 1991 consolidating the pre-trial proceedings of all federal personal injury and wrongful death asbestos cases. In its decision to consolidate, the Panel made reference to concerns along these lines expressed in the March 1991 report of the Judicial Conference Ad Hoc Committee on Asbestos Litigation:

The ... five years [since 1985] have seen ... increased filings, larger backlogs, higher costs, more bankruptcies and poorer prospects that judgments--if ever obtained--can be collected.

....

The most objectionable aspects of asbestos litigation can be briefly summarized ... exhaustion of assets threatens and distorts the process; and future claimants may lose altogether.

In re: Asbestos Products Liability Litigation (No. VI), 771 F.Supp. 415, 418-19 (J.P.M.L.1991) (quoting Report of the Judicial Conference Ad Hoc Committee on Asbestos Litigation, 1-3, 9 (1991)).

[4] *582 Although the defendants raise legitimate concerns, this court is not the proper forum for redress. [FN19] If restrictions are to be imposed on the number of punitive damage awards which may be assessed against a single defendant for the same product or course of action, they must be established by the Pennsylvania legislature or "a higher judicial authority", but not by this court. See: Glasscock v. Armstrong Cork Co., 946 F.2d 1085, 1096-97 (5th Cir.1991) ("If there is to be further control of repeated punitive damage awards, the solution must be found through legislation."); King v. Armstrong World Industries, Inc., 906 F.2d 1022, 1031-33 (5th Cir.1990), cert. denied, 500 U.S. 942, 111 S.Ct. 2236, 114 L.Ed.2d 478 (1991); McCleary v. Armstrong World Industries, Inc., 913 F.2d 257, 260-61 (5th Cir.1990). Cf. Juzwin v. Amtorg Trading Corp., 718 F.Supp. 1233, 1235 (D.N.J.1989) ("[T]his court does not have the power or the authority to prohibit subsequent [punitive damage] awards in other courts

notwithstanding its opinion that such subsequent awards violate the due process rights of the defendants against whom such verdicts are entered. Until there is uniformity either through Supreme Court decision or national legislation, this court is powerless to fashion a remedy which will protect the due process rights of this defendant or other defendants similarly situated.") and Gogol v. Johns-Manville Sales Corp., 595 F.Supp. 971, 975-76 (D.N.J.1984).

FN19. Commentators have recognized the legitimacy of these concerns, but have also urged a legislative solution. See: Robert E. Scott, Jr., Punitive Damages: Constitutionality, Elements and Defense--The Defense Perspective, 387 PLI 425 (March 1, 1990). Commentators have urged the need for a restraint on the number of punitive damage awards that may be imposed on any one company for injuries arising from a single product or line of products. See: Jack B. Weinstein and Eileen B. Hershenov, The Effect of Equity on Mass Tort Law, 1991 U.Ill.L.Rev. 269 (1991).

ORDER

For the reasons stated in the accompanying memorandum, IT IS ORDERED THAT:

1. The motions [FN1] (Record Document No. 234, filed October 29, 1991 and Record Document Nos. 245 and 246, filed December 11, 1991) by U.S. Gypsum to bar plaintiffs from proceeding with their punitive damage claim and to exclude evidence of punitive damages are granted.

FN1. Also outstanding are plaintiff's motion for delay damages; defendants' motions for a new trial or j.n.o.v.; plaintiff's motion to sever the case against GAF; and defendants' motion to treat Johns-Manville as a settled defendant and mold the verdict. These motions will be addressed in a separate memorandum and order.

2. The motion (Record Document No. 238, filed November 15, 1991) by W.R. Grace for summary judgment on plaintiff's punitive damage claim is granted.

3. The parties having agreed that the court should treat the above motions filed by W.R. Grace and U.S. Gypsum as motions for summary judgment on plaintiff's punitive damage claim, summary judgment is granted in defendants' favor on that claim.

4. The Clerk is directed to defer entry of final judgment until further order of court.

END OF DOCUMENT

Exhibit B

SCHOOL DISTRICT OF the CITY OF INDEPENDENCE, MISSOURI, NO. 30, Appellant,
v.
U.S. GYPSUM COMPANY, Respondent.

No. WD 39135.

Missouri Court of Appeals,
Western District.

March 1, 1988.

As Modified May 3, 1988.
Motion for Rehearing and/or Transfer to Supreme Court Denied May 3, 1988.
Application to Transfer Denied June 14, 1988.

School district sued manufacturer of ceiling plaster containing asbestos for cost of removing and replacing ceiling plaster and asbestos-contaminated furnishings. After a jury verdict in favor of school district, the Circuit Court, Jackson County, H. Michael Coburn, J., entered judgment in favor of school district on claim for actual damages, but granted manufacturer's motion for judgment notwithstanding the verdict as to punitive damage award. Both parties appealed. The Court of Appeals, Covington, J., held that: (1) school district could not recover punitive damages from manufacturer when no evidence was produced to show that manufacturer was aware of ceiling material's propensity to release asbestos fibers at time of installation; (2) trial court properly admitted evidence pertaining to school custodian's exposure to asbestos-containing products and physical condition; (3) jury's verdict in favor of school district on actual damages claim was not tainted by evidence admitted on punitive damages claim which was later dismissed by judge; (4) trial court properly admitted documents and expert testimony as to hazards of other asbestos-containing products and hazards of asbestos in general; and (5) school district could maintain action in tort for cost of replacing defective product and personal property contaminated by asbestos.

Affirmed.

[1] JUDGMENT ⟹ 199(3.9)
228k199(3.9)
A motion for judgment n.o.v. represents same question as motion for directed verdict at close of all evidence: whether plaintiff made a submissible case; defendant's motion for judgment n.o.v. is properly granted if motion identifies one or more elements of plaintiff's case that is not supported by evidence.

[2] DAMAGES ⟹ 91(1)
115k91(1)
School district was not entitled to award of punitive damages against manufacturer of ceiling material containing asbestos, as school district produced no evidence that at time manufacturer sold ceiling material to school district, manufacturer had actual knowledge of product's propensity to release asbestos fibers into atmosphere.

[3] APPEAL AND ERROR ⟹ 1056.1(1)
30k1056.1(1)
Refusal to admit evidence does not constitute reversible error unless admission of evidence would have changed result reached.

[4] APPEAL AND ERROR ⟹ 1056.1(7)
30k1056.1(7)
In products liability action brought by school district against manufacturer of ceiling material containing asbestos, exclusion of internal correspondence of manufacturer concerning employee who had allegedly contracted silicosis or asbestosis was not reversible error insofar as school district's claim for punitive damages was concerned; excluded documents related only to manufacturer's general knowledge of hazards of asbestos exposure, not to manufacturer's knowledge of ceiling material's propensity to release asbestos fibers into atmosphere which was necessary to prove punitive damages claim.

[5] PRODUCTS LIABILITY ⟹ 81.1
313Ak81.1
Formerly 313Ak81
Evidence concerning school custodian's disabling respiratory ailments, which were allegedly caused or aggravated by exposure to asbestos-containing products, was admissible in school district's products liability action against manufacturer of ceiling material containing asbestos; medical testimony confirmed that custodian's lung condition was aggravated or caused by exposure to asbestos

dust during period of time when custodian worked in schools containing ceiling material.

[6] APPEAL AND ERROR ⇐ 1062.1
30k1062.1
Trial court properly determined that improper submission of punitive damages issue to jury had not tainted underlying verdict rendered in favor of school district on actual damages claim in its products liability suit against manufacturer of asbestos ceiling material; amount of actual damages awarded by jury was less than school district sought.

[7] EVIDENCE ⇐ 519
157k519
In products liability action brought by school district against manufacturer of asbestos ceiling material, trial court properly admitted documents and expert testimony pertaining to hazards of other asbestos-containing products and of hazards of asbestos in general; certain of evidence was relevant to demonstrate feasibility of warning concerning dangers of asbestos, and remaining evidence was relevant to show manufacturer's knowledge of asbestos health hazards.

[7] PRODUCTS LIABILITY ⇐ 81.1
313Ak81.1
Formerly 313Ak81
In products liability action brought by school district against manufacturer of asbestos ceiling material, trial court properly admitted documents and expert testimony pertaining to hazards of other asbestos-containing products and of hazards of asbestos in general; certain of evidence was relevant to demonstrate feasibility of warning concerning dangers of asbestos, and remaining evidence was relevant to show manufacturer's knowledge of asbestos health hazards.

[8] EVIDENCE ⇐ 519
157k519
In products liability action brought by school district against manufacturer of asbestos ceiling material, expert witness was properly permitted to testify as to his opinion that friable asbestos-containing ceiling materials are unreasonably dangerous; jury was not likely to be conversant with dangers of friable asbestos-containing ceiling materials, and since issue of unreasonable danger was to be left to jury without further definition, opinion of expert was likely to aid in jury's understanding.

[9] TRIAL ⇐ 45(2)
388k45(2)
In order to present and preserve an offer of proof, proper procedure is to propound questions to witness who is present and who has taken stand; although narrative offer of proof may occasionally be found to be adequate, it must be presented with certainty and detail sufficient to demonstrate its quality as relevant, material and probative evidence.

[9] TRIAL ⇐ 45(3)
388k45(3)
In order to present and preserve an offer of proof, proper procedure is to propound questions to witness who is present and who has taken stand; although narrative offer of proof may occasionally be found to be adequate, it must be presented with certainty and detail sufficient to demonstrate its quality as relevant, material and probative evidence.

[10] APPEAL AND ERROR ⇐ 205
30k205
In products liability action brought by school district against manufacturer of asbestos ceiling material, manufacturer did not preserve for appellate review issue of exclusion of "comparative risk assessment" testimony by trial court; manufacturer made conclusory narrative offer of proof as to testimony to be given by expert.

[11] PRODUCTS LIABILITY ⇐ 83
313Ak83
In school district's products liability action against manufacturer of ceiling material containing asbestos, evidence was sufficient to support finding in that ceiling material was unreasonably dangerous; school district was not required to quantify level or threshold at which exposure to asbestos in ceiling material actually became health hazard, as school district was not seeking damages for future injuries, but was seeking damages for present injury to property incurred as result of replacement of ceiling material and other contaminated property.

[12] PRODUCTS LIABILITY ⇐ 17.1
313Ak17.1
Formerly 313Ak17
School district was entitled to bring action against manufacturer in tort for cost of replacing asbestos ceiling product and other items of personal property contaminated by asbestos-laden ceiling material.

*444 Humphrey, Farrington & McClain, P.C., Norman Humphrey, Jr., Kenneth B. McClain, Steven P. Callahan, Independence, for appellant.

Deacy & Deacy, Spencer J. Brown, Kansas City, Morgan, Lewis & Bockius, James D. Pagliaro, Amelia C. Benton, Philadelphia, Pa., for respondent.

Before PRITCHARD, J., Presiding, and GAITAN and COVINGTON, JJ.

COVINGTON, Judge.

This case presents cross appeals from an action for damages based on strict products liability. Plaintiff, the School District of the City of Independence, Missouri, No. 30 (School District), sought recovery for injury to property arising out of the use of Audicote, a ceiling plaster containing asbestos, in seven of its schools. Plaintiff brought suit against defendant United States Gypsum Company (USG), the manufacturer of Audicote, to recover the costs of removing Audicote and certain asbestos-contaminated furnishings from the seven school buildings. Plaintiff alleged that at the time the Audicote was sold and installed by defendant in plaintiff's school buildings, the Audicote was in a defective condition and unreasonably dangerous. The sole defect alleged was that Audicote released asbestos into the atmosphere of the buildings, contaminated the buildings and furnishings, and thereby exposed occupants of the buildings to a continuing health hazard. The School District also alleged strict liability for failure to warn of the danger.

In addition to the strict liability claims for actual damages, the School District sought punitive damages on the theory that USG knew of the defect and danger of Audicote when it sold the product to plaintiff, and that USG thereby showed complete *445 indifference to, or conscious disregard for, the safety of others.

The jury awarded the School District $650,000.00 in actual damages ($61,000.00 less than requested) and $400,000.00 in punitive damages. The trial court granted defendant's motion for judgment notwithstanding the verdict as to the punitive damage award, but sustained the award of actual damages. The School District appeals from the judgment n.o.v., seeking reinstatement of the jury's punitive award. USG cross-appeals from the adverse judgment. Affirmed.

Asbestos is the generic name for a class of naturally-occurring fibrous minerals. There are four major varieties of asbestos: chrysotile, crocidolite, tremolite, and anthophyllite. Each type of asbestos has unique physical properties. Asbestos has been commonly used as a component of various building materials such as insulation, fireproofing, and acoustical ceiling tiles and plasters. Prior to 1972, USG manufactured an acoustical ceiling plaster, Audicote, which contained 10 to 12 percent chrysotile asbestos and 3 to 5 percent tremolite or anthophyllite asbestos. Between the years 1957-1969, USG sold Audicote to the School District for installation as a ceiling material in seven schools being constructed by the School District.

Since 1982, the United States Environmental Protection Agency (EPA) has required school districts to inspect to determine whether their buildings contained asbestos materials. At the time of the trial of this case, however, the EPA had not established guidelines for determining the existence of a hazard sufficient to justify removal or abatement.

In 1979, Independence school administrators, in response to recommendations promulgated by the EPA, undertook an inspection of the Independence schools in order to determine whether any of the building materials used in the schools contained asbestos. As a result of this inspection and subsequent testing of materials, the School District determined that Audicote had been installed in seven of its schools, and that Audicote contained asbestos.

Because Audicote was considered a "friable" material (i.e., a material capable of being crumbled, pulverized or powdered in the hand), and because School District officials had become aware, through consultation with the E.P.A., that friable asbestos-containing ceiling materials presented some potential for release of asbestos, the School District undertook a program of "encapsulating" the Audicote ceilings in its schools in order to minimize the possibility of asbestos release. Encapsulation consisted of painting the ceilings with a heavy paint, recommended by the E.P.A., in order to entrap and prevent release of asbestos fibers.

The encapsulation was considered a short-term solution to the problem. Because the heavy paint used to encapsulate Audicote ceilings allowed water to build up behind the painted surfaces, leaks which eventually developed were more serious than had previously been experienced, sometimes causing dropouts of Audicote material. The School District also experienced continuing damage to ceilings from vandalism and accidental impacts and received numerous reports of dusting. The School Board became increasingly concerned about the hazards of asbestos exposure, and in 1984 voted to remove asbestos-containing materials, including Audicote, from the schools.

THE SCHOOL DISTRICT'S APPEAL

In its first point of error, the School District alleges that the trial court erred in granting judgment notwithstanding the verdict on the issue of punitive damages. The School District argues that the jury's $400,000 punitive damage award was supported by substantial and competent evidence that USG knew its product Audicote was unreasonably dangerous and defective, and that USG, by selling Audicote to the School District with such knowledge, and without adequate warning, demonstrated complete indifference to, or conscious disregard for, the safety of others.

[1] A motion for judgment n.o.v. presents the same question as a motion for *446 directed verdict at the close of all the evidence; i.e., whether the plaintiff made a submissible case. Anderson v. Childers, 686 S.W.2d 38, 39 (Mo.App.1985); Dockery v. Mannisi, 636 S.W.2d 372, 376 (Mo.App.1982). A defendant's motion for judgment n.o.v. is properly granted if the motion identifies one or more elements of the plaintiff's case which are not supported by the evidence. Stegeman v. First Mo. Bank of Gasconade Cty., 722 S.W.2d 349, 352 (Mo.App.1987). In reviewing the trial court's ruling, the appellate court must consider the evidence in a light most favorable to the plaintiff and accept such evidence as true, giving plaintiff the benefit of all favorable inferences that may reasonably be drawn from that evidence, and disregarding defendant's evidence except as it aids the plaintiff's case. Dockery v. Mannisi, 636 S.W.2d at 376. (The School District argues extensively that the standard for submissibility applied by the trial court was improper; however, because the reviewing court determines whether a submissible case is made, it is unnecessary to evaluate the School District's argument in this regard.)

[2] Punitive damages were submitted to the jury by an instruction based on MAI 10.04, under which punitive damages in a product liability action may be awarded if the jury finds that the defendant knew of the defect and danger of the product at the time it sold the product, and that the defendant thereby showed complete indifference to or conscious disregard for the safety of others. Relying upon the Committee's Comments to MAI 10.04, the court in Lewis v. Envirotech Corp., 674 S.W.2d 105, 114 (Mo.App.1984) defines "knowledge" in this context as actual knowledge.

No Missouri case has permitted submission of a punitive damage claim in a strict products liability case on the theory that the defendant should have known of a dangerous defect in its product. See, e.g., Bhagvandoss v. Beiersdorf, Inc., 723 S.W.2d 392, 397-98 (Mo. banc 1987); Love v. Deere and Co., 684 S.W.2d 70, 77 (Mo.App.1985); Sparks v. Consolidated Aluminum Co., 679 S.W.2d 348, 354 (Mo.App.1984); Racer v. Utterman, 629 S.W.2d 387, 397 (Mo.App.1981), all requiring actual knowledge of product defect. See also, Laney v. Coleman Co., Inc., 758 F.2d 1299, 1304-05 (8th Cir.1985), ("Missouri law does not permit submission of a punitive damage claim on a theory of constructive knowledge of product defect").

The School District's allegation of defect in the product Audicote was that Audicote released asbestos fibers into the atmosphere. To make a submissible case for punitive damages, the School District was required to produce evidence that USG had actual knowledge of the product Audicote's propensity to release asbestos fibers. The record is devoid of evidence to support a finding of actual knowledge.

The School District's evidence established that Audicote would release asbestos fibers if abraded (rubbed against, scraped) and that asbestos fibers had been released from the Audicote ceilings in the School District's schools. The School District produced no evidence, however, that, at the time USG sold Audicote to the School District, USG had knowledge of these facts. The School District's only factual allegations relating to USG's knowledge of the properties of Audicote were mere suggestions that USG received reports of water damage to Audicote ceilings, which would release asbestos. The School District's allegations are not supported by evidence. While the School District did produce evidence of water damage to Audicote ceilings, it did not show that USG was aware of the problem. USG's quality assurance manager, John Hernan, who had observed flat-roofed schools containing Audicote in the 1960's, conceded on cross-examination that "the potential for leaking is greater with a flat roof than a pitched roof." Contrary to the School District's assertions, however, Hernan did not testify that he was aware of the problems water damage caused to Audicote ceilings at that time. There is no evidence in the record to support the School District's claim that USG knew, at the relevant time, that water damage to Audicote ceilings would release asbestos into the air.

*447 The School District also relies on the testimony of Dr. Gerritt Schepers, an expert in lung diseases, to establish USG's actual knowledge of the defect and danger of Audicote. In 1955, Dr. Schepers, acting on his own and without funding from USG, performed experiments in which he exposed laboratory animals to combinations of asbestos and gypsum. During that year he showed the experiments to Edward Beuthine, USG's then safety manager. Dr. Schepers described the "bad results" obtained from combining asbestos in various compounds, the "bad results" being asbestosis, emphysema, and proliferation of epithelial tissues in the lungs. Later, having learned from an advertisement that USG was marketing a new product which combined gypsum and asbestos, Dr. Schepers wrote to USG protesting the "folly" of adding asbestos to gypsum, noting his experiments.

Accepting Dr. Schepers' testimony as true, the evidence shows that USG was informed of Dr. Schepers' experiments and opinions concerning the potential danger of incorporating asbestos into gypsum products during 1955. There is no evidence in the record, however, of the validity of Dr. Schepers' experiments, nor of the methods by which the experiments were conducted. There is no evidence in the record to show any similarity between Dr. Schepers' experimental conditions and the conditions existing in the buildings with Audicote ceilings. There is no evidence of the gypsum/asbestos ratio or length of exposure required to produce "bad results". There is no evidence in the record that any of the data supporting Dr. Schepers' experiments was communicated to Mr. Beuthine or any other agent of USG. Dr. Schepers' testimony, even when viewed most favorably to the School District, does nothing to establish USG's actual knowledge of Audicote's propensity to release asbestos into the atmosphere.

The School District's own characterization of its evidence, as argued, falls far short of demonstrating USG's actual knowledge of a defect in Audicote--its propensity to release asbestos fibers. The School District argues that the company's actual knowledge of the dangerously defective character of Audicote may be discerned from USG's longstanding knowledge of the hazards of asbestos when used at its own plants, the burgeoning medical knowledge of the hazards of asbestos exposure in non-occupational settings, and continued reports of water damage to Audicote ceilings, which would release components of the product into the air. The School District argues that these facts, at a minimum, are sufficient to place a reasonably prudent person on actual notice of the danger of Audicote.

The School District cites Hale v. Firestone Tire & Rubber Co., 756 F.2d 1322 (8th Cir.1985), for the proposition that actual knowledge can be inferred from a defendant's generalized knowledge of hazards, including hazards associated with brands or designs other than those directly at issue. While Hale does show that actual knowledge may be proven by circumstantial evidence (i.e., evidence which would allow the jury to infer that defendant had actual knowledge of a danger), Hale was not a case in which the plaintiff merely alleged facts from which the defendant could have or should have inferred a danger. In Hale, the plaintiff adduced evidence from which the jury could infer that Firestone had actual knowledge of the danger of explosive separations of its RH5 truck wheel rim. A 1952 Firestone memorandum requesting a list of complaints regarding the RH5 rim, including those complaints involving explosive separations, strongly supported the finding of actual knowledge. The School District has not produced evidence of knowledge comparable to the evidence in Hale.

The School District cites Lamke v. Lynn, 680 S.W.2d 285 (Mo.App.1984), for the proposition that a person may be charged with actual knowledge if he knows of the hazard or has sufficient knowledge to deduce it. Lamke is inapposite. It concerns the actual notice requirement in a statutory lien, not the requirement of actual knowledge of defect in a strict products liability punitive damages claim.

*448 The School District's evidence fails to satisfy the strict requirements for a submissible case of punitive damages under Missouri law.

Because the School District failed to produce evidence that USG had actual knowledge of a defect or danger in Audicote, it is unnecessary further to address the sufficiency of the School District's evidence regarding USG's alleged complete indifference to, or conscious disregard of, the safety of others.

In its second and final point, the School District claims that the court erred in excluding four exhibits, each being internal correspondence of USG from the late 1930's, concerning a USG employee who allegedly contracted silicosis or asbestosis. The School District asserts that the exhibits were admissible to prove USG's knowledge of asbestos hazards at low levels of exposure. Noting that the trial court's judgment n.o.v. was based upon insufficiency of the evidence, the School District complains that the trial court itself exacerbated the alleged insufficiency by excluding the exhibits.

[3][4] "Refusal to admit evidence does not constitute reversible error unless it would have changed the result reached." Green v. Stanfill, 641 S.W.2d 490, 492 (Mo.App.1982). Unless admission of the excluded exhibits would have cured the insufficiency of the evidence on punitive damages, error, if any, is not reversible.

To make a submissible case on its claim for punitive damages with respect to the element of knowledge, the School District was required to produce evidence that USG had actual knowledge of a defect in its product Audicote. The excluded documents related only to USG's general knowledge of the hazards of asbestos exposure. As such, they had no tendency to prove USG's knowledge of Audicote's propensity to release asbestos fibers into the atmosphere. Consequently, the excluded documents would not nave cured the insufficiency of the evidence on the School District's punitive damage claim.

It is not necessary to consider whether the evidence was admissible as against USG because, assuming that its exclusion was error, it was harmless error since no submissible case would have been made against USG. Rule 84.13(b); see Chaney by Chaney v. Creten, 658 S.W.2d 891, 893 (Mo.App.1983).

UNITED STATES GYPSUM COMPANY'S APPEAL

[5] In its first point, USG contends that the trial court erred in admitting evidence relating to Wayne Fleming's exposure to asbestos-containing products and his physical condition. Wayne Fleming was a school custodian in the Independence Schools. His disabling respiratory ailments were allegedly caused or aggravated by exposure to asbestos-containing products in the Independence schools. USG argues that the Fleming evidence was irrelevant because it was never linked to the product Audicote, and that the evidence was highly inflammatory and therefore prejudicial.

Evidence is relevant, and therefore admissible, if the fact it tends to establish tends in turn to prove or disprove a fact in issue. Charles F. Curry & Co. v. Hedrick, 378 S.W.2d 522, 536 (Mo.1964). A central factual issue in the case was whether or not asbestos released from the product Audicote posed a health hazard to building occupants in the Independence Schools. The School District's factual theory was that asbestos could cause a variety of lung diseases, that these diseases were extremely serious, that there was no known threshold for exposure to asbestos below which disease could not be expected to occur, and that any product which increased the asbestos burden within the school buildings constituted an unreasonable danger. The School District introduced other evidence to establish that Audicote released asbestos into the school environments. The Fleming evidence was relevant to show the nature and severity of the harm being caused by the presence of breathable asbestos in the Independence schools.

Wayne Fleming, retired custodian, had been employed by the School District for *449 more than thirteen years. From 1966 until 1971, Mr. Fleming swept and dusted in Truman High School during the school year and worked on special crews in other schools during summers. After 1971, Mr. Fleming worked exclusively at Truman High School. Truman High School contained asbestos fireproofing products (manufactured by W.R. Grace, an original defendant in this case). The other schools in which Mr. Fleming worked on summer crews contained both Audicote, manufactured by USG, and other asbestos products not manufactured by USG.

At the time of trial Mr. Fleming suffered from a lung disorder as well as from other medical problems. He testified regarding his employment history with the School District and his working conditions. He also described his physical condition as he understood it.

Following Mr. Fleming's testimony, Dr. Gerritt Schepers, plaintiff's expert in lung diseases, testified regarding the contribution of asbestos to Mr. Fleming's lung condition based upon Dr. Schepers' examination of Fleming's medical records and a copy of an X-ray. According to Dr. Schepers, certain small irregular focal opacities in Mr. Fleming's lungs were caused by inhalation of asbestos dust. In response to a hypothetical which outlined Fleming's occupational exposure to asbestos, Dr. Schepers gave his opinion that the inhalation exposure to asbestos which resulted from those occupations contributed to Mr. Fleming's lung disease.

USG complains that there was no evidence that the dust to which Mr. Fleming was exposed contained asbestos from Audicote, and that, therefore, Mr. Fleming's lung condition was irrelevant to the issue of whether Audicote was unreasonably dangerous. Even assuming there was no such linking evidence, the Fleming evidence was admissible. The School District was not called upon to prove that dust from Audicote had caused personal injury. The Fleming evidence was introduced to show the nature and seriousness of the harm posed by asbestos contamination in the Independence schools. Together with evidence establishing Audicote as a source of asbestos contamination, the Fleming evidence tended to prove not only that Audicote was dangerous, but also that the danger was an unreasonable one.

Moreover, assuming, arguendo, that the jury drew the inference that Audicote had contributed to Fleming's lung condition, such an inference cannot be said to be wholly unwarranted. Dr. Schepers' testimony supported the inference that Audicote dust was a factor contributing to Fleming's condition. Dr. Schepers stated that asbestosis can be caused by heavy exposure to asbestos for a short time, if there is a long latency period, or by little exposure (around five million particles per cubic foot or less) for a long period of time.

Dr. Peter Tuteur, a physician specializing in internal medicine with emphasis on pulmonary disease, testified that the typical latency period for asbestosis is about fifteen years. Fleming began working in schools containing Audicote in 1968. The inference that asbestos-laden dust from Audicote contributed to Mr. Fleming's lung condition is not unreasonable and is not unrelated to the issue of an asbestos health hazard in the Independence schools.

The testimony of James Hubbard, a materials scientist and microscopist, provided additional bases on which reasonably to infer that Wayne Fleming was exposed to dust from the product Audicote. Mr. Hubbard, based on his observation and tests of Audicote in the Independence schools, stated that Audicote had released asbestos fibers into those school environments. Mr. Fleming had been exposed to dust while sweeping floors and cleaning desks and air registers in the seven Independence schools involved in this case. Although there was no direct evidence that the dust to which Mr. Fleming was exposed contained asbestos fibers from Audicote, the following evidence substantiates a reasonable inference to that effect: Audicote contains asbestos; Audicote is soft and friable (can be powdered in the hands); asbestos fibers are released upon even minor disturbances; Audicote ceilings were frequently gouged, cut, and subjected to water damage; there *450 were dropouts of large sections of Audicote from water-damaged ceilings in Ott school; dust came from the ceilings; dust on light fixtures was lighter in color than dust on floors; schools with Audicote were dustier than those without; and dusting ceased once the Audicote was removed.

The trial court's determination of whether proffered evidence is relevant will be upheld on appeal absent a showing of abuse of discretion. Counts v.

Thompson, 359 Mo. 485, 222 S.W.2d 487, 493 (1949); Moreland v. State Farm Fire and Casualty Co., 662 S.W.2d 556, 565 (Mo.App.1983). It was proper for the trial court to allow the jury to consider a broad spectrum of facts and circumstances bearing upon the issue of unreasonable danger. See Nesselrode v. Executive Beechcraft, Inc., 707 S.W.2d 371, 378 (Mo. banc 1986). USG had ample opportunity to impeach the credibility of Dr. Schepers and to counter the evidence of Mr. Fleming's asbestosis with testimony of its own experts. The weight to be given the evidence was for the jury to consider.

USG asserts that, even if the evidence is relevant, its inflammatory, prejudicial nature outweighs its probative value, citing Stapleton v. Griewe, 602 S.W.2d 810 (Mo.App.1980), for four negative factors to be considered. A full discussion on the merits of this claim is unwarranted. Briefly, a review of the entire record indicates a very slight possibility that facts of Fleming's illness could have unduly aroused the jury's emotions, slight probability that the evidence created a side issue which would have unduly distracted the jury from the main issues in the case, and no likelihood that the evidence and counterproof consumed an undue amount of time. Moreover, it is notable that USG's argument that there was no logical basis for concluding that Audicote had caused or contributed to Mr. Fleming's lung disease tends to defeat USG's contention that the evidence was prejudicial.

Whether the possibility of prejudice outweighed the probative value of the evidence was a matter for the trial court's sound discretion. The Fleming evidence cannot be said to have introduced numerous new controversial points and a confusion of issues, nor can it be said to have constituted unfair surprise or undue prejudice disproportionate to the usefulness of the evidence. Douglas v. Twenter, 364 Mo. 71, 79, 259 S.W.2d 353, 357 (Mo.1953). The trial court did not abuse its discretion in admitting this evidence.

[6] USG's second point asserts that the erroneous interjection of punitive damages evidence and argument prejudiced the jury and influenced its verdict for the School District and against USG.

As to questions of fact and matters affecting determination of issues of fact, the decision whether to afford or deny a new trial is for the trial court's sound exercise of discretion. Cook v. Cox, 478 S.W.2d 678, 682 (Mo.1972). The trial court has a unique opportunity to view and evaluate the actual presentation of evidence and judge the many trial intangibles not discernable from the mere record. Niccoli v. Thompson, 713 S.W.2d 579, 581 (Mo.App.1986). Appellate review is limited to the determination of whether or not the trial court has abused its discretion. Here, the trial court found that submission of the issue of punitive damages to the jury was erroneous. In its finding, the trial court specifically stated that the submission did not taint the jury's verdict as to actual damages. The trial court noted that the amount of actual damages awarded by the jury was less than the School District claimed.

USG relies upon Love v. Deere & Co., 684 S.W.2d 70 (Mo.App.1985). In Love, the trial court determined specifically that the improper submission of the punitive damage instruction had tainted the underlying verdict. This court affirmed the grant of a new trial noting that the trial court was emphatic in expressing its opinion that the award for actual damages was irrevocably tainted by the evidence and argument relative to punitive damages. Id. at 77. Although this court observed that the amount of actual damages awarded was not excessive, this court gave deference to the trial court's discretion. Further, the plaintiff *451 made no argument for reinstatement of its actual damage award but continued to claim entitlement to punitive damages. This court concluded that the new trial order must therefore be affirmed. Love, consequently, is distinguishable from the present case.

In essence, USG argues that the actual damage verdict was excessive, and that the jury was prejudiced by the improperly admitted evidence as to punitive damages. If supported by the record, this claim can be cured only by a new trial. Cignetti v. Camel, 692 S.W.2d 329, 336 (Mo.App.1985). To prevail on appeal, USG must show: first, that the evidence, when viewed in the light most favorable to the verdict, does not warrant such a verdict, and, second, that there was error sufficient to cause prejudice. Id. The evidence, when viewed in the light most favorable to the verdict, warrants the verdict for actual damages. The School District's evidence showed that the actual costs attributable to removal of Audicote totaled $711,487.22. Less than $74,000 of the total amount was seriously disputed by USG as being not properly attributable to the removal. The jury could reasonably have awarded $650,000 in actual damages. See Fowler v. Park Corporation, 673 S.W.2d 749, 758 (Mo. banc 1984).

As to Cignetti's second requirement, there is no error sufficient to cause prejudice. The actual damages in this case were clearly segregated from the punitive damages. There is no extrinsic indication of passion or prejudice in the award of actual damages. There is no inference that the award of actual damages included any punitive effect. The amount of the punitive damage award, $400,000, represented .04 percent of USG's net worth.

USG claims that the School District's statements during closing argument in support of the punitive damage award were inflammatory. The determination of prejudicial effect of final argument is another issue within the trial court's discretion. Pfeffer v. Kerr, 693 S.W.2d 296, 305 (Mo.App.1985). This assignment of error has been considered, noting, specifically, the School District's recommendation that an award of one million dollars in punitive damages would be a mere slap on the wrist in light of USG's net worth of a billion dollars, and considering the School District's suggestion that the jury teach USG a lesson and send it a message. The trial court did not abuse its discretion.

[7] USG's third point alleges that the trial court erred in admitting documents and expert testimony of the hazards of other asbestos-containing products, and of the hazards of asbestos in general, without foundation evidence linking those hazards to Audicote.

USG alleges the trial court erred in admitting the following: documents containing application warnings for SprayDon, a mineral-wool based, spray- applied fireproofing material containing asbestos and manufactured by USG; documents concerning experiments on laboratory animals exposed to high concentrations of asbestos fibers; documents concerning removal or handling of asbestos-containing products in USG's own plants; and testimony from two of the School District's experts, Dr. Peter Tuteur and Dr. Kaye Kilburn, regarding asbestos-related diseases.

If evidence is admissible for one valid purpose, it cannot properly be excluded. Boehmer v. Boggiano, 412 S.W.2d 103, 110 (Mo.1967). The SprayDon documents were relevant to demonstrate both the feasibility of warning, and USG's knowledge of asbestos hazards in general. The remaining documents complained of were admissible to show USG's knowledge of asbestos health hazards. Issues of warning and of USG's knowledge were in the case. USG requested no limiting instructions with regard to the documents. The trial court's ruling as to these documents was not error.

Dr. Tuteur testified at length regarding the physiological effects of asbestos on the human lung, and the characteristics of asbestosis and asbestos-related lung cancers. He also gave anecdotal testimony regarding two of his patients who exhibited different degrees of susceptibility to asbestosis, and he rendered his opinion that friable asbestos-containing ceiling materials are *452 unreasonably dangerous. USG made specific objections at trial, and also moved to strike Dr. Tuteur's opinion on the ultimate issue.

[8] Dr. Tuteur's general testimony regarding the diseases caused by inhalation of asbestos was relevant to show that inhalation of asbestos could cause disease. This was a material issue in the case. The School District's theory was that USG's Audicote was defective and dangerous because it released asbestos fibers, which, if inhaled, could cause various lung diseases. Expert testimony regarding the nature, variety and seriousness of these diseases was likely to be helpful to the jury, and was therefore admissible. Parlow v. Dan Hamm Drayage Co., 391 S.W.2d 315, 326 (Mo.1965); Randolph v. USF & G Companies, 626 S.W.2d 418, 421 (Mo.App.1981).

The testimony regarding varying levels of susceptibility to asbestos- related disease was also relevant and material. The jury, in determining whether the asbestos inhalation hazard posed by Audicote was unreasonable, was entitled to consider the heightened susceptibility of children to asbestos-related disease. Dr. Tuteur's testimony illustrating differing levels of susceptibility in two of his patients laid the foundation for his later opinion, to which USG did not object, that children are more susceptible to asbestos-related disease than adults.

Dr. Tuteur's opinion on the ultimate issue is likewise unobjectionable. It is not a valid objection to the introduction of expert testimony that it points to an ultimate issue in the case if the subject is such that the jurors are not likely to be conversant with it and the opinion would aid in their understanding. Wessar v. John Chezik Motors, Inc., 623 S.W.2d 599, 602 (Mo.App.1981). The jury was not likely to be conversant with the dangers of friable asbestos-containing ceiling materials, and, since the issue of unreasonable danger was to be left to the jury without further definition, Nesselrode, 707 S.W.2d at 378, the opinion of an expert was likely to aid in their understanding. See Siebern v. Missouri-Illinois Tractor & Equipment Co., 711 S.W.2d 935, 938-40 (Mo.App.1986).

Because the testimony of Dr. Tuteur was admissible for other valid purposes, it was not subject to exclusion merely on the ground that it did not relate directly to the product Audicote. Boehmer, 412 S.W.2d at 110.

USG complains that testimony of Dr. Kaye Kilburn, concerning two studies he conducted in the Los Angeles area, should have been excluded for lack of foundation. The first study measured the incidence of asbestos-related disease in shipyard workers exposed directly to asbestos. This study also measured disease in the workers' family members, who were exposed to asbestos only through the workers' clothing brought into the household after having been worn on the job. The second study measured the incidence of asbestos-related disease in maintenance and custodial workers exposed to asbestos-containing products in the Los Angeles School District. USG contends that, because these studies involved dissimilar exposure levels, fiber types and circumstances of exposure, they were irrelevant to demonstrate any defect in Audicote or any danger arising out of its use.

The Kilburn studies were admissible for legitimate purposes other than to show directly that Audicote was unreasonably dangerous. The shipyard study showed that incidental, non-occupational exposures could cause disease. The school study showed that asbestos-containing building materials could present significant health threats. The school study was part of the basis for Dr. Kilburn's opinion as to the types of disease which would be caused by exposure to asbestos. It was also foundational for his opinion that asbestos in any site where it can be abraded and released into the air is dangerous. The studies were proper subjects of expert testimony in that they were likely to aid the jury's understanding of the dangers of exposure to asbestos. They were, therefore, relevant and admissible for a valid purpose and were not subject to exclusion merely because *453 they did not involve exposures to Audicote. Boehmer, 412 S.W.2d at 110.

USG contends that the Kilburn studies must meet foundational requirements for experimental evidence set forth in Blevins v. Cushman Motors, 551 S.W.2d 602, 610 (Mo. banc 1977). The Kilburn studies, however, were not experiments conducted out of court for the purpose of re-creating the conditions in the Independence schools. The studies were conducted for the purpose of obtaining scientific knowledge. Because the studies are free from the taint of interest or bias that might accompany the usual experimental evidence, it is appropriate to give greater latitude when reviewing allegations of error in their admission. See 29 Am.Jur.2d Evidence § 819; McCormick on Evidence § 202 at 603-04 (3d ed.). The trial court's ruling on the Tuteur and Kilburn evidence was not error.

USG's next point, which contends that exclusion of "comparative risk assessment" testimony was error, has not been preserved for appellate review. Prior to trial, USG proposed to offer comparative risk evidence through the expert testimony of Dr. Kenneth Crump. The School District filed a motion in limine to preclude all testimony and demonstrative evidence concerning comparative risk assessment. Both parties filed suggestions in support of their positions on the motion. USG's memorandum described comparative risk assessment in general terms and advanced legal arguments in favor of admissibility on the issue of unreasonable danger. The School District argued that the proposed evidence was calculated to confuse the jury and would introduce collateral matters, thereby diverting attention from the central inquiry.

The motion was argued during pre-trial conference and was sustained on the grounds advanced by the

School District. The judge indicated, however, that he would defer final judgment on the matter until Dr. Crump could be examined as to the exact nature of his testimony. The School District noted that, during the taking of his deposition, Dr. Crump had been unable to say what comparisons he planned to make at trial. School District requested an opportunity for further discovery, noting that without advance knowledge of the comparisons Dr. Crump would make, the School District would have no effective means of cross- examining him.

USG did not produce Dr. Crump at trial, but instead made the following narrative offer of proof:

We would like to offer evidence on the issue of comparative risk assessment. We believe that, as we argued in our pretrial, that this is a useful way to enable the jury to make some comparison between the risk attendant upon exposure to very small quantities of asbestos and other day-to- day things, and we think that's helpful for them to come to some reasonable conclusion about what an unreasonably dangerous or unreasonably hazardous product is, and we think it goes to the evidence of strict liability and we would like to offer evidence on that.

School District objected on the same grounds advanced in its motion in limine.

The court inquired, "This is the comparisons to peanut butter and diet soda?" USG replied:

It's comparisons with other materials that people come into contact with on a day-to-day basis which may contain very small amounts of harmful material, and it gives the jury some basis to assess the extent or quantification of the risk involved in this case.

[9][10] In order to present and preserve an offer of proof, the proper procedure is to propound questions to a witness who is present and who has taken the stand. Karashin v. Haggard Hauling & Rigging, Inc., 653 S.W.2d 203, 205 (Mo. banc 1983); Dunkin v. Reagon, 710 S.W.2d 498, 499 (Mo.App.1986). Although a narrative offer of proof may occasionally be found to be adequate (see cases collected in Stapleton v. Griewe, 602 S.W.2d at 813), it must be presented "with certainty and detail sufficient to demonstrate its quality as relevant, material and probative evidence." Fletcher v. City of Independence, 708 S.W.2d 158, 172 (Mo.App.1986). The offer must be *454 more than a mere statement of the conclusions of counsel. Karashin, 653 S.W.2d at 205; Kinzel v. WestPark Investment Corp., 330 S.W.2d 792, 795-96 (Mo.1959). These requirements are not only to ensure that the trial court has a sound basis for ruling on admissibility, but also to ensure that the appellate court has an adequate record for review. Karashin, 653 S.W.2d at 205.

USG's offer of proof did not meet the general requirements. The offer was not in question and answer form, and it was not specific and definite enough to demonstrate the relevance, materiality or probative value of the proffered testimony. The testimony USG sought to introduce was to be of a highly technical nature. Whether any part of it would have been relevant or helpful to the jury cannot be determined without knowing exactly what comparisons Dr. Crump would have made.

Although there is a narrow exception to the general requirement for a formal offer of proof, the testimony of Dr. Crump was not within the exception. The exception applies where: 1) all parties and the trial court completely understand what the proffered testimony will be, 2) the objection is to a category of evidence rather than to specific testimony, and 3) the record reveals that the evidence would have been helpful to the offering party. Frank v. Environmental Sanitation Management, 687 S.W.2d 876, 883-84 (Mo. banc 1985); State v. Northeast Building Co., 421 S.W.2d 297, 300-01 (Mo.1967). Where it is unclear what the excluded testimony would have been, the exception does not apply. Hawkinson Tread Tire Co. v. Walker, 715 S.W.2d 335, 337 (Mo.App.1986). In this case, plaintiff had been unable to discover the exact nature of Dr. Crump's testimony, and the trial court heard only the conclusory statements of counsel. The trial court had no sound basis for ruling on admissibility and the appellate court has no adequate record for review.

[11] USG's fifth point alleges that the School District failed to make a submissible case because there is no evidence in the record that Audicote plaster was unreasonably dangerous. USG argues that the School District's failure to quantify the risk of harm to building occupants is fatal to the School District's case. Without a standard for measuring the degree of risk presented in the schools by

Audicote, claims USG, the jury had no way to evaluate whether any danger posed by Audicote was unreasonable.

USG relies upon Bennett v. Mallinckrodt, Inc., 698 S.W.2d 854 (Mo.App.1985), wherein the plaintiffs sought recovery on the theory that exposure to radiation, which increased their risk as candidates for cancer, was a present injury. The court found that the plaintiff's allegation of future damages, based upon mere mathematical probability of enhanced risk, could not be considered a reasonable certainty; the claim of injury based on the theory of increased risk of contracting cancer was therefore defective. Gypsum reasons by analogy that the need for quantification of future damages in Bennett requires equivalent quantification of enhanced risk in this case; if future damages must be based upon more than mere unquantified mathematical probabilities, then, so also should increased risk of harm from exposure to the product Audicote. USG reasons that lack of quantification of risk should be deemed fatal to the School District's case. In other words, USG contends that, in order to prove unreasonable danger, the School District must prove the level or threshold at which exposure to asbestos in Audicote actually becomes a health hazard.

Bennett v. Mallinckrodt and cases from other jurisdictions on which USG relies are distinguishable. There, the plaintiffs' actions are for future personal injuries. Such claims are not compensable in Missouri because damages based upon such mere probabilities "significantly under-compensate those who actually develop cancer and are a windfall to those who do not." Bennett v. Mallinckrodt at 866.

The School District, however, states a claim for present injury to its property. Although the claim of injury through contamination is related to the increased risk of future harm to building occupants, the *455 School District seeks recovery for present injury to its property, not for future personal injuries. There is no question here of remote and speculative future damages, as in Bennett. The School District incurred actual costs through the steps taken to abate the hazard posed by Audicote. The damages are fixed and ascertainable. The real question posed by USG is whether the jury should have been required to measure the degree of risk posed by Audicote against an external standard as a basis for its determination of whether Audicote was unreasonably dangerous.

The Missouri Supreme Court, in Nesselrode, 707 S.W.2d at 377-78, deliberately refrained from imposing upon the jury an external standard for determining whether a product is in an unreasonably dangerous (i.e., defective) condition. The court explicitly approved the practice of submitting the issue of unreasonable danger to the jury as an ultimate issue without further definition. The concept of unreasonable danger is given content by the jury's "applying their collective intelligence and experience to the broad evidentiary spectrum of facts and circumstances presented by the parties." Id. at 378.

In reviewing the submissibility of the School District's case, this court must assess the sufficiency of the evidence, which must be viewed in the light most favorable to the School District, and the School District must be given the benefit of all favorable inferences which may fairly be drawn from the evidence. The School District's evidence was ample to support a finding that Audicote created an enhanced risk to the health of building occupants. USG so concedes. Drs. Tuteur and Kilburn each testified that, if Audicote released asbestos fibers into the school environment, the children and personnel were subject to a definite hazard. Mr. Hubbard testified that Audicote had released asbestos into the school on prior occasions. Dr. Keyes, a specialist in air pollution analysis and control, testified that Audicote was friable, that is, that it could be powdered in the hands. Dr. Rohl, a consulting mineralogist/geologist, concurred and stated that a one-gram sample of Audicote would release millions of asbestos fibers upon being physically disturbed. Dr. Tuteur testified that children are particularly susceptible to asbestos-related diseases because of the longer latency period which follows exposure at an early age. For so long as the Audicote ceilings remained in place, they were subject to continuing damage from foreseeable vandalism, invasion by cleaning implements used by maintenance workers, and dropouts caused by leaking roofs.

The evidence was sufficient to support the conclusion that the presence of asbestos-laden Audicote in the School District's buildings increased the risk of serious harm to the building occupants through contamination of the buildings and contents. The evidence shows that the danger of contamination could not be adequately controlled by encapsulation or any other reasonable maintenance program. Whether Audicote was dangerously defective was a factual issue for the jury's determination. Id. A jury composed of reasonable men and women, therefore, "applying their collective intelligence and experience to the broad evidentiary spectrum of facts and circumstances presented," Id. at 378, was free to infer and conclude upon the evidence adduced by the School District that Audicote contained asbestos, which could, if released, cause a definite health hazard, that Audicote did release asbestos into the School District's buildings, and that it was, therefore, unreasonably dangerous.

[12] USG's final point alleges that the School District failed to prove tortious injury to property other than the defective product itself, and that its cause of action, if any, sounded in warranty for pure economic loss rather than in tort. The School District correctly observes that USG's sixth point fails to comply with Rule 84.04(d) which requires a statement of wherein and why the trial court erred. Considering the fifth and sixth points together, however, USG's essential contentions are clearly ascertainable. The School District responded to USG's final point with obvious understanding of USG's contentions. Because the issue is submissibility, it should be reviewed. Charles F. Curry & Company v. Hedrick, 378 S.W.2d at 531.

Missouri courts have not previously confronted the special problems of containment *456 or removal of products containing asbestos within schools. In dealing with school boards' claims against asbestos manufacturers for the recovery of abatement costs, most courts have permitted recovery in tort for damage to the defective product itself; that is, for the cost of replacing the asbestos. See e.g., Adams-Arapahoe School District No. 28-J v. Celotex Corp., 637 F.Supp. 1207 (D.Colo.1986); City of Manchester v. National Gypsum Company, 637 F.Supp. 646 (D.R.I.1986); Town of Hooksett School District v. W.R. Grace & Co., 617 F.Supp. 126 (D.N.H.1984); Cinnaminson Township Board of Education v. U.S. Gypsum Co., 552 F.Supp. 855 (D.N.J.1982). In arguing the issue of whether a plaintiff in Missouri can recover damages in tort or only in a contract action for breach of warranty, USG invites this court to examine two leading cases: Sharp Brothers v. American Hoist and Derrick Company, 703 S.W.2d 901, 902 (Mo. banc 1986), and East River Steamship Corporation v. Transamerica Delaval, 476 U.S. 858, 106 S.Ct. 2295, 90 L.Ed.2d 865 (1986).

In Sharp Brothers, the defendant sold a crane, the counterweight of which broke from its place and crushed the crane's cab. There was neither personal injury nor other damage. The Missouri Supreme Court, as a matter of policy, denied recovery on a theory of strict liability in tort where the only damage is to the product sold. Sharp Brothers, 703 S.W.2d at 903.

In East River Steamship Corporation, the United States Supreme Court held in admiralty that damage to the ship's turbine caused by a defect in the design of the turbine was an economic loss recoverable only in warranty. There was neither personal injury nor other damage. Justice Blackmun stated the issue: "[W]e must decide whether a cause of action in tort is stated when a defective product purchased in a commercial transaction malfunctions, injuring only the product itself and causing purely economic loss." 106 S.Ct. at 2296. The court held that a manufacturer in a commercial relationship has no duty in tort to prevent a product from injuring itself. Id. at 2302. The court, however, specifically did not reach the issue of whether a tort cause of action can ever be stated in admiralty when the only damages are economic. Id. at 2302 n. 6. East River provides that damage to a product itself is most naturally understood as a warranty claim. This is so because "the tort concern with safety is reduced when an injury is only to the product itself." Id. at 2302. In contrast to personal injury or property damage situations, which commonly generate costs the consumer is not prepared to meet, losses incurred when a product injures only itself are properly characterized as "insufficient product value," and are adequately addressed by warranty law. Id. at 2303. The court noted that economic loss is best characterized as the failure of the purchaser to receive the benefit of the bargain. Id. at 2302 n. 9.

USG contends that under the rule in Sharp Brothers and East River the School District is precluded from tort recovery for its damages resulting from the installation of Audicote. Each of these decisions, however, is largely inapposite to the situation presented by the School District. In both Sharp Brothers and East River, the defective product injured only itself.

The School District, however, did claim damage to property other than the Audicote ceilings. It claimed that Audicote released asbestos, contaminating the school buildings and their contents, thereby endangering the lives and health of building occupants. The verb "contaminate" is defined as "an action by something external to an object which by entering into or by coming in contact with the object destroys its purity." Webster's Third New International Dictionary, Unabridged (1966). The School District's evidence of contamination includes the following: Audicote was a textured acoustical finish coat which was sprayed or trowelled over a plaster base coat; it contained 13 to 17 percent asbestos; Audicote released asbestos fibers spontaneously through dusting; on more than one occasion the schools sustained ceiling dropouts from water damage, releasing large numbers of fibers; the routine scraping and impact damage done by students could release many millions of fibers; the fibers released were in the *457 building environment, the air, curtains, rugs, and furnishings. As a part of its actual damages, the School District claimed an amount in excess of $100,000 for costs of replacement of a portion of the buildings' contents.

The School District does not allege that Audicote failed to perform its function as plaster but that it contaminated the school buildings and posed a serious risk of personal injury to those in contact with it. The risk here is not the type of risk that is normally allocated between the parties to a contract by agreement such as that contemplated by East River. The product in this case did not require replacement or repair in order to function as it was intended. The School District's pecuniary loss does not arise from deterioration, internal breakage, or any other sort of insufficient product value. The School District is not claiming damages because of injury to the product itself. There is no claim for loss of profit arising from a defect in the performance of the product. Rather, the issue of damages arises from replacement of a product and other items of personal property because of a grave personal safety risk caused by contamination of buildings and their contents. Moreover, East River specifically did not reach the issue of whether a tort cause of action can ever be stated in admiralty when the only damages are economic. East River, 106 S.Ct. at 2302, n. 6. Here, the product would not be defective but for the fact that it caused a risk of injury to others. The tort lies in the exposure of risk to the students and other building occupants by an unreasonably dangerous product.

As a matter of policy, Missouri law permits a finding of liability under Restatement (Second) of Torts § 402A (1963) when a dangerously defective product causes personal injury. Sharp Brothers at 902. In Keener v. Dayton Electric Mfg. Co., 445 S.W.2d 362 (Mo.1969), the court announced that the rule of strict liability was appropriate to insure that the cost of injuries from defective products be borne by manufacturers, not by the injured persons. It is reasonable that Missouri should extend tort liability to a manufacturer whose product threatens a substantial and unreasonable risk of harm by releasing toxic substances into the environment, thereby causing damage to the property owner who has placed the harmful product in his building. The School District should not be prevented from asserting an action in strict liability simply because none of the school's occupants has yet developed disease. Asbestosis, other asbestos-related lung diseases, and cancer may not develop until decades after exposure. A plaintiff such as the School District should not be forced to wait until disease manifests itself before being permitted to maintain an action in tort against the manufacturer whose product increases the risk of deadly disease or serious impairment of health by releasing a harmful substance into the environment. See City of Greenville v. W.R. Grace & Company, 827 F.2d 975, 978 (4th Cir.1987).

Review of relevant authority supports the School District's ability to assert a claim for strict liability against USG under the facts of this case.

Judgment affirmed.

All concur.

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1420401-PARKER, VIVECA D

DATE AND TIME PRINTING STARTED:	05/16/2000	04:08:30 pm (Central)
DATE AND TIME PRINTING ENDED:	05/16/2000	04:09:14 pm (Central)
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NUMBER OF REQUESTS IN GROUP:	1	
NUMBER OF LINES CHARGED:	988	

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Exhibit C

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TENNESSEE
NORTHERN DIVISION

COUNTY OF ANDERSON, TENNESSEE, ACTING BY AND THROUGH ITS HEAD OF EDUCATION AND SUPERINTENDENT OF SCHOOLS,	:	
PLAINTIFF,	:	
VS.	:	NO.
UNITED STATES GYPSUM COMPANY AND NATIONAL GYPSUM COMPANY,	:	
DEFENDANTS.	:	

TRANSCRIPT OF PROCEEDINGS

FEBRUARY 26, 1985

WAGNER-BROWN COURT REPORTING
814 STATE STREET, P. O. BOX 2347
KNOXVILLE, TENNESSEE 37901
615-524-2841

deposition. That's for the jury to decide and no for the Court to throw out before they even get a chance to listen to it.

THE COURT: All right. As I have said, Mr. Miriello testified his father worked at this plant from '32 to '36, he believed. And it appea: that the Defendant, United States Gypsum, did not acquire the plant until February 28, 1936. The deposition I reviewed very carefully, and it conta: some lay opinions; for example, that Senior Miriell died of that -- what happened at this plant was the cause of his death and also that his daddy was exposed to asbestos. I think Plaintiff's counsel i probably right. The deposition has some relevancy, because one issue here is the knowledge of United States Gypsum as to the danger of asbestos prior to the time that the product was sold; that is 1967. It probably does have some probative value, but I am faced with the situation here -- with this despondent who is obviously bitter -- an anguished son who has written a very anguished letter about hi: father's experience in the plant. In my judgment, any probative value this testimony in this depositior and this letter has is substantially outweighed by

EXHIBIT D

the danger of prejudice and confusion of the issues here and is therefore misleading to the jury. Therefore, I sustain the objection to Miriello's deposition. All right.

MR. HOYLE: Your Honor, one other matter that I would like to take up --

MR. ROWLAND: And that goes to the issue of punitive damages as well? The Court ruled that is in the case, and I think that is perfectly probative, the issue of punitive damages.

THE COURT: That's my ruling period.

MR. HOYLE: Your Honor, in connection with the EPA documents that were introduced during --

THE COURT: I want to add something to what I just said for the record.

I think it's also important to keep in mind here we have an occupational exposure in the depositi He said his daddy came home from lunch covered with white dust and he washed his face and hands and sat down at the table. Obviously, the Senior Miriello was exposed to high levels of dust for over a period of years, and I think that's one of the differential features in what the Junior Miriello said and what is in this case. That goes to the probative value of what is being said. It is not conclusive, but I think it bears on what probative value there is.

MR. HOYLE: Your Honor, in connection the EPA documents, that were introduced during d examination, there is one I misunderstood. They marked a proposed section six that was not adopte EPA put it out for comments and then refused to issue it. I didn't understand that was what they were putting in. There has been no harm yet, but would not — I would object that it come in on the basis of hearsay.

MR. CRAMER: I think it has been adopted and I think Mr. Brown is prepared to state that.

MR. HOYLE: I think if you give us a cha we can show you where it was not adopted. I would request if Mr. Brown would agree that it not be sho to the jury until we have a chance to find that regulation.

THE COURT: While we have got Mr. Brown o the stand, you tell me about it.

THE WITNESS: I am not aware that it was never issued; in other words, it was issued for the proposed regulation for its consideration and it has been well passed down. It went through the highest

Exhibit D

TRIAL COURT CAUSE NUMBER 97-4-13222

JAMES PAUL JACOBS, ET. AL.	)(	IN THE DISTRICT COURT
VS.	)(	OF
OWENS-CORNING FIBERGLAS	)(	
CORPORATION, ET. AL.	)(	CALHOUN COUNTY, TEXAS

PRETRIAL MOTIONS AND OPENING STATEMENT

On the 8th day of February, 2000, the following proceedings came on to be heard in the above-entitled and numbered cause before the Honorable Whayland W. Kilgore, Judge of said Court and a jury, held in Port Lavaca, Calhoun County, Texas.

Proceedings reported by machine shorthand.

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who subsequently work around products that come from that plant that contain the same asbestos, contain the same fibers might also be similarly in danger of developing the disease. I believe that, at a minimum, meets our standard of relevance.

THE COURT: Okay. Motion overruled. What's your next one? At this time.

MS. PARKER: Thank you, Your Honor. I appreciate your openness to reconsider.

Our motion regarding the Miriello issue. Mr. Miriello was a gentleman whose father worked at the plant we were just discussing. He worked at the plant before my client bought that plant. His father died from what Mr. Miriello claims was an asbestos-related disease.

What they propose to bring in is a letter that was written in 1950 by a distraught, grieving son of a man whose father had just died. And he writes a very bitter, distraught letter to U.S. Gypsum and says my father worked at your plant and now he's died of an asbestos-related disease. Mr. Miriello is not a doctor, the letter doesn't include the man's medical records. And, moreover, it appears from the documents that the father who died worked for the company who owned the plant before we did. So he didn't even work for us. And, again, we're talking about massive exposures over a working lifetime.

THE COURT: Okay. What's your...

MR. SIMS: Very similar response to the last issue, which is we're here to put -- to show defendants' knowledge, that they were put on notice. We're not -- the statement -- the letter isn't being offered to prove the truth of the matter asserted.

THE COURT: I'm inclined to grant that particular motion because if they're going to concede that they knew -- but I don't know -- concede that they knew about the adverse effects, that's covered by that letter.

MS. PARKER: Yes. And the letter is 1950. So, again, we're talking...

THE COURT: Well -- but if he worked in the plant and they concede that they knew, unless there's something else I'm going to sustain the objection.

MR. SIMS: Your Honor, as I understand, they're conceding that massive exposures over a prolonged period of time causes asbestos.

THE COURT: Well, but isn't that the problem that the guy had in the plant?

MS. PARKER: Yes.

MR. SIMS: No, Your Honor, I don't believe so.

THE COURT: Well, take another look at it, because I'm inclined to grant that motion about reading that letter, providing they concede they have -- concede their knowledge, which she says they are.

MS. PARKER: Right.

MR. SIMS: Of course the added issue, Your Honor, of punitive damages. So beyond the mere burden, we have to show they had actual knowledge and they acted with malice or gross negligence, and we believe this letter goes to that evidence.

THE COURT: Well, the letter is talking about the grief of somebody and that's basically in the nature of hearsay anyway. But if they're conceding it, and if they do, well, then, I'm going to sustain the objection.

MR. RICH: Your Honor, may I make a suggestion? It seems to me that Your Honor's ruling is based in large part on a concession that U.S. Gypsum is prepared to make.

THE COURT: Well, if they concede it.

MR. RICH: Right. So can we get a stipulation on the record now about what the nature of that concession is so it can be read to the jury.

MS. PARKER: It's in our discovery responses, Your Honor, filed in these cases.

MR. RICH: The same discovery that they don't want us to be able to use.

MS. PARKER: No, the current discovery responses.

Exhibit E

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE CITY THE COUNTY OF SAN FRANCISCO

BEFORE THE HONORABLE ALEX SALDAMANDO, JUDGE

DEPARTMANT NO. 318

--OOO---

ROBERT RUGANI, LOIS RUGANI, PLAINTIFF(S), VS. ASBESTOS DEFENDANTS, DEFENDANT(S)	)	SC# 302355

REPORTER'S TRANSCRIPT OF PROCEEDINGS

WEDNESDAY, FEBRUARY 16, 2000

---OOO---

A P P E A R A N C E S:

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SAN FRANCISCO, CA 94104-3929

WEDNESDAY, FEBRUARY 16, 2000 AFTERNOON SESSION

---oOo---

PARTIAL PROCEEDINGS

THE COURT: THE NEXT MOTION I'D LIKE TO TAKE IS THE MOTION TO EXCLUDE THE EVIDENCE OF ARGUMENT RELATING TO THE MURIELLO ISSUE.

ARE YOU PROCEEDING ON THAT LETTER?

MR. HANLEY: YES YOUR HONOR.

THE COURT: ALL RIGHT.

THERE'S A JUNE 8TH, 1950 LETTER THAT MR. MURIELLO SENT TO U.S. GYPSUM ASSERTING THAT HIS FATHER WORKED IN A U.S. GYPSUM FACILITY, OCCUPATIONALLY EXPOSED TO ASBESTOS FIBERS AND AS A RESULT DIED OF THIS. U.S. GYPSUM ACKNOWLEDGES RECEIPT OF THIS LETTER AND THAT'S ABOUT IT.

MR. HANLEY: AND IT SIMPLY GOES TO NOTICE.

THE COURT: OF WHAT? OF A COMPLAINT?

MR. HANLEY: NOTICE OF --

WELL, YEAH. THEY DON'T DISPUTE THAT HE HAD THE DISEASE, BUT --

THE COURT: THEY DON'T ACCEPT --

SEE, THEY DON'T ACCEPT IT EITHER. IN SO FAR AS A WRITER KNOWS THERE HAS BEEN NO OCCUPATIONAL DISEASE MADE FOR ON ACCOUNT FOR ASBESTOS AGAINST THAT COMPANY IN THAT PLANT. IN FACT, SINCE JUNE 1939 THERE HAS BEEN NO ASBESTOS USED AT THAT PLANT.

MR. HANLEY: THE IDEA IS THAT BEING ON NOTICE THAT PEOPLE ARE GETTING SICK FROM ASBESTOS, THEY SHOULD HAVE BEEN TESTED. AND THE EVIDENCE WILL BE THAT THEY CONDUCTED NO TEST

OF THESE PRODUCTS.

THE COURT: COUNSEL, THE ONLY WAY THAT ARGUMENT MAKES SENSE IS IF THAT GUY'S FATHER HAD GOTTEN ASBESTOS AND YOU HAVE EVIDENCE OF THAT.

MR. HANLEY: WELL, WE DO, BUT THAT'S NOT THE POINT.

THE COURT: THAT IS THE POINT.

MR. HANLEY: THERE'S THE DEATH CERTIFICATE, BUT IT'S NOT COMING IN FOR THE TRUTH ASSERTED.

THE COURT: THEN IT'S IRRELEVANT.

WHAT'S THE RELEVANCE TO THIS CASE?

MR. HANLEY: THE RELEVANCE?

THE COURT: THE NOTICE THAT SOMEONE'S COMPLAINING ABOUT SOMETHING?

MR. HANLEY: YES. YES.

THE COURT: WHAT IF IT TURNS OUT NOT TO BE TRUE?

MR. HANLEY: UNLESS THEY'RE ON NOTICE THAT THERE'S AN ISSUE AND THERE'S NOTICE THAT PEOPLE --

THE COURT: IT'S NOT RELEVANT TO THAT POINT COUNSEL.

MR. HANLEY: ALL RIGHT.

THE COURT: SUSTAINED.

IT'S IRRELEVANT TO ANY ISSUE IN THIS CASE.

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Exhibit F

State of Maryland,) In the
Plaintiff) Circuit Court
) for
vs.) Anne Arundel
) County
Keene Corporation,)
et al.,) Civil Action
Defendants) No. 1108600

- - - - -

The above-entitled case continued in trial before the Honorable Raymond G. Thieme, Jr., Judge, and a Jury, Tuesday, January 8, 1991 commencing at 9:15 a.m.

- - - - -

Reported by: Bonnie Gahagan

BETZ & STROUSE, INC.
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(301) 752-1733

A P P E A R A N C E S

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Janet LaBella, Esquire
David Kennedy, Esquire
Shelly Mintz, Esquire
Mary Lucasse, Esquire

On behalf of the Defendants:

John Lewis, Esquire
Rebecca Slaughter, Esquire
George Nilson, Esquire
John Singer, Esquire
Thomas F. McDonough, Esquire
Lenox G. Cooper, Esquire

P R O C E E D I N G S

(In open court, Jury present.)

THE COURT: Good morning.

MS. LUCASSE: Your Honor, the State would call its next witness, Mr. Edward McConnell.

Whereupon --

EDWARD MCCONNELL

a witness, called for examination, having been first duly sworn, was examined and testified as follows:

THE CLERK: State your name and occupation.

THE WITNESS: My name is Edward McConnell. I am director of plant operations at the University of Baltimore.

DIRECT EXAMINATION

BY MS. LUCASSE:

Q. How long have you held that position at the University of Baltimore?

A. 16 years.

Q. What are your duties as plant

building materials" --

THE COURT: With due respect to your client, that is not even a complete sentence.

MR. LEWIS: I know, but unless the State can show that someone saw such a letterhead and relied upon it, the statement at the bottom is irrelevant. That is my point.

THE COURT: I hate to rely upon something that doesn't make any sense. I overrule -- I will allow it in. I don't know what the State is going to do with it, but I will allow it in.

MS. TRESTMAN: Thank you, your Honor. I will take back from the clerk the original for the redaction. Thank you.

(Plaintiff's Exhibit Number P-3556 was received in evidence.)

MS. TRESTMAN: The next series of documents are P-3423, 3424, 3425, 28 and 30.

As to P-3423, 24 and 25, U. S. Gypsum has stipulated that those are authentic and not hearsay. As to P-3428 and 30, U. S. Gypsum has also stipulated that those are authentic.

MR. LEWIS: I would like to take them one at a time, your Honor. Let me show you 3423.

MS. TRESTMAN: I have a complete set for your Honor.

THE COURT: All right.

MR. LEWIS: Your Honor, there is already in evidence this lengthy Saranac report on the company that United States Gypsum bought in 1936 and sent Dr. Gardner in to make a dust survey, and your Honor may recall that Dr. Schepers testified about it.

There is absolutely no question that United States Gypsum Company as of the date of that 1936 dust survey had knowledge that high concentrations of asbestos dust could cause asbestosis. Therefore, our objection to this letter is that its prejudicial impact outweighs the probative value. There is no question that prior to the date of this letter we had notice of the dangers of asbestosis from high levels.

This is a letter that apparently talks about several cases, and I don't know whether they were silicosis and, if so, they would not be relevant, or asbestosis. This fellow is worried about his dad, he is talking about the old National Asbestos Company, which, of course, is not United States Gypsum Company.

It seems to me the only purpose of really offering that is to sort of inflame the jury as to what happened to this person's dad.

The underlying argument is that a year ago, and we concede this, we had notice in 1936 that high levels of concentration will cause asbestosis. I don't think it is necessary and if it comes in, its only effect will be to prejudice us against the jury.

MS. TRESTMAN: Your Honor, the State would like to offer this document in addition to the information contained already in the admitted New Jersey study, this letter talks about notice of a case of asbestosis of a bookkeeper whose desk was away from the machinery in the factory area.

THE COURT: The inference is that he got the silicosis. Maybe he did, maybe he didn't.

MS. TRESTMAN: If we look at the next letter, P-3424, where Gypsum's assistant to the president is responding to the asbestosis suit.

MR. LEWIS: This is at least double hearsay, that is, there is a suit against somebody by an assistant bookkeeper who alleges that he got something wrong with him at the old National -- it is double hearsay, your Honor, and, as I say, clearly we already have notice of the dangers of high levels, and I think any probative value is outweighed by its prejudicial impact.

THE COURT: Wait a minute, let me understand you. As to 3423, you want this in to show that some employee got silicosis or asbestosis sitting 200 feet away from machinery?

MS. TRESTMAN: We want it in, your

Honor, for U. S. Gypsum's notice of the claim being made with regard to asbestosis from those circumstances in an occupational setting, and with regard to Mr. Lewis' now stated challenge to the hearsay, I remind counsel that U. S. Gypsum has already stipulated that this document is authentic and not hearsay.

MR. LEWIS: No, there is no question, your Honor, this was written by United States Gypsum. I am saying the point is that it in turn relates to hearsay. Also, Ms. Trestman talks about notice. If your Honor turns to 3424, United States Gypsum Company quite properly says we are glad to cooperate with you, but your son's letter does not give us sufficient detail.

This is a very, very unclear letter containing double hearsay about some unknown person at some plant that we didn't known.

MS. TRESTMAN: Then, your Honor, if you go through the series of correspondence which clarifies some of the confusion that Mr. Lewis apparently has about the situation by looking at P-3428 and 30, additional details are provided. In particular, in P-3428 the general counsel for United States Gypsum Company to whom this matter had been referred in the prior letters is being told further about what the claims were, and in this case it is not admitted for the truth of what is being said, but with regard to the claims being made about the case that was instituted concerning asbestosis among an employee of the company that they had bought concerning someone who worked in the office and not in an industrial setting.

MR. LEWIS: Your Honor, there has to be some limit on this notice point. It seems to me for notice to be relevant, there has to have some specificity, some credibility to it, because otherwise what is going to happen this afternoon is when the State gets beaten down on a hearsay objection, then they will say well, why don't we try notice, and a letter that is coming up that somebody wrote to U. S. Gypsum in 1950 and said "You killed my father" and he is referring actually to the old National Asbestos plant, but they want that in not for the truth, but for notice, and I am saying that cannot be used as a backdoor to poison this jury.

MS. TRESTMAN: Your Honor, if I can remain seated?

THE COURT: Yes, you can remain seated.

MS. TRESTMAN: I see nothing secondary or in some way less important in evidence the issue of notice as Mr. Lewis apparently does. This jury is entitled to hear what U. S. Gypsum had notice did or what it did in response to that. There is nothing secondary or tainted or less proper for evidence coming in for that purpose.

THE COURT: All right. The Court will overrule the objection. The Court will allow it for the purpose of notice. We are talking about 3423, 24 and 28.

(Plaintiff's Exhibits Numbers P-3423, P-3424, and P-3428 were received in evidence.)

MS. TRESTMAN: There was also, your Honor, in the series 25 --

THE COURT: The entire series you wanted in?

MS. TRESTMAN: Yes, your Honor.

MR. LEWIS: I have a separate problem.

THE COURT: With 25?

MR. LEWIS: Yes. It seems to me 25 in addition to the prejudicial impact that I was talking about earlier, here you have got comments that have got nothing to do with the case. They are talking about lawyers and runners for lawyers. That really has --

THE COURT: What notice does this give?

MS. TRESTMAN: It completes the series of correspondence, your Honor. In terms of giving complete meaning to the series, who the parties are for the completeness of the set.

THE COURT: No, no, I am going to sustain the objection to this. I don't think we need it for the completeness of the documents as to what I am talking about, 23, 24 and 28. What about 30?

MR. LEWIS: 30, your Honor, my problem is with respect to the last two paragraphs on the first page. There United States Gypsum Company is talking about suits from dust in gypsum operation. I think it is abundantly clear in this case that gypsum has no asbestos in it, it is an entirely different thing. I think it is prejudicial to talk about 1937 lawsuits against the company for a product that had nothing to do with asbestos. Beyond that, I have no objection to the letter, but I do object to those two paragraphs being included.

THE COURT: Ms. Trestman.

MS. TRESTMAN: Yes, your Honor, I am looking to the second page.

THE COURT: Go ahead.

MS. TRESTMAN: We will withdraw the request for 3430.

THE COURT: Very well.

MS. TRESTMAN: Just to clarify, what has now been admitted is 3423, 24 and 28?

THE COURT: That is correct.

MS. TRESTMAN: Thank you.

MR. LEWIS: I gather pursuant to the guidelines --

THE COURT: For notice.

MR. LEWIS: -- with some statement to the jury for notice?

THE COURT: That is correct.

MS. TRESTMAN: For the record, the next series of documents is P-3403, 3426, 3427 --

MR. LEWIS: I am sorry, 34-what?

MS. TRESTMAN: 3426, 3427, 3431, 3436, 3451, 3453, 3492. That is it in that series, your Honor. I believe that U. S. Gypsum has previously stipulated to the admissibility of all of these documents.

MR. LEWIS: 3403 no objection. 3426, no objection. 3427, no objection. 3431, no objection. 3436, no objection. 3451, no objection. 3453, no objection. No objection to 3492.

THE COURT: Very well. Mark them in.

(Plaintiff's Exhibits Numbers P-3403, P-3426, P-3427, P-3431, P-3436, P-3451, P-3453, P-3492 were received in evidence.)

MS. TRESTMAN: The next series of documents, your Honor, is Plaintiff's Exhibits P-3513, 3516 and 3517.

MR. LEWIS: There are objections to all three, your Honor.

MS. TRESTMAN: I will hand up a copy to your Honor in one moment.

THE COURT: Let me see the documents.

MS. TRESTMAN: Yes, your Honor. For the record, U. S. Gypsum has already stipulated that 3513 and 3517 are authentic and not hearsay.

MR. LEWIS: I would like to focus on 3516 first, your Honor, because this is exactly the point I was making earlier. This is a letter to United States Gypsum Company in 1950 which in effect accuses United States Gypsum Company of murdering the author's father. It begins by saying --

THE COURT: Wait a minute, Mr. Lewis, did you stipulate to the authenticity of this document?

MS. TRESTMAN: No, your Honor.

THE COURT: Under what theory is it being admitted?

MR. LEWIS: Notice, I assume, your Honor.

MS. TRESTMAN: Yes, your Honor, it was produced from the files of U. S. Gypsum Company, responded to by P-3517 and, again, with regard to notice.

THE COURT: We have got a letter from someone, I don't know from what --

MS. TRESTMAN: In the files -- I am only dealing with authenticity first. This was produced from the files of the United States Gypsum Company.

THE COURT: It is obviously hearsay. What pigeonhole are we going to put it in to make it admissible?

MS. TRESTMAN: Notice. It is authentic and being offered for notice of the contents. 3517 is the response by the company to 3516.

MR. LEWIS: Your Honor, there is no question this piece of paper arrived in the mail. There is no question the United States Gypsum Company made a response and pointed out to the person that the company, United States Gypsum Company, didn't own the plant when this person's father apparently contracted asbestosis, but this is just notice going wild.

There is no question that in 1936 from the dust surveys we knew of the dangers of asbestosis from high levels. Now what the State wants to do is put in a letter saying "I want to congratulate you and your wonderful products," talking about us being like a cave man era, that their family has never been the same since dad died. It is their same business record theory, your Honor. That is, if a company gets a letter, they are stuck with it for the truth of its contents and if they don't get it that way, they say we will try notice.

Your Honor, this document cries out for mistrial if it is floated to the jury.

THE COURT: No, I agree. We got a letter -- no, I don't think this is a basis to give notice to anybody based upon the letter and the response, then, of course, would be irrelevant.

MR. LEWIS: I think the death certificate for the same reason, your Honor, which is the third document.

MS. TRESTMAN: Your Honor, I am

sorry. First of all, again, Mr. Lewis mischaracterizes what I said. 3516 was not ever offered by the State as a business record and then somehow recaptured as something else. We offered it for notice only.

THE COURT: No, I'm not going to accept it for notice. I got a letter and it doesn't even talk about -- no indicia of even reliability. Authenticity, I assume whoever wrote it is the author of it. I am not going to accept this as notice.

MS. TRESTMAN: Your Honor, with regard to the letter, the death certificate itself which is a public record and, therefore, self-authenticating and which I remind U. S. Gypsum that they have already stipulated that it is authentic and not hearsay, and as to 3517 even assuming that the Court does not allow 3516, the State still moves the admission of 3513 and 3517 without 3516.

THE COURT: I am not going to allow

3516, 3517 for the reason I previously indicated. Now, 3513, that is the death certificate.

MR. LEWIS: What is the jury going to do with that, your Honor? No question Mr. Mariella died. Of course, the death certificate, I agree it is a competent document. I don't know whether under the law it then is self-proving to show cause of death. But what is the jury supposed to do with a death certificate?

THE COURT: Sustain the objection. I am not going to receive it.

MS. TRESTMAN: The next document is P-3439. U. S. Gypsum has already stipulated that this document is authentic and not hearsay. Counsel for U. S. Gypsum had offered to give us the complete document, and I think we will probably still -- thank you. Is this an extra copy?

MR. LEWIS: Yes. Are you offering the complete document?

MS. TRESTMAN: Yes, I am offering the

Exhibit G

WESLEY THEOLOGICAL SEMINARY OF THE UNITED METHODIST CHURCH, Appellant,
v.
UNITED STATES GYPSUM COMPANY.

No. 88-7144.

United States Court of Appeals, District of Columbia Circuit.

Argued Feb. 22, 1989.

Decided May 19, 1989.
Rehearing and Rehearing En Banc Denied Aug. 11, 1989.

Building owner brought action against manufacturer of asbestos-containing products after owner discovered that manufacturer's products were used in construction of building. The United States District Court for the District of Columbia, Joyce Hens Green, J., entered judgment for manufacturer, and owner appealed. The Court of Appeals, Stephen F. Williams, Circuit Judge, held that: (1) retroactive amendment of statute of repose did not violate due process, but (2) owner was not entitled to punitive damages in connection with breach of warranty claim.

Reversed and remanded.

[1] CONSTITUTIONAL LAW ⇐ 308
92k308
Retroactive amendment of statute of repose to exclude manufacturer of asbestos- containing products did not violate due process despite manufacturer's contention that statute of repose was by nature substantive and that retroactive amendment was thus improper. D.C.Code 1981, § 12-310; U.S.C.A. Const.Amends. 5, 14.

[1] LIMITATION OF ACTIONS ⇐ 6(1)
241k6(1)
Retroactive amendment of statute of repose to exclude manufacturer of asbestos- containing products did not violate due process despite manufacturer's contention that statute of repose was by nature substantive and that retroactive amendment was thus improper. D.C.Code 1981, § 12-310; U.S.C.A. Const.Amends. 5, 14.

[2] EVIDENCE ⇐ 146
157k146
In products liability action against manufacturer of asbestos-containing products, district court acted within its discretion in ruling that prejudicial effect of letter to manufacturer about asbestos dust hazard at its plant outweighed any probative value it might have on issue of manufacturer's knowing concealment of asbestos danger.

[3] DAMAGES ⇐ 91(1)
115k91(1)
Plaintiff in products liability action against manufacturer of asbestos- containing products failed to establish that manufacturer's knowledge of asbestos hazards reflected malice or wantonness that would justify award of punitive damages on breach of warranty claim.

*120 **361 Appeal from the United States District Court for the District of Columbia (Civil Action No. 85-01606).

Peter T. Enslein, Washington, D.C., with whom James M. Hanny, Landover, Md., and Michelle A. Parfitt, Washington, D.C., were on the brief, for appellant.

Thomas B. Kenworthy, Philadelphia, Pa., with whom Grace E. Speights, Washington, D.C., was on the brief, for appellee.

Frederick D. Cooke, Jr., Corp. Counsel, Charles L. Reischel, Deputy Corp. Counsel, and Lutz Alexander Prager, Asst. Deputy Corp. Counsel, Washington, D.C., were on the brief for amicus curiae, urging reversal and remand.

Before STARR, WILLIAMS and D.H. GINSBURG, Circuit Judges.

Opinion for the Court filed by Circuit Judge WILLIAMS.

STEPHEN F. WILLIAMS, Circuit Judge:

A firm or firms that constructed buildings for The Wesley Theological Seminary in 1957-60 used ceiling tiles purchased from the defendant, United States Gypsum Company. The tiles contained asbestos. In early 1984 an industrial hygienist retained by Wesley reported that the ceilings had released asbestos fibers in the past and would do so in the future. Wesley then began a removal program. On May 17, 1985 it filed a diversity action in tort and contract against U.S. Gypsum and others.

Among the defenses invoked by U.S. Gypsum's answer was the then operative version of a statute of repose, D.C.Code § 12-310 (1981). This statute barred certain actions for injury resulting from defective improvements to real property if the injury occurred more than 10 years after the improvement's completion. The parties quarrel over whether the statute is a subspecies of statute of limitation or belongs to a different species altogether. We do not enter into this semantic dispute, but we note that the statute is certainly distinct from a conventional statute of limitation in that the bar operates not when the suit is filed too late, but when the "injury" occurs too late--here, more than 10 years after completion of the improvement. Here, although elements of the analytic chain by which § 12-310 would probably operate to bar the claim are disputed, it seems highly likely that it would have done so but for an amendment (to be discussed shortly) that was enacted in 1987. First, there is at least a very strong argument that for purposes of § 12- 310 no "injury" occurred until after the passage of 10 years. Cf. Bussineau v. President and Directors of Georgetown College, 518 A.2d 423, 425, 428, 435 (D.C.1986) (equating accrual of a cause of action for statute of limitation purposes with occurrence of "injury" and requiring that the injury be discoverable with reasonable diligence). Second, under the decision of the Court of Appeals of the District of Columbia in J.H. Westerman Co. v. Fireman's Fund Ins. Co., 499 A.2d 116 (D.C.1985), the statute protected manufacturers of a component of an improvement.

On February 28, 1987, however, District Law 6-202 came into effect, reversing the Westerman decision and removing this critical element in U.S. Gypsum's use of § 12-310 as a defense. The amendment made the statute inapplicable to "any manufacturer or supplier of any equipment or machinery or other articles installed in a structure upon real property." D.C. Law 6-202, 34 D.C.R. 527 (1987), codified at D.C.Code §§ 12-301, 12-310(b)(2)-(4), (Michie Supp.1988). It was expressly made *121 **362 applicable to actions pending in a court on July 1, 1986. See D.C.Code § 12-311 note (Michie Supp.1988); D.C. Law 6-202, § 6.

The district court granted partial summary judgment for U.S. Gypsum on Wesley's tort claims, applying the earlier version of D.C.Code § 12-310. The court reasoned that that version conferred on defendant a "substantive" right not to be sued, which vested before 1987, and that therefore any retroactive divestment of its protection would violate defendant's rights under the due process clause of the Fifth Amendment.

The case went to trial on Wesley's breach of warranty claims, and a jury found U.S. Gypsum free of liability. The district court entered judgment accordingly. Wesley argues here that the court erred in invalidating the retroactive amendment of the statute of repose. It also claims error in certain evidentiary rulings, and in the district court's directed verdict against Wesley on the punitive damages component of its contract claim.

We reverse the judgment of the trial court dismissing Wesley's tort claim and affirm in all other respects.

I. RETROACTIVE REPEAL OF THE STATUTE OF REPOSE

[1] The parties agree that if § 12-310 were a statute of limitation the due process clause would not prevent the District from extending the period and thereby reviving a cause of action that the statute had expunged. See International Union of Electrical Workers v. Robbins & Myers, Inc., 429 U.S. 229, 97 S.Ct. 441, 50 L.Ed.2d 427 (1976); Chase Securities Corp. v. Donaldson, 325 U.S. 304, 65 S.Ct. 1137, 89 L.Ed. 1628 (1945); Campbell v. Holt, 115 U.S. 620, 6 S.Ct. 209, 29 L.Ed. 483 (1885). The defendant claims to find in Chase and Campbell a simple dichotomy between procedure and substance, under which changes in purely procedural provisions may be retroactive while changes in substantive ones may not. This constitutes the major premise of a proposed syllogism. Defendant would add a minor premise, that statutes of repose are substantive. The desired result follows automatically.

We may in fact resolve this case, however, without classifying the District's statute as substantive or procedural. The cases simply do not support defendant's major premise.

First, the cases upholding retroactive application of amendments of statutes of limitations by no means give the procedure/substance distinction anything like the place that U.S. Gypsum suggests. Robbins and Campbell do not mention it. Chase does so, but in terms that fall far short of establishing defendant's theory. Justice Jackson wrote:

> The abstract logic of the distinction between substantive rights and remedial or procedural rights may not be clear-cut, but it has been found a workable concept to point up the real and valid difference between rules in which stability is of prime importance and those in which flexibility is a more important value.

325 U.S. at 314, 65 S.Ct. at 1142. While the sentence lends some support to defendant's major premise, it reformulates the distinction as being between rules for which "stability" is important and ones for which "flexibility" is critical. Justice Jackson then turned to a lengthy quotation from an opinion written by Justice Holmes as Chief Justice of the Supreme Judicial Court of Massachusetts. After a passage talking of the inexactitude of constitutional restraints, "end[ing] in a penumbra where the Legislature has a certain freedom in fixing the line," [FN1] Justice Holmes proceeds (in the quotation) to a characteristic statement of an entirely functional test:

FN1. For a discussion of judicial use of the "penumbra" metaphor, see Burr Henly, "Penumbra": The Roots of a Legal Metaphor, 15 Hastings Con. Law Q. 81 (1987).

> But however that may be, multitudes of cases have recognized the power of the Legislature to call a liability into being where there was none before, if the circumstances were such as to appeal with some strength to the prevailing views of justice, and if the obstacle in the way of the creation seemed small.

*122 **363 325 U.S. at 315, 65 S.Ct. at 1143, quoting Danforth v. Groton Water Co., 178 Mass. 472, 476, 59 N.E. 1033 (1901).

Later decisions have emphatically confirmed Holmes's view of the matter, both in its functionalism and in its hint of the leeway open to legislative bodies. Thus in Usery v. Turner Elkhorn Mining Co., 428 U.S. 1, 96 S.Ct. 2882, 49 L.Ed.2d 752 (1976), the Court approved Congress's creation of an entirely new liability of coal mine operators for death or illness of miners where linked, through a series of stringent presumptions (some of them irrebutable), to work in an operator's mines, even if the work long antedated the passage of the statute. The Court dealt curtly with the due process objection based on retroactivity, seemingly testing the statute merely for rationality:

> [L]egislative Acts adjusting the burdens and benefits of economic life come to the Court with a presumption of constitutionality, and ... the burden is on one complaining of a due process violation to establish that the legislature has acted in an arbitrary and irrational way.... [O]ur cases are clear that legislation readjusting rights and burdens is not unlawful solely because it upsets otherwise settled expectations. This is true even though the effect of the legislation is to impose a new duty or liability based on past acts.

428 U.S. at 15-16, 96 S.Ct. at 2892 (citations omitted). And in Pension Benefit Guaranty Corp. v. R.A. Gray & Co., 467 U.S. 717, 104 S.Ct. 2709, 81 L.Ed.2d 601 (1984), the Court sustained the imposition of a novel "withdrawal liability" on employers who withdrew from multi-employer pension plans before the passage of the burden-creating legislation. Again the Court invoked the modest "rationality" standards that it generally applies to "economic" legislation:

> [T]he strong deference accorded legislation in the field of national economic policy is no less applicable when that legislation is applied retroactively. Provided that the retroactive application of a statute is supported by a legitimate legislative purpose furthered by rational means, judgments about the wisdom of such legislation remain within the exclusive province of the legislative and executive branches....
>
> To be sure ... retroactive legislation does have to meet a burden not faced by legislation that has only future effects.... But that burden is met simply by showing that the retroactive application of the legislation is itself justified by a rational legislative purpose.

467 U.S. at 729-30, 104 S.Ct. at 2717-18.

At this point, therefore, any substance/procedure dichotomy suggested by Chase is either completely defunct or, at the very most, establishes procedural rules as a safe harbor within which a legislature may freely make retroactive changes.

Application of Turner Elkhorn and Gray is not difficult here. We cannot say it is irrational for the District to decide that the losses due to defects in building materials discovered long after installation should fall on the supplier rather than the building's owner. Indeed, defendant makes no claim of irrationality. Moreover, defendant's equities are not especially powerful; the statute of repose became law only in 1972, see Pub.L. No. 92-579, 86 Stat. 1275 (1972), about 12 years after the last building at issue was completed. Thus defendant made the sales without reliance on the statute. See Turner Elkhorn, 428 U.S. at 17 & n. 16, 96 S.Ct. at 2893 & n. 16 (discussing relevance of a party's reliance on prior law).

None of this is to deny U.S. Gypsum's arguments that there are real distinctions between a statute of limitation and one of repose. Defendant frames the distinction around the existence of a cause of action, saying that a statute of repose prevents one from ever coming into existence (unless the terms are satisfied), whereas a statute of limitation causes the expiration of an existing cause of action. We think this line of distinction may be somewhat metaphysical. If a statute of limitation extinguishes an undiscoverable cause of action, as some do, one could easily recharacterize it as a statute of repose: so viewed, *123 **364 it prevents the claim from ever accruing (with discovery, or the possibility of discovery, being a necessary component of accrual). Thus we rest more confidence in the distinction suggested earlier, in terms of the event that satisfies the statute (i.e., an injury, for a statute of repose; filing of suit, for a statute of limitation). But we need not tarry with these theoretical points. Even if they proved that statutes of repose were substantive it would not advance our resolution of the constitutional claim.

U.S. Gypsum seeks to distinguish such cases as Turner Elkhorn and Gray on the ground that the present case is not one "where the legislature is imposing liability for past acts which had not previously been legislatively addressed at all." Appellee's Brief at 12-13. We fail to perceive a distinction of constitutional magnitude between an expectation of nonliability that arises from legislative silence and common law nonliability, and one that arises from the type of affirmative legislative action present in this case. For support the defendant cites Bradley v. Richmond School Board, 416 U.S. 696, 720, 94 S.Ct. 2006, 2020, 40 L.Ed.2d 476 (1974), which addresses a quite different issue--the factors a court, confronted with a change in law during the pendency of litigation, should consider in deciding whether to apply the new law in the absence of specific legislative guidance. See id. at 710-16, 94 S.Ct. at 2015-19; United States v. Schooner Peggy, 5 U.S. (1 Cranch) 103, 110, 2 L.Ed. 49 (1801).

Accordingly, we must reverse the district court's decision invalidating the retroactive effectiveness of the statute of repose.

II. EVIDENTIARY RULINGS

[2] Wesley appeals from the district court's decision to exclude certain exhibits and expert testimony that it argues it needed to prove that U.S. Gypsum knowingly concealed the asbestos danger. We affirm the rulings of the district court on substantially the grounds stated and limit our discussion to a single disputed exhibit.

PX-510 is a letter addressed to a U.S. Gypsum executive in 1936, summarizing the results of studies carried out in U.S. Gypsum's plant by a Dr. Leroy Gardner. Dr. Gardner concluded that a serious asbestos dust hazard existed in the plant. He discussed other studies which proposed a maximum safe level of "five million particles of free silica per cubic foot of air." He distinguished silica dust from asbestos dust, however, and concluded that this standard was not necessarily applicable to asbestos dust.

Wesley seeks to treat as a smoking gun the letter's observation that "[t]here is no standard for safe concentration of asbestos dust comparable to the value just given for free silica dust." In context, however, this is simply a statement that, due to the absence of enough research, no one could yet identify the safe level for occupational exposure. Similarly, the letter's discussion of an asbestos dust study which found a 10% asbestosis rate among workers exposed to five million particles per cubic foot of dust was of remote relevance at best. While it suggests that U.S. Gypsum was on notice that the safe level for occupational exposure to asbestos dust on a full-time basis was less than five million particles per cubic foot of air, it does almost nothing to establish Wesley's central thesis--that the defendant was aware that asbestos-containing ceiling tiles, once installed, created hazardous concentrations.

Thus the district court was well within its discretion in ruling the letter unduly prejudicial. Moreover, for any proper purpose the exhibit was cumulative: U.S. Gypsum admitted in its opening statement to the jurors that for years there had been no question that asbestos caused disease at high-level occupational exposures over long periods of time. See Tr. 40.

III. DIRECTED VERDICT ON PUNITIVE DAMAGE CLAIM

[3] The district court entered a directed verdict against Wesley on its claim for punitive damages for the alleged breach of warranty. We doubt that such a direction of verdict could ever be reversible error *124 **365 where the jury rejects the substantive claim to which the request for punitive damages is appended; exoneration on the substantive claim seems to moot the issue of punitive damages. The court's direction of the verdict in no way reduced the evidence available to the jury. And while inclusion of a charge on punitives might have given a derogatory tinge to the actual evidence, and to the defendant itself, plaintiff had no legal right to any such spillover.

In any event, a directed verdict "is proper only if, viewing the evidence in the light most favorable to the plaintiff and giving him the advantage of every fair and reasonable inference that the evidence may permit, there can be but one reasonable conclusion drawn." Richardson v. Richardson-Merrell, Inc., 857 F.2d 823, 827 (D.C.Cir.1988). Here only one conclusion could have been drawn. If indeed punitive damages are recoverable on a warranty claim, then in order to be entitled to have its punitive damages claim go to the jury, District law required Wesley to offer evidence of conduct "outrageous, characterized by malice, wantonness, gross fraud, recklessness, or willful disregard of the plaintiff's rights." Sere v. Group Hospitalization, Inc., 443 A.2d 33, 37 (D.C.), cert. denied, 459 U.S. 912, 103 S.Ct. 221, 74 L.Ed.2d 176 (1982). Plaintiff clearly did not prove that defendant's knowledge of asbestos hazards could justify such a brand on its conduct. [FN2]

FN2. Of course our decision here does not speak to any punitive damages claim that plaintiff may assert on its tort claim on remand.

IV. CONCLUSION

Although rejecting the errors asserted by plaintiff as to the disputed evidentiary rulings and the partial directed verdict, we must reverse the judgment on account of the dismissal of the tort claim and remand for further proceedings consistent with this opinion.

So ordered.

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MOTION *IN LIMINE*
OF DEFENDANT UNITED STATES GYPSUM COMPANY TO EXCLUDE
ARGUMENT AND EVIDENCE RELATING TO THE SARANAC EXPERIMENTS

Defendant United States Gypsum Company ("U.S. Gypsum") hereby moves *in limine* to exclude argument and evidence relating to animal asbestosis experiments conducted at the Saranac Laboratory in New York in the late 1930s and early 1940s.

1. Plaintiff may seek to introduce evidence and argue that the Saranac experiments established that asbestos causes cancer in humans, and that U.S. Gypsum paricipated in improperly concealing that finding.

2. The argument is not supported by the evidence. Courts that have examined the documents has concluded that (i) there was no concealment, (ii) the observations allegedly concealed had no scientific validity in any event, and (iii) the alleged concealment, even if it occurred, could not have caused any harm to plaintiff. Moreover, U.S. Gypsum neither sent nor received the majority of the Saranac documents.

3. If the Saranac documents that plaintiff selects are admitted, and plaintiff is permitted to assert that the documents show improper suppression of valid scientific evidence, U.S. Gypsum will be irreparably prejudiced.

4. The Saranac documents are inadmissible because they are irrelevant and their admission would create a substantial danger of unfair prejudice and jury confusion.[1/] *See Perlmutter v. United States Gypsum Co.*, No. 87 M 510, Tr. at 595-99 (D. Colo. May 6, 1991); *J.H. Snyder Co. v. Carey Canada, Inc.*, No. C 728 816, Order (Cal. Super., L.A. Cty. Apr. 18,

1/ The documents also are inadmissible hearsay, and the evidence lacks authentication, foundation and/or identification. U.S. Gypsum reserves these objections, but does not present them fully herein.

1994). 5. Courts that have examined the evidence have concluded that there was no concealment:

- The Saranac documents do not contain "any evidence . . . linking U.S. Gypsum to efforts to conceal the results or to pressure Dr. Gardner or his successors to limit publication of their findings."

  Sealover v. Carey Canada, 793 F. Supp. 569, 577 (M.D. Pa. 1992).

- No "evil motive can be imputed to USG for following Dr. Gardner's advice" to omit the observations of the eleven mice from the final report.

  Pigozzi v. United States Gypsum Co., No. 98 L 04457, slip op. at 3 (Ill. Cir., Cook Cty. Aug. 15, 1999).

- "What I saw was minimal evidence with respect to Gypsum connecting them to the study . . . in that they struck a provision relating to cancer, for perhaps good reasons and maybe perhaps for bad reasons, but that it was done in a fair exchange of ideas at the time."

  Davis v. Armstrong World Indus., 86-CIV-763 (W. Va. Cir., Monongalia Cty. June 30, 1988).

- "[T]here certainly couldn't be any proximate cause from it because the information was disseminated, there wasn't any secret kept about it."

  Board of Educ. of City of Detroit, Tr. at 19 (Mich. Cir., Wayne Cty. Sept. 4, 1992).

6. Courts that have examined the evidence have concluded that the Saranac experiments did not establish an asbestos-cancer link:

- "[J]ust a simple analysis of relevance based upon the scientific – really I don't mean to be unkind about the plaintiff's position here, but the scientific worthlessness of the minuscule information that U.S. Gypsum had or at least that plaintiffs can establish that U.S. Gypsum had. . . ."

  Lammers v. OwensCorning Fiberglas Corp., No. 97CV005649, Tr. at 56-57 (Wis. Cir., Milwaukee Cty. Jan. 29, 1999).

- The Saranac experiments reveal "a lack of sound research."

  Pigozzi, slip op. at 2.

- "Dr. Gardner found only a possible relationship between exposure to massive amounts of asbestos and malignant tumors in white mice. He himself stated that the implications were unclear. . . ."

  Sealover, 793 F. Supp. at 575.

- "When you look at Dr. Gardner's report there is no credibility attached to that issue. He says there isn't. He says it is suspect. There just isn't anything there."

  Board of Educ. of City of Detroit v. Celotex Corp., No. 84-429-634-NP, Tr. at 23-24 (Mich. Cir., Wayne Cty. Oct. 20, 1989).

- "I am satisfied that there was no scientific validity or no scientific basis then based upon Gardner's studies for the conclusion that there was a tie in with cancer."

  Board of Educ. of City of Detroit, Tr. at 18-19 (Mich. Cir., Wayne Cty. Sept. 4, 1992).

For the foregoing reasons, U.S. Gypsum respectfully requests that this Court enter an order *in limine* precluding plaintiff from introducing any argument or evidence concerning animal experiments conducted by Dr. LeRoy Gardner at the Saranac Laboratory in the late 1930s and early 1940s.

MEMORANDUM OF LAW IN SUPPORT OF MOTION *IN LIMINE* OF DEFENDANT UNITED STATES GYPSUM COMPANY TO EXCLUDE ARGUMENT AND EVIDENCE RELATING TO THE SARANAC EXPERIMENTS

Defendant United States Gypsum Company ("U.S. Gypsum") submits this memorandum of law in support of its motion *in limine* to exclude argument and evidence that U.S. Gypsum participated with other manufacturers in an effort to suppress certain results of the Saranac experiments. This argument is not supported by the evidence, and allowing plaintiff to so argue would irreparably prejudice U.S. Gypsum. The documents show no such conduct by U.S. Gypsum -- indeed, the documents indicate that U.S. Gypsum never was apprised of or participated in any allegedly improper conduct . The Saranac documents are inadmissible because they are irrelevant and their admission would create a substantial danger of unfair prejudice and jury confusion.[1/]

The purpose of the Saranac experiments was to study the manifestation of asbestosis in laboratory animals. The first step was to induce asbestosis by injection of asbestos into and the inhalation of hundreds of millions of raw asbestos fibers by a variety of animals, including guinea pigs, cats, rats, rabbits and mice. No attempt was made to simulate levels associated with handling of finished products containing only minor amounts of asbestos.

Plaintiff argues that the experiments proved that asbestos causes cancer in humans and that the companies that funded the experiments improperly suppressed this finding. The basis for the argument is that Dr. Gardner, who conducted the experiments, observed tumors in eleven out of the hundreds of animals he used. Plaintiff's argument is flatly contradicted by Dr. Gardner himself and numerous other eminent scientists who followed up on, spoke and wrote about, and

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1/ The documents also are inadmissible hearsay, and the evidence lacks authentication, foundation and/or identification. U.S. Gypsum reserves these objections, but does not present them fully herein.

rejected the tumor observations. Moreover, plaintiff's argument has been rejected by courts that have examined the evidence. Those courts have concluded that:

- The Saranac documents do not contain "any evidence . . . linking U.S. Gypsum to efforts to conceal the results or to pressure Dr. Gardner or his successors to limit publication of their findings."
  Sealover v. Carey Canada, 793 F. Supp. 569, 577 (M.D. Pa. 1992) (Exhibit A).

- No "evil motive can be imputed to USG for following Dr. Gardner's advice" to omit the observations of the eleven mice from the final report.
  Pigozzi v. United States Gypsum Co., No. 98 L 04457, slip op. at 3 (Ill. Cir., Cook Cty. Aug. 15, 1999) (Exhibit B).

- "What I saw was minimal evidence with respect to Gypsum connecting them to the study . . . in that they struck a provision relating to cancer, for perhaps good reasons and maybe perhaps for bad reasons, but that it was done in a fair exchange of ideas at the time."
  Davis v. Armstrong World Indus., 86-CIV-763 (W. Va.Cir., Monongalia Cty. June 30, 1988) (Exhibit C).

The data allegedly concealed was determined by Dr. Gardner and other eminent scientists to be of no value, and was omitted from the final report of the Saranac experiments for reasons consistent with good science. From his earliest interim report on the asbestosis work, Dr. Gardner himself expressed doubt as to whether his tumor observations were any evidence of a cancer causing action. Dr. Gardner wrote that his observations on this issue "are suggestive but not conclusive" and that his methodology was "open to several criticisms." *See* Outline of Proposed Monograph on Asbestosis at 7-8 (Exhibit D). He stated that he felt that the dubious tumor observations "*would better be omitted from the present report.*" *See* Cover Letter to Report, February 24, 1943, at 1 (emphasis supplied) (Exhibit E).

Consistent with its marginal role, U.S. Gypsum did not receive a copy of Dr. Gardner's Outline. Nor did U.S. Gypsum participate in or receive the voluminous correspondence between and among the lead sponsors and Dr. Gardner during the late 1930s and early to mid-1940s.

Contrary to the argument plaintiff urges, the companies that funded the experiments did not prohibit Dr. Gardner from sharing his observations. Dr. Gardner applied to the National Cancer Institute ("NCI") for a grant to study the issue of asbestos as a cancer-causing agent.[2] Summarizing the discussion of the eminent cancer specialists who reviewed the application, one doctor stated that he did not "believe that this information would be of any tremendous value." *See* Transcript of Proceedings at 26 (Exhibit F). Others, too, voiced significant doubt as to the scientific importance of Dr. Gardner's observations. Dr. Gardner's grant application was put to a vote and was denied. *Id.* The transcript of that proceeding has been a matter of public record for over 55 years.

Dr. Gardner died suddenly in October 1946, without finishing a final report on the asbestosis experiments. His materials were sent to Dr. Kenneth Lynch of the Medical College of the State of South Carolina, whose own work had indicated a possible link between high-level asbestos exposure and cancer. Dr. Lynch cited Dr. Gardner's tumor observations in speeches and published articles.[3] On each occasion Dr. Lynch opined -- bolstered by his own research -- that

2/ The NCI was established by the National Cancer Institute Act of 1937. As defined by Congress, its duties included "conducting researches, investigations, experiments, and studies relating to the cause, diagnosis, and treatment of cancer; assisting and fostering similar research activities by other agencies, public and private; and promoting a coordination of all such researches and activities and the useful application of their results, with a view to the development and prompt wide-spread use of the most effective methods of prevention, diagnosis and treatment of cancer."

3/ *See* Address to the Gordon Research Conferences, August 31, 1950, at 3 (Exhibit G) ("we also have knowledge of an unexpectedly high incidence of lung tumors in mice that had been experimentally exposed to asbestos dust. Since this (continued...)

"[a]nimal experimentation has not yet provided any conclusive evidence" of a possible relationship between asbestosis and lung cancer.[4/]

After Dr. Gardner's death, and after his successors at Saranac had reviewed his research, the Saranac researchers stated in a draft report that the nature of the tumors observed Dr. Gardner was unknown, and noted that Dr. Gardner's own laboratory notes referred to the development of non-cancerous tumors or "adenomas." *See* Interim Report, Sept. 30, 1948, at 49 (Exhibit K).[5/] It is the omission of these equivocal descriptions of Dr. Gardner's chance observations, pending further study, from the final report published in the *American Medical Association Archives of Industrial Hygiene and Industrial Medicine* in 1951 that plaintiff argues somehow caused the entire medical, scientific and regulatory communities to remain ignorant of the hazards of asbestos for decades, thereby causing injury to plaintiff.

Based upon the myriad problems identified by Dr. Gardner regarding his tumor observations in a few mice, numerous courts have recognized that the data U.S. Gypsum is alleged to have concealed was of no scientific value. In *Lammers v. OwensCorning Fiberglas*

3/(...continued)
experiment was not designed with the possible production of cancer in mind, it was not controlled in such a manner as to permit any conclusion"); Summary of Presentation at Seventh Saranac Symposium, September 24, 1952, at 9 (Exhibit H) (describing Gardner's work as an "uncompleted experiment" that was "uncontrolled" as to tumor susceptibility of mice used); Lynch, McIver & Cain, "Pulmonary Tumors in Mice Exposed To Asbestos Dust," 15 A.M.A. Arch. of Ind. Health 207, 213 (March 1957) at n. 13 (Exhibit I);

4/ Lynch and Pratt-Thomas, "Carcinoma of the Lung in Asbestosis: Report of Two Additional Cases," 48 So. Med. J. 565, 568 (June1955) ("[m]ice exposed to concentrations of asbestos dust having the proper specifications as regards particle volume and size do not develop asbestosis or carcinoma, although the ubiquitous pulmonary adenoma is frequently present") (Exhibit J); Lynch, McIver & Cain, "Pulmonary Tumors in Mice Exposed To Asbestos Dust," 15 A.M.A. Arch. of Ind. Health 207, 213 (March 1957) ("[n]o significant histological or cytological difference was observed between tumors in the control and dusted groups" and "[n]o clear-cut proof of malignancy was found in any of the tumors studied") (Exhibit I).

5/ One of Dr. Gardner's successors at Saranac, Dr. Philip Pratt, has stated under oath that based upon Dr. Gardner's notes and his own independent analysis of the tissue slides, he concluded in 1948 and believes at present that the lesions were adenomas and not malignant cancers. *See* Affidavit of Philip Pratt ¶ 9 (Exhibit L) (exhibits omitted).

Corp., No. 97CV005649, Tr. at 56-57 (Wis. Cir., Milwaukee Cty. Jan. 29, 1999) (Exhibit M), the court excluded all reference to Dr. Gardner's speculative observations regarding cancer based upon

> just a simple analysis of relevance based upon the scientific -- really I don't mean to be unkind about the plaintiff's position here, but the scientific worthlessness of the minuscule information that U.S. Gypsum had or at least that plaintiffs can establish that U.S. Gypsum had . . .
>
> . . .
>
> [W]e've got a rule of law that requires that scientific evidence be treated with honesty and applying intellectual honesty in this case, the information about possible cancer producing effects of long fibre asbestos noted by Dr. Gardner in 1943 and reported as a question in 1948 that that is again applying the legal standard here not relevant . . .

Other courts have reached similar conclusions:

- The Saranac experiments reveal "a lack of sound research."
  Pigozzi, slip op. at 2 (Exhibit B).

- "Dr. Gardner found only a possible relationship between exposure to massive amounts of asbestos and malignant tumors in white mice. He himself stated that the implications were unclear. . . ."
  Sealover v. Carey Canada, 793 F. Supp. 569, 575 (M.D. Pa. 1992) (Exhibit A).

- "When you look at Dr. Gardner's report there is no credibility attached to that issue. He says there isn't. He says it is suspect. There just isn't anything there."
  Board of Educ. of City of Detroit v. Celotex Corp., No. 84-429-634-NP, Tr. at 23-24 (Mich. Cir., Wayne Cty. Oct. 20, 1989) (Exhibit N).

- "I am satisfied that there was no scientific validity or no scientific basis then based upon Gardner's studies for the conclusion that there was a tie in with cancer."
  Board of Educ. of City of Detroit, Tr. at 18-19 (Mich. Cir., Wayne Cty. Sept. 4, 1992) (Exhibit O).

As noted by these courts, Dr. Gardner's data were, by his own admission, of highly dubious scientific value. Even had any concealment occurred, it could have had no effect on the medical community's knowledge regarding a link between high level exposure to raw asbestos and the development of lung cancer.

Regardless of the scientific validity of Dr. Gardner's data, the Saranac documents are not probative of concealment because no concealment occurred. It was *Dr. Gardner's* suggestion that the data not be included in the final report because it was both unreliable and inconclusive. In addition, the data was disseminated widely. In 1943, Dr. Gardner himself sent the data to the NCI where it was openly discussed by cancer specialists from around the country, and Dr. Lynch referred to the observations at major symposia in 1950 and 1952, and in articles published in 1955 and 1957.

Even if it were true that some sponsors of Dr. Gardner's work attempted to suppress his findings, U.S. Gypsum was not a party to such efforts. There is no evidence that U.S. Gypsum either sent or received the majority of the Saranac documents, including the 1943 report and voluminous correspondence among other funders of the experiments, which has been produced in asbestos litigation. U.S. Gypsum was not informed of and never participated in any attempt to improperly suppress Dr. Gardner's observations. Accordingly, the documents are not admissible to show the conduct or motivation of U.S. Gypsum. *Wesley Theological Seminary of the United Methodist Church v. United States Gypsum Co.*, No. CA-85-1606, Order at 3-4 (D.D.C. March 25, 1988) (Exhibit P), *aff'd in relevant part, rev'd in part*, 876 F.2d 119, 123 (D.C. Cir. 1989), *cert. denied*, 494 U.S. 1003 (1990).

Whatever its motivation, the omission of Dr. Gardner's speculative cancer findings could not have caused any injury to plaintiff. As the court held in *Board of Educ. of City of Detroit*, Tr. at 19 (Mich. Cir., Wayne Cty. Sept. 4, 1992) (Exhibit O): "[T]here certainly couldn't be any proximate cause from it because the information was disseminated, there wasn't any secret kept about it." Information regarding the hazards of asbestos dust exposure, as understood by the science of the time, including Dr. Gardner's inconclusive results, was published in the scientific literature both before and during the time in which plaintiff alleges concealment. Indeed, plaintiff's own state of the art experts routinely opine that a link between asbestos exposure and cancer was well-established and accepted before 1951, when the final report of the Saranac experiments was published.[6]

Thus, any assertion that the omission of a reference to tumors in the final report of Dr. Gardner's asbestosis experiments in 1951 somehow concealed the cancer issue is absurd. Even more absurd is the suggestion that plaintiff, whose first alleged exposure to asbestos-containing products occurred years later, was harmed by the failure to include a questionable finding of non-cancerous tumors in the report on the Saranac experiments.

Plaintiff will attempt to present bits and pieces of the Saranac story out of context, and U.S. Gypsum will be forced to respond by presenting extensive scientific and medical evidence to the contrary. The evidence is highly inflammatory and bears no relevance to causation, which is plaintiff's burden in this liability case. *See Perlmutter v. United States Gypsum Co.*, No. 87 M

6/ *See, e.g., Wigley v. United States Gypsum Company, et al.*, Cause No. 98-10710-B (Dallas Cty., Texas) July 29, 1999 Tr. 88:18-89:1 ("[C]ertainly there was a general consensus, if not a complete consensus, that by 1949, based on that JAMA editorial that was in the medical community, that asbestos could cause Cancer [sic].") (Exhibit Q); *Sanchez v. United States Gypsum Company, et al.*, Cause No. 96-2807 (El Paso Cty., Texas) July 29, 1999 90:22-24 ("Q: We are talking about lung cancer now and the development of that relationship? A: By the end of the '40s.") (Exhibit R).

510, Tr. at 595-99 (D. Colo. May 6, 1991) (Exhibit S); *J.H. Snyder Co. v. Carey Canada, Inc.*, No. C 728 816, Order (Cal. Super., L.A. Cty. Apr. 18, 1994) (Exhibit T).

For the foregoing reasons, U.S. Gypsum respectfully requests that this Court enter an order *in limine* precluding plaintiff from introducing any argument or evidence concerning animal experiments conducted by Dr. LeRoy Gardner at the Saranac Laboratory in the late 1930s and early 1940s.