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Manufacturers' Liability for Defective Product Designs: The Triumph of Risk-Utility

Aaron D. Twerski & James A. Henderson, Jr.[†]

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I. INTRODUCTION

This Article marks a notable anniversary for its authors. Ten years ago, in 1998, we celebrated the publication of the *Restatement (Third) of Torts: Products Liability*, on which we served as co-Reporters,¹ and we coauthored and published an article claiming that American courts had reached a consensus regarding the standard by which to judge whether a product design is defective.² This Article reviews what has happened in the decade since then and concludes that

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¹ See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. (1998).

² See James A. Henderson, Jr. & Aaron D. Twerski, *Achieving Consensus on Defective Product Design*, 83 CORNELL L. REV. 867, 868-72, 887, 893-901 (1998) [hereinafter Henderson & Twerski, *Achieving Consensus*].

we got it right the first time. Beyond simply sharing our current research with the reader, we want to shed some new light on how the Restatement came to be the way it is and to explain how and why the consensus we described earlier remains rock solid. The Restatement project and the consensus article are linked because the standard that virtually all American courts use in judging product designs is the one we included in section 2(b) of the Restatement—whether the defendant manufacturer could have adopted a safer alternative design and whether failure to do so “renders the product not reasonably safe.”³ As this Article explains, trial courts vary somewhat (though less now than ten years ago) in what they say to juries; and appellate courts vary somewhat (less now) in the rhetoric they use to write their opinions; but in the overwhelming majority of American jurisdictions, claims of defective design reach triers of fact only when the plaintiff offers plausible proof that her injuries would have been reduced or avoided by the adoption of a reasonable alternative design.⁴

II. THE TREATMENT OF DESIGN DEFECT IN THE *RESTATEMENT* (*THIRD*)

When we started work as co-Reporters in 1992, we understood that the products liability project would address a number of issues that would, in varying degrees, be controversial. How should component parts suppliers be treated?⁵ Commercial used-product sellers?⁶ How should crashworthiness claims be sorted out?⁷ Should a robust post-sale duty to warn be implemented?⁸ We knew that each of these issues would generate vigorous debate and controversy. But we also knew that none would surpass in intensity the controversy surrounding the proper standard for defective product design. The reason for this had more to do with rhetoric than substance. For thirty years, American courts across the country had been applying a fault-based risk-utility standard in reviewing the defectiveness of product designs.⁹ But over the same period, most of these courts had been explicitly referring to section 402A of the *Restatement (Second) of Torts*, which trumpeted strict liability as the

³ See *RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB.* § 2(b) (1998).

⁴ See *infra* Part IV.

⁵ See *RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB.* § 5 (1998).

⁶ See *id.* § 8.

⁷ See *id.* § 16.

⁸ See *id.* § 10.

⁹ See JAMES A. HENDERSON, JR. AND AARON D. TWERSKI, *PRODUCTS LIABILITY: PROBLEMS AND PROCESS* 177-78 (6th ed. 2008); DAVID G. OWEN, *PRODUCTS LIABILITY LAW* § 8.4 (2005) [hereinafter OWEN, *PRODUCTS LIABILITY LAW*]. See generally Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 *VAND. L. REV.* 593 (1980).

operative rule.¹⁰ So long as the inherent contradiction between applying a fault standard to determine liability and using strict liability rhetoric to explain the outcome continued unchallenged, all had gone smoothly enough. But to come along in a new Restatement and point out the obvious inconsistency would seem, to those who truly believed in the myth of strict liability, nothing short of heresy.

Another aspect of developing an acceptable standard for defective design would have to be addressed. Even if we could count on reasonable minds to see that the operative standard for defective design was rooted in risk-utility balancing, it was not so clear that reasonable minds would agree that only a marginal, rather than an aggregative, approach would be acceptable. Marginal risk-utility analysis asks whether the manufacturer could have adopted a safer, cost-effective version within the broader category of design into which the defendant's product falls; aggregative risk-utility asks whether the risks of the broader category outweigh, in the aggregate, the category's social utility. Under category liability, even inherently, unavoidably unsafe product designs that cannot be redesigned to be significantly safer may be deemed defective if their aggregate risks are found to outweigh their aggregate utilities. We knew that American courts have never imposed category liability for very good reasons.¹¹ but we were concerned that an unintended consequence of convincing ALI members that risk-utility, not strict liability, was the operative standard for defective design would be to give category liability new-found (and undeserved) respectability.

A. *Recognizing a Fault-Based Standard for Defective Design*

The first task we undertook as Reporters was to divide the concept of product defect into three subcategories that American courts had come to recognize: (1) manufacturing defects, (2) design defects, and (3) failures to warn (marketing defects).¹² The drafters and promoters of section 402A in the early 1960s had relied almost entirely on manufacturing defects which, because they could be defined mechanically without reference to notions of unreasonable risk, could serve as the basis for strict liability.¹³ Because the drafters of section 402A had in mind only manufacturing defects, they saw no reason to distinguish among the other types of defects to which their strict liability

¹⁰ See, e.g., *Thibault v. Sears, Roebuck & Co.*, 395 A.2d 843, 846 (N.H. 1978) (applying an "unreasonably dangerous" risk-utility test for defective design, the court insists it is imposing "strict liability" under section 402A).

¹¹ See generally James A. Henderson, Jr. & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263 (1991) [hereinafter Henderson & Twerski, *Closing the Frontier*]; David G. Owen, *Toward a Proper Test for Design Defectiveness: "Micro Balancing" Costs and Benefits*, 75 TEX. L. REV. 1661 (1997).

¹² See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1-2 (1998).

¹³ See OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 7.2.

rule might apply.¹⁴ To be sure, the drafters of section 402A appear also to have relied on a special subset of design defects involving products that malfunction, thereby failing to perform their manifestly intended function in a self-defeating manner.¹⁵ In those special design cases the defects are functionally equivalent to manufacturing defects, so strict liability works as well for them. Indeed, manufacturing and design malfunction defects may be said to disappoint consumer expectations and thus may be deemed defective on that basis. By contrast, courts generally dealt with failures to warn under the negligence rubric, often outside the bounds of section 402A.¹⁶ After all, the defendant's "failure" to provide adequate warnings carried with it a built-in negligent quality not involving any shortcoming inherent in the product itself. So far, so good. The critical analytical error that many courts and commentators made in the post-section 402A developmental period was to assume that product designs that were unreasonably dangerous, but neither self-defeating nor prone to malfunction, could be dealt with under the same section 402A strict liability rubric as could manufacturing defects and malfunctioning, self-defeating designs. Because virtually no such mainstream design cases reached juries in the 1960s and early 1970s,¹⁷ the incoherence of purporting to hold manufacturers strictly liable for their negligent design choices did not surface.¹⁸ Observers of the developing American products liability system simply assumed that the strict liability rule in section 402A applied not only to manufacturing defects but to all manners of design defects, as well.

As mainstream design cases¹⁹ began to reach juries in greater numbers in the 1970s and 1980s, many courts came to understand that a fault-based, reasonableness standard was necessary with which to determine design defects. But the "strict liability under section 402A" rhetoric persisted, notwithstanding the underlying reality that fault of the manufacturer was the determinative consideration. Thus, the two significant implications of dividing the defect concept into its three separate constituents were (1) the requirement that we squarely face the question of what the basis of liability should be for mainstream, "classic"

¹⁴ George L. Priest, *Strict Products Liability: The Original Intent*, 10 CARDOZO L. REV. 2301, 2303 (1989).

¹⁵ See Michael D. Green, *The Unappreciated Congruity of the Second and Third Torts Restatements on Design Defects*, 74 BROOK. L. REV. 807 (2009).

¹⁶ See James A. Henderson, Jr. & Aaron D. Twerski, *Doctrinal Collapse in Products Liability: The Empty Shell of Failure to Warn*, 65 N.Y.U. L. REV. 265, 271-72 (1990) [hereinafter Henderson & Twerski, *Doctrinal Collapse*].

¹⁷ See James A. Henderson, Jr., *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531, 1546-52 (1973) [hereinafter Henderson, *Judicial Review of Manufacturers' Conscious Design Choices*]; Henderson & Twerski, *Achieving Consensus*, *supra* note 2, at 891.

¹⁸ See *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176, 184 (Mich. 1984); Birnbaum, *supra* note 9, at 600-01.

¹⁹ We have referred to design cases not involving product malfunction as "classic" design cases. See Henderson & Twerski, *Achieving Consensus*, *supra* note 2, at 876-77.

design defects; and (2) the necessity that we bring failure to warn cases, clearly resting on risk-utility balancing, within the umbrella concept of product defect. The first of these implications is of primary interest here. We have dealt with the second elsewhere.²⁰ At the outset, we were tempted to recognize that classic design defects reflected negligence on the part of the manufacturer in parallel fashion to failure to warn. But we knew that many courts were deeply committed to section 402A's "strict liability" rhetoric, and might reject the new Restatement out-of-hand for that reason, without giving it a fair hearing.²¹ So we decided to capture in plain words the essence of Learned Hand's classic formulation for negligence,²² in which the plaintiff must show that a precaution (an alternative design) could have been adopted at acceptable costs (failure to adopt renders the defendant's product not reasonably safe), and that failure to adopt the precaution caused the plaintiff's injuries. The black letter of the new Restatement makes no mention of "negligence" or "fault;" it leaves such language to the comments.²³ Thus, under the new Restatement, a court is free to adopt or reaffirm the substantive, risk-utility standard that American courts had been applying for decades prior to our work and at the same time continue to insist that manufacturers are strictly liable for harm caused by design defects.²⁴ Of course, nothing prevents courts from embracing the risk-utility standard openly; by now, a majority of courts have done exactly that. But nothing in the Restatement forces courts to do so.

Observe that the distinction here drawn between risk-utility balancing and strict liability is not bridged merely by holding the manufacturer responsible for time-of-trial knowledge of risk and risk-avoidance technology that may not have been available at the time of original sale. Although doing so could be characterized as imposing "strict liability" in the sense that the manufacturer might not have been negligent in failing to discover risk and risk-avoidance information that was unknowable at time of sale, the standard for judging the design nevertheless involves risk-utility balancing at time of trial. Although most American courts do not hold product sellers responsible for information not available at time of sale,²⁵ even the small minority that do are committed to judging product designs based on risk-utility balancing.

A true non-risk-utility approach to holding manufacturers liable for the generic risks presented by their products would be to hold them liable for all the harm their products cause—to let actual causation

²⁰ See Henderson & Twerski, *Doctrinal Collapse*, *supra* note 16.

²¹ We did not want to be remembered, fairly or not, as "the guys who tried to kill strict products liability."

²² See *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947).

²³ See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmts. a, d (1998).

²⁴ See *id.* § 2 cmt. n.

²⁵ See HENDERSON & TWERSKI, *supra* note 9, at 197-99, 341-52.

determine liability. Elsewhere we have referred to such an approach as “enterprise liability”²⁶ and have argued that it would be unworkable. Not only is actual causation an inadequate basis for sorting out claims in court—without a requirement of defect, everything ends up being a cause in fact of everything else—but also no one could insure against the relevant losses because of high levels of moral hazard—product users would have inadequate incentives to use products carefully.²⁷ Not surprisingly, our courts have never adopted such an approach, or even considered it seriously.²⁸ But what a number of courts have considered is basing design-based liability on the disappointment of consumer expectations. Historically, such an approach traces its pedigree to comment i to section 402A, in which the drafters justified their new rule of strict liability by pointing to the disappointment of consumer expectations that defect-caused product failures cause.²⁹ Earlier in this analysis we explained how manufacturing defects and self-defeating designs trigger product malfunctions that disappoint expectations of safe product performance. That is clearly what the drafters had in mind when they authored comment i. But if the courts were to extend the consumer expectations concept to include situations in which products perform exactly as intended but nonetheless cause injury, a form of strict, enterprise liability would be achieved. Even if the accident could not have been avoided cost-effectively by redesigning the product, liability could be imposed because the mere fact that the product caused injury could be found to have disappointed consumer expectations of safe product usage.

Of course, this new expectations-based rule of quasi-enterprise liability would not *require* the imposition of liability upon a showing that the defendant’s product caused harm. Under a true enterprise liability approach, causation, alone, would require the imposition of liability, but not here. To impose liability under the approach being considered here, in addition to a finding of causation, the trier of fact would also be required to find that the happening of the accident disappointed consumer expectations. Presumably, if the product-related risks were fairly obvious, a jury could conclude that a product did *not* disappoint expectations even if it helped to cause a terrible accident.³⁰ Bearing in mind that jurors, in determining whether expectations were disappointed, draw on their own life experiences rather than rely on proof adduced by

²⁶ See James A. Henderson, Jr., *Why Negligence Dominates Tort*, 50 UCLA L. REV. 377 *passim* (2002); see also Henderson & Twerski, *Closing the Frontier*, *supra* note 11, at 1276-97.

²⁷ See Henderson, *supra* note 26, at 390-400.

²⁸ Henderson, *Judicial Review of Manufacturers’ Conscious Design Choices*, *supra* note 17, at 1554; see also Henderson & Twerski, *Closing the Frontier*, *supra* note 11, at 1292, 1296-97.

²⁹ See HENDERSON & TWERSKI, *supra* note 9, at 254-69.

³⁰ See *id.* at 269-78.

the parties,³¹ it would not be unfair to characterize such a quasi-enterprise liability approach as one based on the jury's whim.³²

This foray into the possibility that courts might pursue a quasi-enterprise-liability, "jury's whim" approach to design defects based on the disappointment of consumer expectations would seem puzzlingly unnecessary save for one critical fact—that is exactly the path that critics of the Restatement project have pursued in opposing the adoption of a risk-utility, reasonable-alternative-design approach to defective design. Besides knowing full well when we began work as Reporters that the operative design defect standard in most states was fault-based risk-utility balancing, we were also aware that a minority of states insisted that the operative standard was the disappointment of consumer expectations.³³ Without having yet undertaken a thorough canvassing of all states, we had assumed that no jurisdiction would knowingly embrace an amorphous, jury-whim approach and that one or more of the following explanations accounted for all such judicial references to consumer expectations: (1) references to "reasonable expectations" incorporated risk-utility balancing, and thus the standard to which courts referred was, in actuality, a fault-based standard; (2) the courts that referred to consumer expectations did so only in the context of self-defeating designs that caused products to malfunction; or (3) even if the references to expectations were not limited to reasonable expectations, and even if the references were made in the context of classic design litigation not involving product malfunctions, trial courts sent design claims to juries only when plaintiffs produced credible proof of reasonable alternative designs that would have avoided the plaintiffs' harm.

In addition to these common-sense assumptions regarding the prevailing case law, we also knew that virtually every major torts scholar who had looked carefully at the issue of design defect over the past several decades had embraced risk-utility balancing and had rejected the consumer expectations test as unworkable and unwise.³⁴ A small handful of writers, including two who wrote advocacy pieces only after the

³¹ See *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 305-06 (Cal. 1994).

³² See James A. Henderson, Jr. & Aaron D. Twerski, *Intuition and Technology in Product Design Litigation: An Essay on Proximate Causation*, 88 GEO. L. J. 659, 681 (2000).

³³ See *infra* notes 188-200 and accompanying text.

³⁴ See, e.g., Birnbaum, *supra* note 9, at 611-18; Mary J. Davis, *Design Defect Liability: In Search of a Standard of Responsibility*, 39 WAYNE L. REV. 1217, 1235-37 (1993); Richard A. Epstein, *Products Liability: The Search for the Middle Ground*, 56 N.C. L. REV. 643, 649-52 (1978); Michael D. Green, *The Schizophrenia of Risk-Benefit Analysis in Design Defect Litigation*, 48 VAND. L. REV. 609, 613-15 (1995); W. Page Keeton, *Products Liability—Design Hazards and the Meaning of Defect*, 10 CUMB. L. REV. 293, 300-05 (1979); David G. Owen, *Defectiveness Restated: Exploding the "Strict" Products Liability Myth*, 1996 U. ILL. L. REV. 743, 760-61; William Powers Jr., *A Modest Proposal to Abandon Strict Products Liability*, 1991 U. ILL. L. REV. 639, 646-47, 652-54; Gary T. Schwartz, *Foreword: Understanding Products Liability*, 67 CAL. L. REV. 435, 478-81 (1979); John Wade, *On Product "Design Defects" and Their Actionability*, 33 VAND. L. REV. 551, 566-71 (1980).

Restatement revision project was well under way, urged adoption of the consumer expectations test. These authors insisted that the risk-utility standard lacked support in the case law and placed an unfair burden on plaintiffs by requiring them to provide technical proof that a safer, harm-preventing alternative design would have been feasible.³⁵ The consumer expectations test was fair, they argued, because all that it required plaintiffs to prove was that the product, even if reasonably safe, had been instrumental in causing them to suffer harm.

Lending an aura of plausibility to these otherwise implausible anti-risk-utility arguments was the fact that the Supreme Court of Connecticut purported to reject the Restatement's reasonable-alternative-design standard in 1997, while we were still working with a tentative draft of the relevant section. The plaintiff in *Potter v. Chicago Pneumatic Tool Co.*,³⁶ an industrial injury case, had proven several alternative designs and clearly would have reached the jury under the Restatement rule; the issue on appeal was how to instruct the jury after a trial almost entirely devoted to how the defendant could have designed the product more safely so as to avoid causing the plaintiff injury.³⁷ Although a majority approved an opinion that explicitly rejected the new Restatement's approach in the abstract, it recognized an exception for complex cases that came so close to actually embracing the Restatement's approach that a concurring justice chastised the majority for seemingly contradicting itself.³⁸ At the time, the Connecticut decision seemed so out of place in the factual context of the actual case as to appear artificially contrived in an effort to embarrass the Restatement project. Interestingly, our recent research for this Article reveals that no plaintiff in a reported case in Connecticut has ever reached the jury in a classic design case without proving that a safer, reasonable alternative design was available at time of sale.³⁹ It thus appears that the Connecticut high court could not have meant what it said in 1997 about there being no requirement that the availability of an alternative design be proven. But there it was—the Connecticut Supreme Court had gone out of its way to reject the tentative draft of our section on design defect. We could

³⁵ Marshall S. Shapo, *In Search of the Law of Products Liability: The ALI Restatement Project*, 48 VAND. L. REV. 631, 665-68 (1995); Frank J. Vandall, *The Restatement (Third) of Torts: Products Liability Section 2(b): The Reasonable Alternative Design Requirement*, 61 TENN. L. REV. 1407 (1994). In a more recent article, Douglas Kysar argues that the consumer expectations test as advocated by the critics of the *Products Liability Restatement* is too amorphous and vague but sets forth a consumer expectations test based on scientific and behavioral testimony of experts. Douglas A. Kysar, *The Expectations of Consumers*, 103 COLUM. L. REV. 1700 (2003). The authors responded in James A. Henderson, Jr. & Aaron D. Twerski, *Consumer Expectations Last Hope: A Response to Professor Kysar*, 103 COLUM. L. REV. 1791 (2003).

³⁶ 694 A.2d 1319 (Conn. 1997).

³⁷ *See id.* at 1324-25.

³⁸ *See id.* at 1356 (Berdon, J., concurring) (“[A]dopting such a risk-utility test for ‘complex product designs’ sounds dangerously close to requiring proof of the existence of ‘a reasonable alternative design,’ a standard of proof that the court properly rejects today.”).

³⁹ *See infra* notes 179-181 and accompanying text.

only hope that our reasoning and our research would persuade the American Law Institute membership that Connecticut's contrived, abstract essay in support of a consumer expectations test had gotten it dead wrong.

The end-result of all these deliberations was section 2(b), which requires the plaintiff to prove that the manufacturer could have adopted a reasonable alternative design and that failure to do so renders the product not reasonably safe. Comment g to section 2 states explicitly that disappointment of consumer expectations, while relevant, does not provide an independent basis on which to find that a product design is defective.⁴⁰ A Reporter's Note explains that, while a small minority of states purport to adopt the consumer expectations test, a clear majority rely on a risk-utility/reasonable-alternative-design standard to determine whether a design is defective.⁴¹

B. *Protecting Against Category Liability*

The second major aspect of the Restatement's treatment of liability for defective design concerned the need to protect against the possibility that the risk-utility approach would invite courts to condemn as defective entire categories of inherently dangerous products, even if those products could not be redesigned to be made safer.⁴² The idea behind category liability was that, under a negligence regime, a manufacturer could be found at fault for distributing certain inherently risky products in the first instance, even if those products could not be designed differently so as to make them safer.⁴³ For example, alcoholic beverages must, almost by definition, contain alcohol to be attractive to those who desire to consume such products. Removing the alcohol does not merely make such beverages safer for those who consume them abusively, it also destroys their utility for everyone, including the significant majority who do not abuse them. American courts have never imposed category liability, mainly because they intuitively (and correctly) understand that it would constitute an abuse of judicial power to decide which broad categories of products should not be distributed at all. Such sweeping regulation, courts have concluded, should be left to legislatures to undertake.⁴⁴ But if the new Restatement were overtly to

⁴⁰ See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. g (1998).

⁴¹ See *id.* § 2 Reporters' Note, cmt. d, II.C.-D. (1998).

⁴² See *supra* note 11 and accompanying text.

⁴³ Some advisers likened this form of distributor's negligence to negligent entrustment. See RESTATEMENT (SECOND) OF TORTS § 390 (1965); RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. n (1998).

⁴⁴ See, e.g., *Rose v. Brown & Williamson Tobacco Corp.*, 855 N.Y.S.2d 119, 124-26 (N.Y. App. Div. 2008) (claim that negligent product design of regular cigarettes based on availability of "light" cigarettes with lower tar and nicotine was dismissed because "light" cigarettes are not a substitute for regular cigarettes and to impose liability would declare a whole category of

embrace a risk-utility standard in broad terms, we feared that our formulation might invite courts to look more kindly on the proposition that certain categories of products are sufficiently dangerous that it would be negligent to distribute them in the first instance.

Besides lawyers who represent plaintiffs in products liability litigation, who would have been delighted to see our Restatement project endorse the idea that broad categories of inherently risky products might be deemed defective even if no alternative designs could have reduced the risks, two groups of American Law Institute constituents with seemingly more objective, disinterested viewpoints supported formulations that we believed might encourage courts to embrace category liability. The first group urged us to replace the more specific, reasonable alternative design standard for defect with the broader principle of designs that presented unreasonable risks, and then explained in a comment that the best way to prove that a product design's risks were unreasonable would be to prove that a reasonable, safer alternative design could have been adopted.⁴⁵ The other group of seemingly disinterested critics urged that we include in the black letter explicit language making clear that a manufacturer could be found to be at fault for distributing certain highly-though-unavoidably-risky product designs in the first instance.⁴⁶ We resisted these suggestions on the ground that the clear implication would have been that a category of products might be found to present unreasonable risks even if those risks were not avoidable by the adoption of a safer alternative.

In the end, we responded to the entreaties from both of these camps of disinterested, otherwise supportive critics by retaining the "proof of a reasonable alternative design" formulation and addressing the substance of their concerns in comments. Comments a and d to section 2 make clear that the foundational principle for design and marketing liability is the unreasonable risk concept that underlies negligence,⁴⁷ and the last paragraph of comment n to section 2 explains that some negligent marketing doctrines, such as negligent entrustment, fall outside the reach of the *Products Liability Restatement*.⁴⁸ Comment d to section 2 explicitly asserts that American courts have traditionally refused to impose category liability on "products that are generally available and widely . . . consumed, even if they pose substantial risks of harm."⁴⁹

products to be defective), *aff'd sub. nom.* Adamo v. Brown & Williamson Tobacco Corp., 900 N.E.2d 966 (N.Y. 2008).

⁴⁵ Professor Harvey S. Perlman, a member of the A.L.I. Council and an advisor to our project, was most vocal in urging that we adopt as the design standard the basic normative principle underlying the concept of a reasonable alternative design.

⁴⁶ Judge Robert E. Keeton (Advisor) and John P. Frank (Council Member) were the most vocal proponents of this position.

⁴⁷ See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmts. a, d (1998) (both refer explicitly to the negligence principle).

⁴⁸ *Cf. id.* § 2 cmt. n (1998); RESTATEMENT (SECOND) OF TORTS § 390 (1965).

⁴⁹ See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. d (1998).

To the consternation of many American Law Institute members who supported our reasonable alternative design approach, we added comment e to section 2, recognizing the possibility that courts in the future might determine that certain categories of products, other than those “generally available and widely . . . consumed” alluded to in comment d, might be sufficiently dangerous and of such minimal social utility that they would be deemed defective even if no safer alternative design was available.⁵⁰ Why did we include this comment that arguably contradicts comment d’s pronouncement against category liability? It will be observed that comment d makes clear that section 2(b) of the Restatement does not support category liability because American courts have never embraced it;⁵¹ and comment e speaks merely of the possibility that courts might encounter an unusual case in the future—it does not endorse or recommend the imposition of category liability.⁵² But if we were genuinely concerned with the possibility that the Restatement’s reliance on a risk-utility design standard might invite a movement toward category liability, why did we endorse the inclusion of comment e? Quite frankly, we were under significant pressure from critics, both interested and disinterested, to recognize that limited category liability was at least a logical implication of adopting a risk-utility approach to defective design. Thus, we decided to “bear hug” that possibility and hopefully disarm it by dealing with it forthrightly (and narrowly) in comment e. Whether or not it was an error in judgment at the time, we simply observe that our fears were unfounded—no court over the past ten years has relied on comment e to adopt category liability.⁵³

III. THE TREATMENT OF DESIGN DEFECT IN THE “REACHING CONSENSUS” ARTICLE

Having just published the Restatement with its “reasonable alternative design” requirement for design defects and its rejection of consumer expectations as a stand-alone test, why did we feel it was necessary in 1998 to publish an article claiming that consensus had been achieved? For one thing, it provided the opportunity to update the research reflected in the Reporters’ Note to section 2(b). We had finished the Note at least two years prior to publication. Perhaps more importantly, a law review article provided us the opportunity to explain

⁵⁰ See *id.* § 2 cmt. e.

⁵¹ See *supra* note 44 and accompanying text.

⁵² The Reporters’ Note to comment e makes this clear. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 Reporters’ Note, cmt. e (1998).

⁵³ *McCarthy v. Olin Corp.*, 119 F.3d 148, 162, 173 (2d Cir. 1997) (Calabresi, J., dissenting) (citing comment e and arguing that category liability might apply to “Black Talon” bullets, which were designed to expose razor sharp claws upon impact to create “hideous, gaping wounds”); *Parish v. Jumpking, Inc.*, 719 N.W.2d 540, 545 (Iowa 2006) (court rejected the application of comment e to declare a trampoline to be a manifestly unreasonable product).

ourselves more openly, free from the understandable constraints we had worked under as ALI Reporters.⁵⁴ Moreover, an article in a law review with good circulation would help spread the word more quickly and widely than would the publication of the new Restatement by itself, however auspicious an event that may have been.

Because the instant Article undertakes a thorough, state-by-state review of American law governing product design liability through early 2009, we would like briefly to critique the 1998 article. (Thus, even if we identify shortcomings in the earlier effort, our research for this Article will leave no doubt whatever as to where our courts stand on the relevant issues.) In writing the instant Article, we have debated between us whether “consensus” was the right word choice for the earlier piece. Certainly we intended then (and intend now) to convey the message that our courts overwhelmingly embrace a risk-utility/reasonable-alternative-design approach to determining whether the plaintiff should reach the jury with a claim of defective design. However, to the extent that our use of the word “consensus” implied that the courts recognize this reality self-consciously and rhetorically, we may have overstated our position. Then and now, some of the courts that regularly and routinely require plaintiffs to adduce plausible proof of a reasonable alternative design insist that such proof *is not always necessary* and explain what they are doing in terms of vindicating consumer expectations. Based on reported decisions, plaintiffs rarely, if *ever*, reach the jury in a classic design case without proof of a feasible alternative design,⁵⁵ but a minority of courts cling to the myth of strict design liability by clinging rhetorically to the consumer expectations rubric.⁵⁶

The thoroughness of our research for the instant Article suggests the other basis on which the 1998 article may have fallen a bit short. Rather than undertake a state-by-state review of the relevant law, as we do here, in our earlier article we chose representative examples with which to reveal the then-current patterns of judicial and legislative decisions. Our current research confirms that our previous assessments were accurate. But in addition to being current, the research supporting this Article is much broader and deeper. We turn now to examine the case law that has developed since the publication of the *Products Liability Restatement* in 1998.

⁵⁴ Although Restatement reporters speak for themselves in their Notes—the comments are official and speak for the Institute—we felt constrained to avoid the kind of argumentation that the law review format allowed.

⁵⁵ See *infra* notes 57-189 and accompanying text.

⁵⁶ See *infra* notes 152-202 and accompanying text.

IV. DESIGN DEFECTS IN THE COURTS: A LOOK AT THE LAST DECADE

In the ensuing sections we shall demonstrate the overwhelming judicial support for the risk-utility/alternative design standard for classic design defect cases. We shall begin by showcasing two states (Illinois and Missouri) that say that they do not adopt the reasonable alternative design standard and show that the rhetoric of these opinions belies the reality that a reasonable alternative design is necessary to make out a case in those jurisdictions. We shall then turn to the twenty-five states whose opinions rather clearly indicate support for section 2(b) of the Restatement. Finally, we shall examine the jurisprudence of other states whose law on the standard for design defect is somewhat varied, but at bottom requires proof of a reasonable alternative design in cases other than those where an inference of defect can be made because the product caused injury when put to its manifestly intended function.

A. *Consumer Expectations Rhetoric and Reality: The Illinois Experience*

If one were to choose a poster child for the proposition that empty rhetoric continues to influence how courts articulate the standard for design defect, the recent decision of the Supreme Court of Illinois in *Mikolajczyk v. Ford Motor Co.*⁵⁷ would be it. Some brief history is in order. In *Lamkin v. Towner*, decided in 1990, the Supreme Court of Illinois adopted a two-pronged test for design defect.⁵⁸ A plaintiff can make out a case for defective design if the product either fails to meet consumer expectations or does not meet risk-utility standards.⁵⁹ Since *Lamkin*, in a series of decisions, the Illinois court has wavered back and forth regarding the appropriate role of each test.⁶⁰ Finally, in *Mikolajczyk* the court sought to set the record straight. James Mikolajczyk, the driver of a 1996 Ford Escort, suffered severe, irreversible brain trauma when the defendant, a drunk driver, rear-ended his car at high speed.

⁵⁷ No. 104983, 2008 WL 4603565 (Ill. Oct. 17, 2008).

⁵⁸ 563 N.E.2d 449, 457 (Ill. 1990).

⁵⁹ *Id.* at 457.

⁶⁰ See, e.g., *Calles v. Scripto-Tokai Corp.*, 864 N.E.2d 249, 258-59 (Ill. 2007) (court concluded that utility lighter was not categorically exempt from risk-utility test merely because product posed an obvious danger to children under a consumer expectations test; plaintiff therefore had opportunity to prevail under the risk-utility test even if she failed the consumer expectations test); *Blue v. Env'tl. Eng'g, Inc.*, 828 N.E.2d 1128, 1143-47 (Ill. 2005) (court discussed applicability of section 2(b) to design defect claims based on negligence and strict liability); *Hansen v. Baxter Healthcare Corp.*, 764 N.E.2d 35, 46 (Ill. 2002) (court affirmed judgment for plaintiff based on both risk-utility test and consumer expectation test when an intravenous catheter that caused fatal air embolism could have been designed more safely at low cost and had been marketed as safety device and did not present obvious danger). For discussion of the pre-*Mikolajczyk* debate over design defect tests in Illinois, see Aaron D. Twerski, *Chasing the Illusory Pot of Gold at the End of the Rainbow: Negligence and Strict Liability in Design Defect Litigation*, 90 MARQ. L. REV. 7 (2006).

Mikolajczyk's widow brought an action in strict liability against Ford Motor Co. and Mazda Motor Corp., claiming that the driver's seat was defectively designed in that it propelled her husband rearward, causing him to hit his head on the backseat.⁶¹

Defendants introduced evidence that the seat in the Ford Escort met risk-utility standards and provided greater overall safety than an alternative design.⁶² Plaintiff insisted that the jury be allowed to conclude that the seat design was defective if it failed to meet consumer expectations.⁶³ Defendants urged the court to adopt section 2(b) of the *Products Liability Restatement*.⁶⁴ The court denied defendants' request on the ground that doing so would require a plaintiff "to plead and prove the existence of a feasible alternative design in every case."⁶⁵ Then, in an interesting turnaround, the court said:

Although we have declined to adopt section 2 of the Products Liability Restatement as a statement of substantive law, we do find its formulation of the risk-utility test to be instructive. Under section 2(b) the risk-utility balance is to be determined based on consideration of a "broad range of factors," including . . . the nature and strength of consumer expectations regarding the product, including expectations arising from product portrayal and marketing

We adopt this formulation of the risk-utility test and hold that when the evidence presented by either or both parties supports the application of this integrated test, an appropriate instruction is to be given at the request of either party. *If, however, both parties' theories of the case are framed entirely in terms of consumer expectations, including those based on advertising and marketing messages, and/or whether the product was being put to a reasonably foreseeable use at the time of the injury, the jury should be instructed only on the consumer-expectation test.*

Adoption of this integrated test resolves the question of whether the answer to the risk-utility test "trumps" the answer to the consumer-expectation test

⁶¹ *Mikolajczyk*, 2008 WL 4603565, at *1.

⁶² *Id.* at *26. The court offered the following summary of defendants' argument that the seat was safe:

[D]efendants claim the evidence showed that the designers of the CT20 seat had to take into account all of the various types of possible collisions (front-end, rear-end, side, rollover) that could occur at a wide range of speeds, and with occupants of different sizes, who may or may not be properly using their seatbelts, positioned at various seats in the vehicle If the court had given the tendered nonpattern risk-utility instruction instead of the pattern instruction, defendants posit, the jury would have been directed to weigh this evidence, including expert testimony that the yielding seat that caused James's death might nevertheless have been a safer alternative for other drivers in other types of collisions. Defendants also point to testimony by one of their own experts that the yielding driver's seat may have prevented fatal or more serious injury to the backseat passenger even while causing more serious injury to James.

Id.

⁶³ *Id.*

⁶⁴ *Id.* at *14 ("The rule advocated by defendants is contained in section 2(b) of the *Products Liability Restatement* . . .").

⁶⁵ *Id.* at *15.

because the latter is incorporated into the former and is but one factor among many for the jury to consider.⁶⁶

Rhetoric aside, what is the bottom line of *Mikolajczyk*? From a functional standpoint, it would appear that the consumer expectations test is a dead letter in Illinois. In any case in which a plaintiff seeks to proceed solely under the consumer expectations test, a defendant need only counter with risk-utility evidence to cause the court to apply the factors set forth in section 2, comment f. Under that test, consumer expectations are but one factor among other risk-utility factors to be considered in deciding whether a product is unreasonably dangerous. Conversely, when a defendant defends on the ground that a product meets consumer expectations, perhaps because the risks are obvious, a plaintiff need only introduce risk-utility evidence for the court to apply risk-utility balancing. The only cases in which risk-utility balancing will not come into play are those in which a product fails to perform its manifestly intended function and in which defective design can be inferred from the fact of injury. There can be no rational risk-utility defense to a product that simply cannot do what it was designed to do. If the steering mechanism of a car fails when it is driven out of the dealership, one cannot say it was reasonably designed to fail in this manner. That contingency is, however, covered by section 3 of the Restatement, which allows a court to apply a *res ipsa*-like inference of defect when defect can easily be inferred from the mere occurrence of the accident.⁶⁷

Two matters deserve comment. First, even if consumer expectations cannot serve as the sole test for defect, they are certainly relevant to risk-utility balancing. Thus, how a product is perceived by consumers implicates how the product will be used and ultimately affects the probability that the product may cause harm. The Learned Hand risk-utility formula takes into account both the probability and gravity of the harm and weighs both of these factors against the burden of taking precaution against the harm. As the Illinois court correctly observes, reasonable consumer expectations are one factor among many in deciding whether a product is unreasonably dangerous.⁶⁸ Second, a product that fails reasonable consumer expectations may still meet risk-utility norms. Indeed, with regard to the Ford Escort, the court noted that a consumer might reasonably expect that the driver's seat would not collapse upon impact and cause serious injury.⁶⁹ Nonetheless, it may be that the seat utilized by Ford is the one that provides the greatest overall

⁶⁶ *Id.* at *22 (internal citations omitted and second emphasis added).

⁶⁷ RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998).

⁶⁸ *Mikolajczyk*, 2008 WL 4603565, at *22.

⁶⁹ *Id.* at *23 (“Rear-end collisions are reasonably foreseeable and the ordinary consumer would likely expect that a seat would not collapse rearward in such an accident, allowing the occupant to sustain massive head injury.”).

safety and that an alternative design that would have saved the plaintiff from injury in the rare case of a high-speed, rear-end collision would present greater dangers to occupants of the Ford Escort in collisions of lesser intensity that occur with much greater frequency.⁷⁰ It was for that reason that the court insisted that the *Mikolajczyk* case be retried and that the jury be given a risk-utility instruction in which consumer expectations are taken into consideration as a relevant, but not a controlling, factor.⁷¹

Now to the big question. Why did the Illinois court not adopt section 2(b) as the standard for design defect, utilizing the factors set forth in comment f in deciding whether the manufacturer should have adopted a reasonable alternative design? One answer might be that, desiring to retain the consumer expectations test in cases where risk-utility evidence is not forthcoming from either side, the court felt constrained to reject section 2(b), which it said insists that a plaintiff present evidence of a reasonable alternative design as a *sina qua non* in every design defect case. As a practical matter in cases where risk-utility evidence is presented by either party, the factors set forth in comment f are all relevant to whether an alternative design is reasonable and should have been adopted. Thus, the court's rejection of section 2(b) has little meaning.

A second answer might be that the court was scared off by plaintiff's argument that requiring a reasonable alternative design was a new invention foisted onto plaintiffs by the Reporters of the *Products Liability Restatement* and was somehow harsher than risk-utility balancing.⁷² This view has been voiced by other courts.⁷³ It is dead wrong. In any risk-utility balancing the answer depends on whether there was a safer alternative available that would have been preferable. Those courts that profess to do risk-utility balancing and yet take the position that the availability of a reasonable alternative design is only one relevant factor in risk-utility balancing fail to understand the basics of risk-utility analysis. Under risk-utility balancing in products litigation, a product may be found to be unreasonably dangerous in only two ways: (1) the product should have been more safely designed; or (2) the product

⁷⁰ See *supra* note 62.

⁷¹ *Mikolajczyk*, 2008 WL 4603565, at *29 ("Although defendants were not prevented from introducing evidence regarding the risks and benefits of the alternative designs that were feasible at the time, and were not prevented from arguing to the jury that, on balance, the CT20 seat was not 'unreasonably dangerous' because it prevented more injuries than it caused, the jury was specifically instructed to focus its deliberations solely on whether the seat was unsafe when put to a reasonably foreseeable use. The lack of a risk-utility instruction . . . prejudiced defendants' ability to obtain a full, fair, and comprehensive review of the issues by the jury.").

⁷² *Id.* at *14-15.

⁷³ See, e.g., *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727, 751 (Wis. 2001) ("[W]e are . . . troubled by the fact that 2(b) sets the bar higher for recovery in strict products liability design defect cases than in comparable negligence cases.").

category should not have been marketed at all.⁷⁴ The first conclusion depends on whether a reasonable alternative design was available. The second conclusion clearly implicates product category liability.⁷⁵ Earlier we established that American courts have almost universally rejected category liability.⁷⁶ Thus, if a court is employing risk-utility balancing, it can only be asking whether a reasonable alternative design should have been adopted.

In any event, under the analysis in *Mikolajczyk* the reality is that, if risk-utility evidence is introduced by either side, the judge will give the case to the jury with a risk-utility instruction patterned after comment f. The defendant will argue that it correctly chose a cost-effective, reasonably safe design, and the plaintiff will insist that a reasonable alternative was available that could have avoided or reduced the injury. Any plaintiff who shows up in court knowing full well that the defendant will introduce risk-utility evidence that supports the product design must be ready to counter with evidence that a reasonable alternative was available. The burden of proof on risk-utility, according to the Illinois court, lies with the plaintiff.⁷⁷ Reasonable alternative design is not an idea conjured up by the Restatement drafters. It lies at the very heart of risk-utility balancing.⁷⁸

B. *Liability Without Rhetoric: The Missouri Experience*

Missouri is an interesting example of a state that, while disavowing reliance on the *Products Liability Restatement*, nevertheless requires plaintiffs to establish a reasonable alternative design in order to make out a prima facie case of design defect. In a series of cases, the Supreme Court of Missouri has specifically rejected the consumer expectations test,⁷⁹ risk-utility balancing,⁸⁰ and the Restatement test requiring proof of a reasonable alternative design.⁸¹ Instead, a jury is to be instructed only that liability for defective product design depends on a finding that the product is unreasonably dangerous.⁸² Yet, both state and federal court decisions in Missouri uphold jury verdicts whenever the

⁷⁴ See OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 8.5.

⁷⁵ See *supra* note 11 and accompanying text.

⁷⁶ See *supra* notes 42-53 and accompanying text.

⁷⁷ Blue v. Envtl. Eng'g, Inc., 828 N.E.2d 1128, 1142-43 (Ill. 2005).

⁷⁸ OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, §§ 8.4-8.5.

⁷⁹ *Nesselrode v. Executive Beechcraft, Inc.* 707 S.W.2d 371, 377-78 (Mo. 1986) (en banc) (rejecting consumer expectations test for jury instructions).

⁸⁰ *Newman v. Ford Motor Co.*, 975 S.W.2d 147, 152-54 (Mo. 1998) (en banc) (rejecting risk-utility balancing for jury instructions).

⁸¹ *Rodriguez v. Suzuki Motor Corp.*, 996 S.W.2d 47, 64-65 (Mo. 1999) (en banc) (rejecting reasonable alternative design in favor of "unreasonably dangerous" instruction).

⁸² *Id.* at 65.

plaintiff proves a reasonable alternative design,⁸³ reverse summary judgments in favor of defendants whenever plaintiffs proffer credible evidence of a reasonable alternative design,⁸⁴ and grant summary judgment for defendants whenever plaintiffs fail to produce credible evidence of a reasonable alternative design.⁸⁵

Often the grant of summary judgment in Missouri is predicated on the failure of plaintiff's expert to meet *Daubert* criteria.⁸⁶ This is odd on the face of it—if it is not necessary to prove a reasonable alternative design, why should an expert's opinion on the feasibility of an alternative design be necessary? If a plaintiff can establish a case merely by asserting that the product is unreasonably dangerous, why should a jury not be permitted to decide that issue *sans* expert testimony on the

⁸³ Bass v. Gen. Motors Corp., 150 F.3d 842, 844-45, 851 (8th Cir. 1998) (court affirmed jury verdict in favor of plaintiff who claimed that his head hit the car window during a collision because the seat belt mechanism was defectively designed in that it allowed too much slack to develop; a design that would have created more tension between the belt and the body of the plaintiff would have averted plaintiff's head injuries); Peters v. Gen. Motors Corp., 200 S.W.3d 1, 17-20 (Mo. Ct. App. 2006) (jury verdict in favor of plaintiff claiming design defect in the cruise-control mechanism of a 1993 Oldsmobile that caused the car to go out of control upheld; plaintiff introduced sufficient expert testimony of alternative design of the cruise-control mechanism that would have avoided the accident); Redfield v. Beverly Health & Rehab. Servs., Inc., 42 S.W.3d 703, 710 (Mo. Ct. App. 2001) (court upheld jury verdict in favor of plaintiff's decedent against the manufacturer of a ventilator that failed causing death to plaintiff; plaintiff introduced evidence that the ventilator was unreasonably dangerous because it did not have a redundant backup breathing system).

⁸⁴ Pritchett v. Cottrell, Inc., 512 F.3d 1057 (8th Cir. 2008) (court reversed summary judgment for defendant on claims of plaintiff truck drivers that the ratchet system used to tie down new automobiles on transport trailers was defective and caused them serious injuries; though under both Missouri and Kansas law [whose laws applied to the respective plaintiffs] plaintiff is not required to prove a reasonable alternative design, the plaintiffs' expert opinion set forth several practical alternative designs for ratchet mechanisms that were safer and would have avoided the plaintiffs' injuries); Sappington v. Skyjack, Inc., 512 F.3d 440 (8th Cir. 2007) (after noting that Missouri does not require testimony of a reasonable alternative design, the court reversed the district court's grant of summary judgment to defendant on claim that a "scissors lift" should have been designed with greater stability so that it would not tip over when the rear wheels dropped off a concrete floor into the hold; plaintiff's case met *Daubert* standards because there was evidence that at the time the product was manufactured the technology existed to produce a more stable lift that would have avoided the plaintiff's death); Anderson v. F.J. Little Mach. Co., 68 F.3d 1113 (8th Cir. 1995) (court reversed trial court's grant of summary judgment in favor of defendant where plaintiff suffered injuries when his hand was caught while trying to wipe the rollers clean when a metal straightening machine was running because plaintiff's expert had testified in a deposition that the machine could have been equipped with an interlock barrier guard which would have prevented the unsafe cleaning of the rollers of the machine while it was in operation).

⁸⁵ Jaurequi v. Carter Mfg. Co., 173 F.3d 1076 (8th Cir. 1999) (court upheld grant of summary judgment for defendant on the grounds that the plaintiff's expert's suggested alternative design of an "awareness barrier" to the corn head of a combine did not meet *Daubert* reliability criteria; plaintiff was injured when he got swept into the combine by feeding the combine from the front though he was warned never to do so); Shaffer v. Amada Am. Inc., 335 F. Supp. 2d 992 (E.D. Mo. 2003) (defendant granted summary judgment against plaintiff's claim that a press brake machine was defectively designed causing plaintiff to lose multiple fingers when his hand got caught between the lower ram of the machine and the upper die; plaintiff's expert's proffered alternative design did not meet *Daubert* criteria and was inadmissible); Pillow v. Gen. Motors Corp., 184 F.R.D. 304 (E.D. Mo. 1998) (defendant granted summary judgment against plaintiff's design defect claim that GM van, on impact with another vehicle, transmitted forces to the braking system, causing the brake pedal to violently thrust rearward; plaintiff's expert's alternative design failed to meet *Daubert* criteria and was inadmissible).

⁸⁶ See *supra* note 85.

feasibility of the proposed alternative design? Where the jurisprudence of a state seeks to escape the conundrum of any theoretical structure, yet the cases are replete with discussions of a reasonable alternative design as the criterion for the validity of the cause of action, the lesson is clear. Courts, with or without a theoretical structure for defective design, focus on reasonable alternative design as the crucial element in deciding the bona fides of a design defect case.⁸⁷

C. *Reasonable Alternative Design Is the Strong Majority Rule for Classic Design Defect Cases*

Having staked out the position that, notwithstanding confusing rhetoric, plaintiffs do not reach juries in classic design defect cases without offering evidence of a reasonable alternative design, we now turn our attention to those states that have clearly adopted the view that a reasonable alternative design is necessary to establish a prima facie case of design defect. Given how deeply entrenched section 402A is in the case law, we are gratified to see the large number of courts that have said that plaintiff must present proof of a reasonable or feasible alternative design. Some have done so by legislative mandate, but the large majority has done so by judicial decision. Some critics have sought to delegitimize statutory provisions that require proof of a reasonable alternative design as nothing more than reactionary “tort reform” accomplished at the bidding of business interests.⁸⁸ However, when legislation is balanced, backed by the overwhelming body of American scholars⁸⁹ and part of a growing body of case law that is supportive, pejorative name-calling rings hollow. Thus, the five states that by statute

⁸⁷ *Pritchett*, 512 F.3d at 1063, 1066 (plaintiff was not required to prove a reasonable alternative design though Court reversed summary judgment for defendant on grounds that there were several practical and safer alternative designs for ratchet mechanism); *Skyjack*, 512 F.3d at 443, 446-48 (plaintiff’s testimony of a reasonable alternative design was not required though Court reversed summary judgment for defendant on grounds that there was a reasonable alternative design available for “scissors lift”). In two Missouri Appellate Court decisions, the courts did not require the plaintiffs to prove a reasonable alternative design but gave heavy credence to the availability of a reasonable alternative design. See *Smith v. Brown & Williamson Tobacco Corp.*, 275 S.W.3d 748 (Mo. Ct. App. 2008) (court upheld jury verdict for plaintiff on grounds that Kool Menthol cigarettes were unreasonably dangerous; plaintiff was not required to prove a reasonable alternative design though the court concluded that evidence demonstrated that specific design choices by defendant had the potential to affect plaintiff’s health during the time period she smoked); *Thompson v. Brown & Williamson Tobacco Corp.*, 207 S.W.3d 76, 95-96 (Mo. Ct. App. 2006) (court found that plaintiff did not have to prove a reasonable alternative design and held that the evidence went beyond a categorical attack on cigarettes; there was sufficient evidence for the jury to conclude that the products were unreasonably dangerous as designed since plaintiff had submitted proof that tobacco companies made specific design choices that had the potential to affect plaintiff’s health during the time period he smoked).

⁸⁸ See, e.g., Larry S. Stewart, *Reaffirming Strict Liability for Product Design Cases*, TRIAL MAG., Nov. 2008, at 11 n.15. This theme has been repeated on numerous occasions at symposia and seminars.

⁸⁹ See *supra* note 33.

require proof of a reasonable alternative design—Louisiana,⁹⁰ Mississippi,⁹¹ New Jersey,⁹² North Carolina,⁹³ and Texas⁹⁴—represent one-fifth of the twenty five states that we count in support of the *Products Liability Restatement's* position.

We shall not burden the reader with a state-by-state discussion of the decisions in the twenty jurisdictions whose common law decisions support the proposition that a reasonable alternative design is necessary in a classic design defect case. The notes in the margin will have to bear the weight of accomplishing that task. We note the following jurisdictions that support the thesis: Alabama,⁹⁵ Delaware,⁹⁶ District of

⁹⁰ LA. REV. STAT. § 9:2800.56 (West 1998) (The statute provides that “[a] product is unreasonably dangerous if, at the time the product left its manufacturer’s control: (1) There existed an alternative design for the product that was capable of preventing the claimant’s damage.”). Under Louisiana’s statute, failure to make out the statutory elements will result in a grant of summary judgment for the defendant. *Id.*; *see, e.g.*, *Morgan v. Gaylord Container Corp.*, 30 F.3d 586, 590 (5th Cir. 1994) (plaintiff was injured when an allegedly defective pump leaked water causing her to slip and fall; summary judgment granted because plaintiff’s experts did not testify that an alternative design existed when the product left the defendant’s control and did not testify as to the effect of the suggested alternative design on the utility of the pump).

⁹¹ MISS. CODE ANN. § 11-1-63(a), (f) (2008). To make out a prima facie case for design defect, a plaintiff must prove that a reasonable alternative design was available. Failure to proffer a credible reasonable alternative design will result in summary judgment in favor of the defendant. *See, e.g.*, *Johnson v. Davidson Ladders, Inc.*, 403 F. Supp. 2d 544, 549-50, 552 (N.D. Miss. 2005), *aff’d*, 193 Fed. App’x. 349 (5th Cir. 2006) (claimant asserted that a stepladder suffered from design defect that caused the claimant’s accident, resulting in injury; court granted summary judgment to defendant when plaintiff “offered no evidence relative to the effectiveness of the alternative design in reducing the severity or frequency of accidents”); *Clark v. Brass Eagle, Inc.*, 866 So. 2d 456, 461 (Miss. 2004) (plaintiff hit in the eye in a paintball game alleged defective design against the paintball gun manufacturer; summary judgment granted to defendant when plaintiff did not introduce evidence of feasible alternative design).

⁹² N.J. STAT. ANN. § 2A:58c-3 (West 2000); *see, e.g.*, *Cavanaugh v. Skil Corp.*, 751 A.2d 518, 521 (N.J. 2000) (court compared New Jersey statute, which puts the burden on the defendant to prove there was a lack of feasible alternative design for a defense, and section 2(b) of *Products Liability Restatement*, which puts the burden of proof on the plaintiff). The *Cavanaugh* court concluded that “[t]he plaintiff, under New Jersey law, is usually required to show the existence of a reasonable alternative design. But where the defendant shows that there exists no design alternative which was practical and technically feasible, the jury need not weigh the plaintiff’s proposed design against the defendant’s.” *Id.*

⁹³ N.C. GEN. STAT. ANN. § 99B-6 (West 2000); *see, e.g.*, *Dewitt v. Eveready Battery Co.*, 550 S.E.2d 511, 518-19 (N.C. Ct. App. 2001), *aff’d*, 565 S.E.2d 140 (N.C. 2002) (court upheld summary judgment for defendant when plaintiff proffered an alternative design to batteries that had leaked onto his skin and caused alkaline burns, when the court did not find that the alternative design was practical, safer, or likely to have prevented the harm to the plaintiff).

⁹⁴ TEX. CIV. PRAC. & REM. CODE ANN. § 82.005 (Vernon 2005). Texas courts have demanded that evidence of a proffered safer alternative be backed by expert testimony that evaluates the economic feasibility of the alternative design and the correlative risks that the alternative design presents to the user. *See, e.g.*, *Smith v. Louisville Ladder Co.*, 237 F.3d 515, 518-20 (5th Cir. 2001) (applying Texas law) (court reversed jury verdict for plaintiff because plaintiff’s expert never evaluated the risks of the proposed alternative design); *Smith v. Aqua-Flo, Inc.*, 23 S.W.3d 473, 478 (Tex. App. 2000) (plaintiff must establish not only technical feasibility but also economic feasibility of a safer alternative design; court upheld directed verdict in favor of manufacturer).

⁹⁵ Alabama unequivocally requires proof of a reasonable alternative design in design defect cases. Summary judgment has been granted for defendant in numerous cases where this requirement is not met. The leading case is *General Motors Corp. v. Edwards*, 482 So. 2d 1176 (Ala. 1985), stating that:

Columbia,⁹⁷ Georgia,⁹⁸ Indiana,⁹⁹ Iowa,¹⁰⁰ Kentucky,¹⁰¹ Maine,¹⁰² Massachusetts,¹⁰³ Michigan,¹⁰⁴ Minnesota,¹⁰⁵ Montana,¹⁰⁶ New Mexico,¹⁰⁷

In order to prove defectiveness, the plaintiff must prove that a safer, practical, alternative design was available to the manufacturer at the time it manufactured the automobile. The existence of a safer, practical, alternative design must be proved by showing that: (a) The plaintiff's injuries would have been eliminated or in some way reduced by use of the alternative design, and that; (b) taking into consideration such factors as the intended use of the vehicle, its styling, cost, and desirability, its safety aspects, the foreseeability of the particular accident, the likelihood of injury, and the probable seriousness of the injury if that accident occurred, the obviousness of the defect, and the manufacturer's ability to eliminate the defect, the utility of the alternative design outweighed the utility of the design actually used.

Id. at 1191. This rule has been consistently applied in the Alabama courts. *See* *Townsend v. Gen. Motors Corp.*, 642 So. 2d 411, 423 (Ala. 1994) (summary judgment granted for defendants as plaintiff's expert testimony did not establish viability of an alternative design of a compaction unit on a garbage truck); *Beech v. Outboard Marine Corp.*, 584 So. 2d 447, 450 (Ala. 1991) (In answering a question certified by the United States District Court, the Alabama Supreme Court held that failure to prove that a "safer, practical, alternative design was available" was a bar to a cause of action for defective design under both the Alabama Extended Manufacturer Liability Doctrine (AEMLD) and negligence.). Cases decided after the adoption of the *Products Liability Restatement* continue to require proof of a reasonable alternative design to make out a prima facie case under AEMLD. *See, e.g.,* *Flemister v. Gen. Motors Corp.*, 723 So. 2d 25, 27-28 (Ala. 1998) ("APJI [Alabama Pattern Jury Instructions] requires a jury to determine, using a risk/utility balancing process, whether a plaintiff alleging a lack of crashworthiness has shown that a safer, practical alternative design existed that would have eliminated or reduced the plaintiff's injuries if it had been used.").

⁹⁶ *Allen v. Int'l Bus. Machs. Corp.*, No. Civ.A. 94-264 JJF, 1997 WL 34501372, at *1 (D. Del. Dec. 18, 1997). In granting summary judgment for defendant-manufacturer of computer keyboards when there was no evidence that the plaintiff's proffered alternative design of a computer keyboard would prevent or lessen carpal tunnel syndrome, the Court concluded that "a product is defective in design where it is not reasonably fit for its intended purpose and where the design has created a risk of harm which is so probable that an ordinary prudent person, acting as the product's manufacturer, would pursue a different available design to substantially lessen the probability of harm." *Id.* at *45 (emphasis added); *Nacci v. Volkswagen of Am., Inc.*, 325 A.2d 617, 620 (Del. Super. Ct. 1974) ("[T]he proper test is whether the design has created a risk of harm which is so probable that an ordinarily prudent person, acting as a manufacturer, would pursue a different available design which would substantially lessen the probability of harm.") (emphasis added).

⁹⁷ In *Warner Fruehauf Trailer Co. v. Boston*, 654 A.2d 1272 (D.C. 1995), the court stated that to establish design defect, "[i]n general, the plaintiff must 'show the risks, costs and benefits of the product in question and alternative designs[.]' and 'that the magnitude of the danger from the product outweighed the costs of avoiding the danger.'" *Id.* at 1276 (citing *Hull v. Eaton Corp.*, 825 F.2d 448, 453-54 (D.C. Cir. 1987)); *accord* *Artis v. Corona Corp. of Japan*, 703 A.2d 1214, 1215 (D.C. 1997).

⁹⁸ In *Banks v. ICI Americas, Inc.*, 450 S.E.2d 671, 674 (Ga. 1994), the court adopted risk-utility balancing as the governing test for design litigation, stating:

[T]he reasonableness of choosing from among various alternative product designs and adopting the safest one if it is feasible is considered the "heart" of design defect cases, since it is only at their most extreme that design defect cases reflect the position that a product is simply so dangerous that it should not have been made available at all.

Id. (emphasis added) (citation omitted). The position adopted by the Georgia high court recognizes that, except for the "most extreme" instance, when a court determines that the product is so dangerous that it should not have been sold at all, it is necessary to prove a reasonable alternative design. *See id.* This position is supported by section 2(b) and comment e thereto. *See* RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2(b) & cmt. e (1998).

⁹⁹ Although section 34-20-4-1 of the Indiana Code adopts the consumer expectation test, the Code specifically provides that, for liability to attach in cases where there is an alleged design defect or failure to warn, "the party making the claim must establish that the manufacturer or seller

failed to exercise reasonable care under the circumstances in designing the product or in providing the warnings or instructions.” IND. CODE ANN. § 34-20-2-2 (LexisNexis 2008). Even prior to 1998, when the express requirement that negligence is the governing rule in design defect and failure to warn cases took effect, Indiana case law required proof of a reasonable alternative design to make out a case for defective design. *See, e.g.*, *Jackson v. Warrum*, 535 N.E.2d 1207, 1220 (Ind. Ct. App. 1989) (court held that a “burden of proof scheme” required that “plaintiff must prove that a feasible safer alternative product design existed”); *see also* *Whitted v. Gen. Motors Corp.*, 58 F.3d 1200, 1206 (7th Cir. 1995) (applying Indiana law) (Although Indiana statute sets forth a consumer expectation test, “[t]o allege that a manufacturer breached its duty to design a safe product under strict liability, a claimant must offer a safer, more practicable product design than the design in question. Accordingly, since [plaintiff] failed to present evidence that the product was flawed in its design and he failed to illustrate that a better design was cost-effective, summary judgment was properly issued as to the claim of design defect.”) (citation omitted); *Pries v. Honda Motor Co.*, 31 F.3d 543, 545 (7th Cir. 1994) (applying Indiana law) (in crashworthiness case where issue was safety of automobile design, court cited to RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2(b) & cmt. c (Tentative Draft No. 1, 1994) and said “[t]o demonstrate a defect, the plaintiff must compare the costs and benefits of alternative designs”); *Miller v. Todd*, 551 N.E.2d 1139, 1141-42 (Ind. 1990) (applying risk-utility analysis); *Rogers v. R. J. Reynolds Tobacco Co.*, 557 N.E.2d 1045, 1051 n.6 (Ind. Ct. App. 1990), *aff’d in part and vacated in part*, 745 N.E.2d 793 (Ind. 2001) (“A defective design is one which makes the product inadequate or unsafe relative to alternate design choices.”).

¹⁰⁰ *See, e.g.*, *Wright v. Brooke Group Ltd.*, 652 N.W.2d 159, 169, 181-82 (Iowa 2002) (Court adopted sections 1 and 2 of the *Products Liability Restatement*; Restatement design standards under section 2(b) apply whether the claim is brought under negligence, strict liability or the implied warranty of merchantability).

¹⁰¹ In *Toyota Motor Corp. v. Gregory*, 136 S.W.3d 35, 42 (Ky. 2004), the Kentucky Supreme Court reviewed a set of early design defect cases, such as *Jones v. Hutchinson Manufacturing, Inc.*, 502 S.W.2d 66 (Ky. 1973), and *Ingersoll-Rand Company v. Rice*, 775 S.W.2d 924 (Ky. Ct. App. 1988). The court, citing to RESTATEMENT (THIRD) TORTS: PRODUCTS LIABILITY § 2 cmt. d (1998), said Kentucky law “stands for the proposition that design defect liability requires proof of a feasible alternative design.” *Toyota Motor Corp.*, 136 S.W.3d at 42. Applying that principle to the case at bar, the court said:

[t]he elements of a *prima facie* crashworthiness claim are: (1) an alternative safer design, practical under the circumstances; (2) proof of what injuries, if any, would have resulted had the alternative, safer design been used; and (3) some method of establishing the extent of enhanced injuries attributable to the defective design.

Id. at 41; *see also* *Burke v. U-Haul Int’l, Inc.*, 501 F. Supp. 2d 930, 933 (W.D. Ky. 2007) (“In the typical design defect claim Kentucky law requires proof of a feasible alternative design.” Defendant’s motion for judgment n.o.v. denied because plaintiffs “met the requirement of showing a feasible alternative.”); *Fritz v. Campell Hausfeld/Scott Fetzer Co.*, No. 05-360-JBC, 2007 WL 1558509, at *1, *3-4 (E.D. Ky. May 29, 2007), *aff’d*, 279 Fed. App’x 333 (6th Cir. 2008) (summary judgment granted to manufacturer of pressure washer; the design alternatives introduced by plaintiff supported the technological feasibility of the alternative design but did not address many factors necessary to determine the issue of whether the product that caused the injury was unreasonably dangerous); *Estate of Bigham v. DaimlerChrysler Corp.*, 462 F. Supp. 2d 766, 779 (E.D. Ky. 2006) (summary judgment granted to defendant in crashworthiness case because of plaintiff’s failure to establish a reasonable alternative design); *Caudill v. Toyota Motor Corp.*, No. Civ.A. 04-333-DLB, 2005 WL 3149311, at *4 (E.D. Ky. Nov. 23, 2005) (summary judgment granted to defendant in crashworthiness case; plaintiff failed to introduce “competent evidence[] that a feasible, alternative, safer design existed”).

¹⁰² *See* *St. Germain v. Husqvarna Corp.*, 544 A.2d 1283, 1285 (Me. 1988) (court rejected consumer expectations test and adopted risk-utility balancing as the standard for determining defective design). The *St. Germain* court concluded, “In actions based upon defects in design, negligence and strict liability theories overlap in that under both theories the plaintiff must prove that the product was defectively designed thereby exposing the user to an unreasonable risk of harm. Such proof will involve an examination of the utility of its design, the risk of the design and the feasibility of safer alternatives.” *Id.* (quoting *Stanley v. Schiari Mobile Homes*, 462 A.2d 1144, 1148 (Me. 1983)). At least one federal court has held that Maine requires proof of a reasonable alternative design. *See* *Reali v. Mazda Motor of Am., Inc.*, 106 F. Supp. 2d 75, 80-81 (D. Me. 2000) (“[I]n

Maine, a plaintiff in a design defect case must prove that an alternative design is feasible and safer.”) In *Reali*, the plaintiff could not demonstrate that a safer alternative automobile seat exists and court granted summary judgment to defendant. *See id.* But *see* *Phillips v. Emerson Elec. Co.*, No. 02-179-PC, 2003 WL 21011349, at *3 (D. Me. May 5, 2003), *aff’d*, No. Civ. 02-179-P-C, 2003 WL 21276388 (D. Me. May 29, 2003) (proof of reasonable alternative design to make out a prima facie case was reasonable interpretation of Maine case law but not necessarily mandatory).

¹⁰³ In an early case based on a negligence theory, *Uloth v. City Tank Corp.*, 384 N.E.2d 1188 (Mass. 1978), the court held that there is “a case for the jury if the plaintiff can show an available design modification which would reduce the risk without undue cost or interference with the performance of the machinery.” *Id.* at 1193. In a case decided the same year, *Back v. Wickes Corp.*, 378 N.E.2d 964 (Mass. 1978), the court held that Massachusetts law of warranty was “congruent in nearly all respects with the principles expressed in Restatement (Second) of Torts § 402A (1965),” *id.* at 969, and went on to hold that in a design case it would put heavy emphasis on the “mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.” *Id.* at 970 (quoting *Barker v. Lull Eng’g Co.*, 573 P.2d 443 (Cal. 1978)). Some twelve years later in *Kotler v. American Tobacco Co.*, 926 F.2d 1217 (1st Cir. 1990), *vacated*, 505 U.S. 1215 (1992), on the issue of federal preemption in the field of cigarette labeling, the court discussed requirements of proof in a design defect case and said,

[w]e are aware of no Massachusetts case in which liability attached in the absence of evidence that some different, arguably safer, alternative design was possible. In a design defect case premised on negligence, the existence of a safer alternative design is a *sine qua non* for the imposition of liability. . . . It follows, we think, that a design defect case premised on breach of warranty is, in Massachusetts, similarly dependent on proof of the existence of a safer alternative design—a design which reasonably could, or should, have been adopted.

Id. at 1225 (citations omitted). A similar view is expressed in *Johnson v. Brown & Williamson Tobacco Corp.*, 122 F. Supp. 2d 194, 207 (D. Mass. 2000) (applying Massachusetts law) (“In the tobacco context, as with design defect cases premised on negligence, a plaintiff alleging breach of warranty based on design defect must first plead that the tobacco in the cigarettes consumed was itself defective, and then offer proof of a safer alternative design which could reasonably have been adopted.”) (citation omitted); *see also* *O’Neil v. Electrolux Home Prods., Inc.*, No. 06-10433-DPW, 2008 WL 2066948, at *7 (D. Mass. May 14, 2008) (breach of implied warranty claim against lawnmower manufacturer survived motion for summary judgment because plaintiff introduced credible evidence of safer alternative design that would have prevented the injury); *Alves v. Mazda Motor of Am., Inc.*, 448 F. Supp. 2d 285, 298-99 (D. Mass. 2006) (applying Massachusetts law) (claim that defectively designed airbag caused plaintiff’s blindness dismissed on summary judgment). In *Alves*, the court found that the plaintiff’s experts did not meet *Daubert* criteria but explained that even if the expert testimony had been admissible, claims of implied warranty and negligence would be dismissed since the experts offered “no evidence on the mechanical feasibility of any alternative design, the costs of such a design or the consequences of such a design.” *Id.* at 299.

¹⁰⁴ Michigan has explicitly rejected the consumer expectations test as the general standard for defective design and has adopted a pure risk-utility analysis for design defect cases, regardless of whether the case was based on strict liability (or implied warranty of merchantability) or negligence. *See* *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176, 184 (Mich. 1984). As a practical matter, the plaintiff cannot establish a prima facie case of design defect without producing evidence of a reasonable alternative design. In *Owens v. Allis-Chalmers Corp.*, 326 N.W.2d 372 (Mich. 1982), the failure of the plaintiff to produce evidence of the practicality and cost-effectiveness of a proffered alternative design was grounds for upholding a directed verdict for the defendant. *Id.* at 378-79; *accord* *Scott v. Allen Bradley Co.*, 362 N.W.2d 734, 737 (Mich. Ct. App. 1984) (“*Owens* established that the plaintiff must present evidence concerning the magnitude of the risks involved and the reasonableness of any proposed alternative design.”). The Michigan Court of Appeals in *Reeves v. Cincinnati, Inc.*, 439 N.W.2d 326 (Mich. Ct. App. 1989), summarized the elements of a prima facie case of failure to provide adequate safety devices:

[A] prima facie case of a design defect premised upon the omission of a safety device requires first a showing of the magnitude of foreseeable risks, including the likelihood of occurrence of the type of accident precipitating the need for the safety device and the severity of the injuries sustainable from such an accident. It *secondly* requires a showing

of alternative safety devices and whether those devices would have been effective as a reasonable means of minimizing the foreseeable risk of danger. This latter showing may entail an evaluation of the alternative design in terms of its additional utility as a safety measure and its trade-offs against the costs and effective use of the product.

Id. at 329 (emphasis added); *see also* Phillips v. Hardware Wholesalers, Inc., 762 F.2d 46, 47-48 (6th Cir. 1985) (applying Michigan law); Foster v. Caterpillar Tractor Co., 714 F.2d 654, 657 (6th Cir. 1983) (applying Michigan law); Gawenda v. Werner Co., 932 F. Supp. 183, 187-88 (E.D. Mich. 1996) (applying Michigan law), *aff'd*, 127 F.3d 1102 (6th Cir. 1997); Zettle v. Handy Mfg. Co., 837 F. Supp. 222, 225 (E.D. Mich. 1992) (applying Michigan law), *aff'd*, 998 F.2d 357 (6th Cir. 1993). More recent cases continue to articulate the requirement that to make out a prima facie case of design defect, plaintiff must present evidence of reasonable alternative design. *See, e.g.*, Witbeck v. Checkmate Boats, Inc., No. 275934, 2008 Mich. App. LEXIS 1473, at *5 (Mich. Ct. App. July 17, 2008); Strauch v. Raymond Corp., No. 254224, 2005 Mich. App. LEXIS 3297, at *4 (Mich. Ct. App. Dec. 29, 2005); Safeco Ins. Co. of Am. v. Carrier Corp., No. 235567, 2003 Mich. App. LEXIS 456, at *8 (Mich. Ct. App. Feb. 21, 2003); Cacevic v. Simplimatic Eng'g Co., 645 N.W.2d 287, 293 (Mich. Ct. App. 2001); Bazinau v. Mackinac Island Carriage Tours, 593 N.W.2d 219, 226 (Mich. Ct. App. 1999).

¹⁰⁵ In *Holm v. Sponco Manufacturing, Inc.*, 324 N.W.2d 207, 212-13 (Minn. 1982), the Minnesota court rejected the consumer expectations test and adopted risk-utility balancing as the governing rule for design defect litigation. Minnesota recognizes that, in general, the plaintiff has the burden of showing a reasonable, safer alternative design, but notes that there may be rare cases in which that requirement does not apply. Thus, in *Kallio v. Ford Motor Co.*, 407 N.W.2d 92 (Minn. 1987), the court stated that, in establishing that a product was unreasonably dangerous, "a factor bearing upon the . . . requirement will be the existence or nonexistence of a feasible alternative design. . . . [T]he plaintiff *ordinarily* has the burden of showing the existence of an alternative design that was safer." *Id.* at 96 (emphasis added). Amplifying this point in a lengthy footnote, the court said,

Examination of our cases . . . alleg[ing] defective design demonstrates that, as a practical matter, successful plaintiffs, almost without fail, introduce evidence of an alternative safer design. *See, e.g.*, Bilotta v. Kelley Co., 346 N.W.2d 616, (Minn. 1984) (plaintiff presented evidence of manufacturer's actual alternative design of dockboard); Hudson v. Snyder Body, Inc., 326 N.W.2d 149 (Minn. 1982) (plaintiff presented evidence that a portion of the release mechanism of a hydraulic bed dumptruck was superfluously long creating the defect); Busch v. Busch Constr., Inc., 262 N.W.2d 377 (Minn. 1977) (plaintiff presented evidence that a turn signal's use of a plastic yoke inside a lock steering column required a design allowing a greater clearance radius than the manufacturer's design had allowed); McCormack v. Hanksraft Co., 278 Minn. 322, 154 N.W.2d 488 (Minn. 1967) (plaintiff presented evidence that the cover of a vaporizer should have been secured such that it would prevent water in the vaporizer's jar from simultaneously discharging if the vaporizer should tip over).

Id. at 96 n.6 (emphasis omitted).

The Minnesota high court in *Kallio* did not require that in all cases a reasonable alternative design be presented to the jury as an essential element in finding a defect. The court said that "[a]lthough *normally* evidence of a safer alternative design will be presented initially by the plaintiff, it is not necessarily required in all cases." *Id.* at 96-97 (emphasis added). The court exemplified this exception by citing *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322 (Or. 1978), stating that "[c]onceivably, rare cases may exist where the product may be judged unreasonably dangerous because it should be removed from the market rather than be redesigned." *Kallio*, 407 N.W.2d at 97 n.8.

A fair reading of Minnesota law is that for the majority of design defect cases, proof of a reasonable alternative is necessary. It is not, however, necessary to instruct a jury on a reasonable alternative design requirement, though a general instruction on risk-utility is required by the court. In rare cases, when a product involves negligible utility and high risk, the reasonable alternative design requirement is not imposed. The position of the Minnesota courts is thus fully consistent with both the black letter of section 2 and comments d, e, and f. A leading authority on Minnesota products liability law agrees. *See generally* Mike Steenson, *A Comparative Analysis of Minnesota Products Liability Law and the Restatement (Third) of Torts: Products Liability*, 24 WM. MITCHELL L. REV. 1 (1998).

Cases decided post-adoption of the *Products Liability Restatement* are in accord. *See, e.g., Wagner v. Hesston Corp.*, 450 F.3d 756, 760 (8th Cir. 2006) (applying Minnesota law) (court noted that to satisfy the requirement that a product be unreasonably dangerous, “the plaintiff ordinarily has the burden of showing the existence of an alternative design that was safer” (quoting *Kallio*, 407 N.W.2d at 96)). The court upheld the district court’s grant of summary judgment because plaintiff’s suggested alternative design did not meet *Daubert* standards. *See id.* at 761; *Young v. Pollock Eng’g Group, Inc.*, 428 F.3d 786, 789 (8th Cir. 2005) (applying Minnesota law). “Only in rare cases do defective-design claims succeed without showing a safer design. ‘Conceivably, rare cases may exist where the product may be judged unreasonably dangerous because it should be removed from the market rather than be redesigned.’” *Young*, 428 F.3d at 791 (citation omitted). The *Young* court reversed the district court’s grant of summary judgment to defendant because there was ample evidence of a reasonable alternative design. *Id.* at 791; *see also Solo v. Trus Joist MacMillan*, No. Civ. 02-2955 (RHK/RLE), 2004 WL 524898, at *11-12 (D. Minn. Mar. 15, 2004) (plaintiff failed to provide evidence of a feasible alternative safer design for a furnace as required by Minnesota law; defendant entitled to summary judgment); *Bruzer v. Danek Med., Inc.*, No. Civ. 3-95-971/RHKJMM, 1999 WL 613329, at *5 (D. Minn. Mar. 8, 1999) (applying Minnesota law) (defendant entitled to summary judgment on claim that medical device was defectively designed because plaintiff failed to provide evidence of reasonable alternative design and product was not one of rare cases where product should not have been marketed at all).

¹⁰⁶ Montana courts have few decisions dealing with the issue of the standard for design defect. However, the few cases extant support the proposition that to maintain a claim of design defect a plaintiff must prove that a reasonable alternative design could have been adopted that would have reduced the harm. In *Rix v. General Motors Corp.*, 723 P.2d 195 (Mont. 1986), the court said that “a design is defective if at the time of manufacture an alternative designed product would have been safer than the original designed product and was both technologically feasible and a marketable reality.” *Id.* at 202. Earlier in the decision, the court emphasized that this rule applied when “a manufactured product is claimed to be unreasonably dangerous because a safer alternative was available to the manufacturer.” *Id.* The court left open the question of how it would rule if no alternative design was technologically feasible. *Id.* at 201 (citing *O’Brien v. Muskin Corp.*, 463 A.2d 298, 306 (N.J. 1983), *superseded in part by statute*, N.J. STAT. ANN. § 2A:58c-3 (West 2000), *as recognized in Dewey v. R.J. Reynolds Tobacco Co.*, 577 A.2d 1239 (N.J. 1990), in which the court held that a design could be found to be defective even if no feasible alternative was available). Even if the Montana court were to follow *O’Brien*, in the ordinary design defect case, a reasonable alternative design would have to be proven; *O’Brien*, on its own terms, allows for dispensing with the alternative design requirement only when the product has minimal social utility. *See id.* (Some products “are so dangerous and of such little use that under the risk-utility analysis, a manufacturer would bear the cost of liability of harm to others.”); *see also Preston v. Mont. Eighteenth Judicial Dist. Court*, 936 P.2d 814, 820 (Mont. 1997) (“[E]vidence of alternative designs available prior to the manufacture of the N12 [model pneumatic roofing nailer] is not only relevant, but necessary, to [plaintiff’s] products liability claim and, therefore, the District Court is clearly proceeding under a mistake of law in precluding discovery of alternative design evidence . . .”); *Krueger v. Gen. Motors Corp.*, 783 P.2d 1340, 1345 (Mont. 1989) (court reiterated the need for a reasonable alternative design).

¹⁰⁷ The leading case in New Mexico is *Brooks v. Beech Aircraft Corp.*, 902 P.2d 54 (N.M. 1995). *Brooks* attributes time-of-trial knowledge to defendant, but, given that knowledge, applies a risk-utility test to the issue of design defect. In *Brooks*, the New Mexico high court stated that it would charge a manufacturer with time-of-trial knowledge of risk regardless of whether it was available to defendant at time of sale. Nonetheless, the court clearly adopted a risk-utility analysis as the grounds for deciding whether a product was unreasonably dangerous. *Id.* at 61-62. It should be noted that the court said:

Under the current product liability jury instructions, SCRA 1986, 13-1401 to 13-1433 (Repl.Pamp.1991), the jury is instructed that a supplier’s liability is measured by “an unreasonable risk of injury resulting from a condition of the product or from a manner of its use.” UJI 13-1406. As to either flaw or design, the jury is informed that “[a]n unreasonable risk of injury is a risk which a reasonably prudent person having full knowledge of the risk would find unacceptable.” UJI 13-1407. Lastly, the jury is instructed specifically that in determining whether a product design poses an unreasonable risk of injury, “[y]ou should consider the ability to eliminate the risk without seriously impairing the usefulness of the product or making it unduly expensive.” *Id.* By requiring the jury to make a risk-benefit calculation, these instructions adequately

define “defect” so as to focus jury attention on evidence reflecting meritorious choices made by the manufacturer on alternative design and so as to minimize the risk that the public will be deprived needlessly of beneficial products for the sake of compensating injured victims.

... As observed above, our existing uniform jury instructions allow proof and argument on all of the factors suggested by the Restatement (Third) of Torts as relevant in determining whether the omission of a reasonable alternative gave rise to an unreasonable risk of injury. See Restatement (Third) of Torts: Products Liability § 2, cmt. d, at 19-20 (Tentative Draft No. 1, 1994); *Duran*, 101 N.M. at 747, 688 P.2d at 784. The distinction between the negligence approach proposed by the Restatement and strict liability is the time frame in which the risk-benefit calculation is made.

Id. at 61-63. The court then concluded,

If in some future case we are confronted directly with a proffer of evidence on an advancement or change in the state of the art that was neither known nor knowable at the time the product was supplied, we may at that time reconsider application of a state-of-the-art defense to those real circumstances, properly developed under the proffer with applicable briefs and argument.

Id. at 63. Several decisions since *Brooks* emphasize the need for a reasonable alternative design as part of the plaintiff’s prima facie case. In *Smith v. Bryco Arms*, 33 P.3d 638 (N.M. Ct. App. 2001), plaintiff sued a gun manufacturer for injuries he suffered when a handgun was negligently discharged. The plaintiff alleged that safety features were available that would have indicated to the user that the gun was loaded and should not be fired. In reversing the trial court’s grant of summary judgment to the defendant, the court said:

Whether the type of misuse evident in this case was foreseeable, whether the existing features of the J-22 are sufficiently safe, and whether it was feasible without impairing the utility of the gun or being unduly expensive for Bryco and Jennings to incorporate the advocated safety devices and/or warnings into the design of the J-22, are all issues for the jury to decide.

Id. at 650. Most persuasive is the decision of the federal district court in *Morales v. E.D. Etnyre & Co.*, 382 F. Supp. 2d 1278 (D. N.M. 2005), in which the Court predicted that the New Mexico Supreme Court would adopt RESTATEMENT OF TORTS (THIRD): PRODS. LIAB. § 2(b). The court said:

Etnyre contends that the Plaintiffs failed to make a prima facie showing to satisfy the elements for a design defect case in accordance with the Restatement (Third) of Torts: Products Liability. The Court agrees that, if the Supreme Court of New Mexico were presented with the precise issue in this case, it would most likely adopt the Restatement (Third) of Torts[: Products Liability]. Accordingly, the Court will assume that the Restatement (Third) of Torts: Products Liability governs this action and that the Restatement (Third) is the controlling law for the Plaintiffs’ claims based on defective design.

Before the ALI issued [sic] considered or issued the Restatement (Third), New Mexico had adopted the “risk-utility” test. The Court believes that test required the plaintiff to prove the existence of an “alternative design” to determine whether the defendant defectively designed a product. Thus, to the extent that a plaintiff could come to court and merely criticize a product, the Court believes that the New Mexico law required the plaintiff to propose an alternative design.

Morales, 382 F. Supp. 2d at 1283. It should be noted that whether a reasonable alternative design is required is an issue separate and apart from the question of whether a manufacturer should be charged with the knowledge of a risk-avoidance mechanism that was not known at the time of manufacture but was known at the time of trial. As set forth earlier, the New Mexico Supreme Court left open the “state of art” question for resolution at a later date. In any event, at the very least, the New Mexico court seems to require a reasonable alternative design that could be implemented at the time of trial.

Rhode Island,¹⁰⁸ South Carolina,¹⁰⁹ Virginia,¹¹⁰ and West Virginia.¹¹¹ We will, however, comment on the views of three states that we count as supportive that deserve special comment.

¹⁰⁸ Although the Supreme Court of Rhode Island has not yet held that a reasonable alternative design is required, in an important opinion the high court has cited to the language of section 2(b) in reversing a directed verdict on the ground that plaintiff had shown that a reasonable alternative design was available. In *Buonanno v. Colmar Belting Co.*, 733 A.2d 712 (R.I. 1999), plaintiff, an employee of New England Ecological Development, Inc., observed that one of the conveyor belts was running off track. Plaintiff turned off the machine and climbed onto a catwalk to determine if the conveyor belt was obstructed. While plaintiff was standing on the catwalk, someone restarted the machine. Somehow, plaintiff lost his balance and thrust his arm into the “nip point” of the conveyor system. *Buonanno*, 733 A.2d at 713. The primary issue on appeal was whether the distributors of component parts of the nip points were entitled to summary judgment since they only sold the components for a system that was fully integrated at the plant. In a lengthy analysis, the court adopted section 5 of the *Restatement (Third) Products Liability*, which states that the manufacturer of a component part is not liable unless the component part “is defective in itself” or the seller or distributor of the component “substantially participates in the integration of the component into the design of the product.” *Id.* at 716 (quoting RESTATEMENT (THIRD) TORTS: PRODS. LIAB. § 5 (1998)) (emphasis omitted). With regard to one defendant (Colmar), the court found that there was evidence that could support a jury finding that the distributor was “substantially involved” in the integration of the component into the final product. *Id.* at 717. With regard to a second defendant the court observed:

[W]e are persuaded that a genuine issue of material fact may exist with respect to whether the pulley’s design was defective as a result of [the component manufacturer’s] failure to produce a reasonable alternative design that may have reduced or avoided the foreseeable risk of harm suffered by Buonanno, which would render the product defective “in itself” and “at the time of sale or distribution.” Specifically, the Restatement (Third) *Torts* § 2(b) provides that a product is defective when:

“the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe.”

Although this issue was not actually litigated by the parties, the record is clear that Buonanno produced evidence that a safer design of the pulley was available. Specifically, in his deposition, John Brunaccini, Colmar’s president, testified that [the component part maker] manufactured (for other customers on a “made-to-order-basis”), a wing pulley that had steel welded around the circumference of the wings, and that it manufactured this design at the same time that it manufactured the pulley in question. Brunaccini also indicated that there was a design known as a “spiral wing pulley” which had circular pieces wound around the pulley that would cover “the whole thing.” Accordingly, we are satisfied that a genuine issue of material fact exists as to whether this was a reasonable alternative design within the meaning of the Restatement. If so, the question remains as to whether the foreseeable risks of harm posed to plaintiff could have been reduced or avoided had the alternative design been available and offered We recognize that it may not have been economically feasible . . . to manufacture a wing pulley with this additional guarding for this particular use and such a factor would bear significantly upon the reasonableness of this alternative design. These determinations, however, are to be determined by a fact finder and are not suitable for summary judgment.

Buonanno, 733 A.2d at 717-18. A fair reading of *Buonanno* is that Rhode Island has adopted not only section 5 of the Restatement, but also section 2(b). The court, in seeking to define whether the wing pulley was “defective in itself,” clearly relies on the Restatement definition of design defect.

¹⁰⁹ An early decision requiring a reasonable alternative design for a design defect is *Bragg v. Hi-Ranger Inc.*, 462 S.E.2d 321, 330 (S.C. Ct. App. 1995) (directed verdict for defendant manufacturer because plaintiff failed to introduce evidence of a “feasible design alternative”). Since then, several federal courts applying South Carolina law have concluded that proof of a reasonable alternative design is mandatory in a design defect case. *See, e.g.*, *Cohen v. Winnebago Indus., Inc.*,

Nos. 98-1925 & 98-2536, 2000 WL 299459, at *1-*2, *4 (4th Cir. Mar. 23, 2000) (applying South Carolina law) (jury found for defendant in a design defect case where plaintiff alleged error in that the trial judge instructed the jury that plaintiff had the burden of proving a safer alternative design); *id.* at *4 (“The argument lacks merit, because providing evidence of the existence of an alternative safer, feasible design is part of the plaintiff’s products liability case under South Carolina law, and hence the instruction was appropriate.”); *Campbell v. Gala Indus. Inc.*, No. Civ.A.6:04-2036-RBH, 2006 WL 1073796, at *4 (D.S.C. Apr. 20, 2006) (applying South Carolina law) (defendant’s motion for summary judgment on claim that centrifugal dryer was defectively designed denied because limit switch that would have avoided the hazard was “technologically and financially feasible”); *Disher v. Synthes (U.S.A.)*, 371 F. Supp. 2d 764, 767-68, 771 (D.S.C. 2005) (defendant manufacturer of titanium humeral nail that fractured after implant granted summary judgment because under South Carolina law it is crucial that a plaintiff show that a “feasible’ or workable, design alternative exists under the circumstances”); *Little v. Brown & Williamson Tobacco Corp.*, 243 F. Supp. 2d 480, 495 (D.S.C. 2001) (“[W]hile there is no explicit statement including proof of a safer alternative design as an element of a product liability case, clearly South Carolina courts have found that failure to provide such proof can doom a case as a matter of law.”).

¹¹⁰ While state courts have not articulated a clear test for design defect, several federal district court decisions indicate that Virginia would require proof of a reasonable alternative design as part of plaintiff’s prima facie case. In *Kesler v. Crown Equipment Corp.*, Civ. A. No. 93-0644-R, 1994 WL 782904, at *1, *3 (W.D. Va. Jul. 5, 1994), *aff’d*, 51 F.3d 266 (4th Cir. 1995), the federal district court granted defendant summary judgment because the plaintiff had failed to provide expert testimony that the alternative design was feasible. The court said:

Even if expert testimony were not required, Kesler’s challenge to the alleged design defect misses the mark. Essentially, Kesler contends that it was technically feasible to install a guardrail and to use a harness rather than a belt. A feasible design, however is not necessarily a desirable design. Suggested alterations must be “not only technically feasible but also practicable in terms of cost and the over-all design and operation of the product.” *Allen v. Minnstar, Inc.*, 8 F.3d 1470, 1479 (10th Cir. 1993) [*Allen* required proof of reasonable alternative design]. Although Kesler’s suggested changes are likely practicable in terms of cost, Crown’s manager of product engineering testified that those changes were not practicable given the nature of the work stockpicker operators perform and the stockpicker’s overall function, design and operation.

Id. at *3. More recently, in *Tunnell v. Ford Motor Co.*, 385 F. Supp. 2d 582, 583 (W.D. Va. 2005), the court held that the trial court’s exclusion of plaintiff’s expert witness as to the alleged defectiveness of a Jaguar for its failure to have a battery cutoff device, which would have prevented a fire after a collision, was not error and that it was proper to grant the defendant-manufacturer a directed verdict. We set forth the court’s analysis at length because it so clearly demonstrates the court’s reliance on section 2(b) of the Restatement and its comments as the correct interpretation of Virginia law:

Defectiveness analysis considers whether a product is “unreasonably dangerous for ordinary or foreseeable use.” *Alevromagiros v. Hechinger Co.*, 993 F.2d 417, 420 (4th Cir. 1993). As discussed in the Memorandum Opinion, this “foreseeable uses” standard necessarily requires experts to take a broad view of the product they analyze. Because the foreseeable uses of some products are wide-ranging, a product may require multiple-and potentially competing-design elements to protect against the various foreseeable uses of the product. Precisely because of this fact, one design element protecting against a foreseeable use can easily frustrate or even impair the value of another measure protecting against a different foreseeable use. For this reason, a product designer may argue in its defense that a proposed alternative design actually increases the risk that injury will result from a different, but equally foreseeable, use of the product. When such an argument is made, a plaintiff’s expert cannot simply make a defectiveness judgment based upon only one particular type of accident. Rather, he must analyze whether the current design, taken as a whole, reasonably protects against the other injuries that could occur due to foreseeable uses. This result is a necessary consequence of the “foreseeable use” standard because any other standard would render a designer susceptible to inconsistent judgments on defectiveness. In one lawsuit, the designer could be liable for failing to include a certain protective device; in another, he could be liable for choosing to include it. Here, Ford unquestionably argued that Wallingford’s proposed device would impose safety risks rendering the Mustang more dangerous. Because Wallingford

Arkansas statutorily embraces the consumer expectations test.¹¹² However, in *Dancy v. Hyster Co.*,¹¹³ the court held that unless the case is

never addressed the question of whether the vehicle taken as a whole was unreasonably dangerous for ordinary or foreseeable uses, his opinion was meaningless on the issue of defectiveness.

Ultimately, the preceding analysis merges with the issue Plaintiff raises in his motion regarding the risk-benefit analysis. *The risk-benefit analysis is not, as Plaintiff argues, some additional technical hurdle that this Court is imposing where none existed before. Rather, it is a basic concept imbedded in any defectiveness analysis, requiring that a proposed alternative design actually cure a product of its alleged defects. Contrary to Plaintiff's contention, Virginia, along with the Third Restatement of Torts, does require evidence from a plaintiff that an alternative design truly provides more benefits than risks.*

Although the Third Restatement does not require a plaintiff "to establish with particularity the costs and benefits associated with adoption of the suggested alternative design" in light of the "inherent limitations on access to relevant data," it nevertheless clearly does contemplate that a plaintiff will produce some affirmative evidence as to the risk-benefit analysis. As Plaintiff acknowledges, the Restatement is quite clear on this point:

When evaluating the reasonableness of a design alternative, the overall safety of the product must be considered. It is not sufficient that the alternative design would have reduced or prevented the harm suffered by the plaintiff if it would have introduced into the product other dangers of equal or greater magnitude.

Restatement (Third) of Torts: Products Liability § 2 cmt. f (1997). Plaintiff acknowledges that some jurisdictions have interpreted the Third Restatement to require proof that [sic] an alternative design has passed a risk-benefit analysis, but he argues that neither the Virginia Supreme Court nor the Virginia General Assembly has expressly adopted the Third Restatement. Even assuming arguendo that Virginia has rejected express adoption of the Third Restatement in its entirety, however, this fact alone does not suggest that principles from the Third Restatement are not integrated in Virginia common law. As with any area of law, persuasive authority in the form of case law from other jurisdictions and restatements is instructive in identifying Virginia common law rules.

Tunnell, 385 F. Supp. 2d at 584-85 (emphasis added and footnotes omitted).

¹¹¹ In *Morningstar v. Black & Decker Manufacturing Co.*, 253 S.E.2d 666 (W. Va. 1979), the Supreme Court of Appeals adopted the standard of reasonable safety, as determined "by what a reasonably prudent manufacturer's standards *should have been* at the time the product was made." *Id.* at 683 (emphasis added). This language can only be read to require the production of evidence of a reasonable alternative design, to gauge what "should have been." Indeed, in *Church v. Wesson*, 385 S.E.2d 393 (W. Va. 1989), the court upheld a directed verdict for defendant, in a strict liability context, on the ground that the plaintiff had failed to establish feasibility of a proffered alternative design. *Id.* at 396 ("[W]e find that appellant failed to establish a *prima facie* right of recovery. . . . [Witness] suggested that [a certain design] may have been a more appropriate [one but] it was undisputed that the [alternative] was not feasible . . .").

In *Garlinger v. Hardee's Food Systems, Inc.*, 16 F. App'x 232 (4th Cir. 2001) (applying West Virginia law), the court upheld a jury verdict for defendant in a case where plaintiff had been burned by coffee served at 180-190 degrees Fahrenheit. The plaintiff argued that the trial court had wrongfully excluded expert testimony that coffee served at such a high temperature was unreasonably dangerous. In upholding the trial court's ruling, the court cited to *McMahon v. Bunn-O-Matic*, 150 F.3d 651, 658 (7th Cir. 1998), for the proposition that an expert must provide testimony comparing the benefit of design changes of serving coffee at 150 degrees Fahrenheit against the cost in pleasure reduction to prove a design defect case. Since plaintiff's expert had not made such a comparison, his testimony was inadmissible. Thus since the expert could not provide credible evidence of a reasonable alternative design, his testimony was not relevant and could not support a finding that coffee served at 180-190 degrees Fahrenheit was unreasonably dangerous.

¹¹² ARK. CODE ANN. § 16-116-102(7)(A) (2007).

¹¹³ 127 F.3d 649 (8th Cir. 1997).

one in which the plaintiff can draw a *res ipsa*-like inference of defect, the plaintiff must prove that a safer alternative design was available. In that case plaintiff was injured when a lift-truck overturned, pinning his right foot and leading to the amputation of his right leg below the knee. Dancy sued the lift-truck manufacturer alleging defective design because the truck did not have a cage or guard around the compartment to protect the operator from injury. The district court found that the plaintiff's expert testimony as to an alternative design did not meet *Daubert* criteria.¹¹⁴ Without credible evidence as to the alternative design the defendant was entitled to summary judgment.¹¹⁵ The court said:

Plaintiff does not contend that the lift truck malfunctioned in any way; he contends the lift truck was not designed properly because it lacked a safety device. Lay jurors would tend to understand products that do not work; they are not likely to possess "common understanding" about how products are designed. We cannot expect lay jurors to possess understanding about whether the mesh guard envisioned by Dr. Forbes would be capable of withstanding the force involved in a fall and be effective in protecting Plaintiff from the injury he received We cannot expect a lay juror to know whether the mesh guard itself would cause more injuries than it creates by, for instance, breaking and puncturing the lift truck's operator. Although Dancy does not have the burden of proving that his "alternative safer design was available and feasible in terms of cost, practicality and technological possibility," *French v. Grove Mfg., Co.*, 656 F.2d 295, 297 (8th Cir. 1981), he still has the burden of proving the existence of a defect by showing that a safer alternative design actually exists. He cannot carry this burden without proving that his proposed design will actually work, and we believe the answer to this question is beyond the ken of lay jurors.¹¹⁶

Several other federal court decisions relying on *Dancy* have granted summary judgment because plaintiff failed to proffer credible expert testimony as to the availability of a practical safer alternative design.¹¹⁷ In a recent case, *Freeman v. Caterpillar Industrial, Inc.*,¹¹⁸ the court noted that although plaintiff is not required to prove the economic feasibility of an alternative design as part of her *prima facie* case, if "defendant comes forward with evidence to demonstrate the prohibitive cost, impracticality, or technological unfeasibility"¹¹⁹ of the alternative design, the case need

¹¹⁴ *Id.* at 651-54.

¹¹⁵ *Id.* at 652-53.

¹¹⁶ *Id.* at 653-54 (emphasis added).

¹¹⁷ See, e.g., *Anderson v. Raymond Corp.*, 340 F.3d 520 (8th Cir. 2003) (relying on *Dancy*, the Court held that the plaintiff's expert did not meet *Daubert* criteria and absent expert testimony on a safer alternative design, the plaintiff could not make out a *prima facie* case, and defendant was therefore entitled to summary judgment); *Jones v. Gott Corp.*, 4:00CV00279 GTE, 2001 U.S. Dist. LEXIS 26252, at *4, 6 (W.D. Ark. Sept. 6, 2001) (defendant was granted summary judgment against a claim that a plastic container was defectively designed when it did not contain a flame arrester, thus allowing gasoline in the container to spray out and burn the plaintiff; plaintiff's expert did not meet *Daubert* criteria and without that testimony, plaintiff could not meet its burden of proving that a safer alternative existed).

¹¹⁸ No. 3:02-CV-00039 GTE, 2007 U.S. Dist. LEXIS 23840 (E.D. Ark. Mar. 28, 2007).

¹¹⁹ *Id.* at *20.

not be submitted to a jury “because there is a point at which it must be said that the alternative design will not work.”¹²⁰ Thus, notwithstanding that an Arkansas statute embraces the consumer expectations test, the courts have required the plaintiff to provide evidence of a workable alternative design. And, if a defendant demonstrates that the proffered alternative design is not economically feasible, the plaintiff will suffer either summary judgment or a directed verdict. Although the Arkansas test for design defect does not line up in all its particulars with section 2(b) of the *Products Liability Restatement*,¹²¹ it is a far cry from a strict liability consumer expectations test. Plaintiff is required to proffer a technologically feasible, safer alternative design and, even when proven, it can be defeated by evidence that it is not economically feasible.

Utah, also, has a statute that predicates liability on a product being “dangerous to an extent beyond which would be contemplated by the ordinary and prudent buyer, consumer, or user of that product in that community.”¹²² Notwithstanding this statutory language, the court in *Brown v. Sears, Roebuck & Co.*¹²³ held that “[t]he statute does not create a cause of action” but instead limits the plaintiff’s right to recover to cases where the product fails to meet consumer expectations.¹²⁴ In addition, however, a plaintiff must show that a reasonable alternative design was available at the time the product was put into commerce.¹²⁵ Once again a court has held that consumer expectations language in a statute is not determinative. Instead the court, citing to the *Products Liability Restatement*,¹²⁶ held that to make out a prima facie case for design defect, a plaintiff must present credible evidence of a reasonable alternative design.¹²⁷

Finally, we include New York among the jurisdictions that require proof of a reasonable alternative design. The leading case espousing this view is *Voss v. Black & Decker Manufacturing Co.*,¹²⁸ a landmark case in New York products liability jurisprudence. Products

¹²⁰ *Id.* at *21.

¹²¹ Under section 2(b), the plaintiff has the burden of proving that the reasonable alternative design is technologically and economically feasible.

¹²² UTAH CODE ANN. § 78B-6-702 (2008).

¹²³ 328 F.3d 1274 (10th Cir. 2003).

¹²⁴ *Id.* at 1278-79 (“The statute does not create a cause of action. It sets limits on any cause of action created by some other source of law. It states that in a products liability suit, a product will be regarded as defective only if at the time of sale the product was ‘unreasonably dangerous’ . . .”).

¹²⁵ *Id.* at 1279 (“The statute . . . imposes a *necessary* condition for a cause of action. The statute does not state what is *sufficient* for a cause of action. Because Utah does not have another statute setting forth the elements of a products liability cause of action, the sufficient conditions for such a cause of action must come from the common law This circuit . . . has interpreted Utah law to require that the plaintiff prove the practicability of a safer design.”)

¹²⁶ *Id.*; see also RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2 cmt. d (1998).

¹²⁷ *Brown*, 328 F.3d at 1279 (describing risk-utility/alternative design test used in *Allen v. Minnstar, Inc.*, 8 F.3d 1470, 1472 (10th Cir. 1993)).

¹²⁸ 450 N.E.2d 204, 208 (N.Y. 1983).

Liability cognoscenti may counter that in *Denny v. Ford Motor Co.*,¹²⁹ the New York Court of Appeals gave explicit recognition to the consumer expectations test as a method for establishing design defect.¹³⁰ To be sure, in *Denny* the court approved a separate instruction based on the failure of the product to meet consumer expectations¹³¹ because the product in question, a small utility vehicle, was marketed for highway driving. The court noted that the vehicle was reasonably safe as an “off-road” vehicle but that, when traveling at normal highway speeds, its center of gravity was such that it was prone to roll-over accidents, thus disappointing consumer expectations.¹³² The role of marketing as the lynchpin for use of the consumer expectations test was emphasized by Judge Guido Calabresi in a subsequent decision, *Castro v. QVC Network, Inc.*¹³³ In that case, defendant advertised a roasting pan on a TV home-shopping channel as suitable for cooking a twenty-five pound turkey. Plaintiff bought the roasting pan and used it to prepare a twenty-five pound turkey on Thanksgiving. She was injured when she attempted to remove the turkey from the pan. While wearing insulated mittens, she gripped the pan’s handles with the first two fingers of each hand. She could not use more than two fingers because that was the maximum grip allowed by the small size of the handles. As she removed the pan, the turkey tipped toward her, spilling hot drippings and fat onto her foot and ankle causing second- and third-degree burns.¹³⁴ The plaintiff had pled claims in strict liability in tort (risk-utility) and breach of implied warranty of merchantability (consumer expectations). The federal district court applying New York law instructed only on the strict tort claim. The jury found for the defendant. In reversing for failing to give the consumer expectations instruction, Judge Calabresi noted that “in *Denny*, the Court of Appeals pointed out that the fact that a product’s overall benefits might outweigh its overall risks does not preclude the possibility that consumers may have been misled into using the product in a context in which it was dangerously unsafe.”¹³⁵ If not for the specific representation as to its suitability for roasting a twenty-five pound turkey, it was a safe roasting pan. However, Judge Calabresi noted:

But, it was also the case that the pan was advertised as suitable for a particular use—cooking a twenty-five pound turkey The product was, therefore, sold as appropriately used for roasting a twenty-five pound turkey.

In such circumstances, New York law is clear that a general charge on strict products liability based on the risk-utility approach does not suffice. The jury

¹²⁹ 662 N.E.2d 730 (N.Y. 1995).

¹³⁰ *Id.* at 738.

¹³¹ *Id.* at 732-33.

¹³² *Id.* at 732.

¹³³ 139 F.3d 114, 118-19 (2d Cir. 1998).

¹³⁴ *Id.* at 115-16.

¹³⁵ *Id.* at 118.

could have found that the roasting pan's overall utility for cooking low volume foods outweighed the risk of injury when cooking heavier foods, but that the product was nonetheless unsafe for the purpose for which it was marketed and sold—roasting a twenty-five pound turkey and, as such, was defective under the consumer expectations test. That being so, the appellants were entitled to a separate breach of warranty charge.¹³⁶

In a footnote, Judge Calabresi noted that in both *Denny* and *Castro* the product had been marketed as suitable for “dual purposes” but, in fact, was dangerous for use in one of the modes.¹³⁷

Given the explicit representations in *Denny* and *Castro*, they might be better classified as express warranty claims. But whether classified as consumer expectations or express warranty they represent a tiny share of New York design defect cases. Once one gets past the few instances where explicit representations support the use of the consumer expectations test,¹³⁸ the case law in New York is replete with decisions by courts that defendants are entitled to summary judgment because plaintiffs failed to introduce credible evidence of a reasonable alternative design.¹³⁹ The constancy and volume of decisions to that effect leave little doubt as to the law applicable in New York in classic design cases.

¹³⁶ *Id.* at 119.

¹³⁷ *Id.* at n.11.

¹³⁸ See *supra* notes 128, 132 and accompanying text.

¹³⁹ A substantial number of decisions set forth the requirement of a reasonable alternative design as a prerequisite for a prima facie case of defective design. See, e.g., *Rypkema v. Time Mfg. Co.*, 263 F. Supp. 2d 687, 692 (S.D.N.Y. 2003) (summary judgment granted to defendant against plaintiff's claim that aerial lift bucket was defectively designed because under New York law “plaintiff is required to prove the existence of a feasible alternative” design; plaintiff's expert failed to show the practical availability of such an alternative design); *Crespo v. Chrysler Corp.*, 75 F. Supp. 2d 225, 228 (S.D.N.Y. 1999) (court granted defendant's motion to vacate jury verdict against plaintiff's claim that an airbag was defectively designed, citing RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 2, cmt. f (1998), and held that plaintiff must prove a reasonable alternative design that would be safer for all users and it is not sufficient if the alternative design would have preexisted the plaintiff's injury); *Deere v. Goodyear Tire & Rubber Co.*, 175 F.R.D. 157, 161-62 (N.D.N.Y. 1997) (defendant tire company granted summary judgment against plaintiff's claim that he was injured by explosion of defectively designed tire because plaintiff did not establish reasonable alternative design as required under New York law); *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204, 208 (N.Y. 1983) (“The plaintiff . . . is under an obligation to present evidence that the product, as designed, was not reasonably safe because there was a substantial likelihood of harm and it was feasible to design the product in a safer manner. . . .”); *Magadan v. Interlake Packaging Corp.*, 845 N.Y.S.2d 443, 445 (App. Div. 2007) (summary judgment for defendant upheld on claim that a book stitcher was defectively designed since “plaintiff failed to raise an issue of fact as to whether at the time the stitcher was manufactured, it was feasible to design it in a safer manner”); *Felix v. Akzo Nobel Coatings, Inc.*, 692 N.Y.S.2d 413, 415 (App. Div. 1999) (granting summary judgment because “there was no competent evidence set forth by the plaintiff that there was an alternative, safer design and the evidence clearly indicates the volatile solvent contained in the defendant's quick-drying lacquer sealer is critical to the product's performance”); *Perez v. Radar Realty*, No. 24414/1998, 2005 WL 946710 (N.Y. Sup. Ct. Apr. 5, 2005), *aff'd*, 824 N.Y.S.2d 87 (App. Div. 2006) (summary judgment for defendant in a design defect claim against manufacturer of quick-drying lacquer sealer that injured plaintiff when it caught fire since there was no feasible alternative proffered by plaintiff that would meet the performance standards of the defendant's product); see also *Clinton v. Brown & Williamson Holdings, Inc.*, 498 F. Supp. 2d 639 (S.D.N.Y. 2007) (summary judgment granted to defendant on plaintiff's claim that cigarettes were not reasonably safe when subject to risk/utility balancing). The court in *Clinton* began its analysis by saying:

D. Risk-Utility Balancing: Reasonable Alternative Design Not Required

We have already noted that unless a jurisdiction is prepared to adopt category liability, the inevitable conclusion that one must draw from adopting risk-utility balancing is that plaintiff must prove a reasonable alternative design. When one does risk-utility balancing one must judge the product on trial and compare it with some hypothetical design that could have been adopted. Reasonable alternative design is the answer to the comparative balancing process; it is not a factor in the equation as to whether the product was reasonably designed.

Thus, states like Colorado,¹⁴⁰ Illinois,¹⁴¹ New Hampshire,¹⁴² and Nevada¹⁴³ may say that reasonable alternative design is not a *sine qua*

As an initial matter, the Court must determine whether the existence of a feasible alternative design is a *sine qua non* of the design defect claim . . . or whether it is merely one of several nonexclusive factors to be considered by the factfinder For the reasons stated below, the Court concludes that proof of a feasible alternative design is a prerequisite to establish a prima facie design defect claim under New York law.

Clinton, 498 F. Supp. 2d at 646. The court then reasoned as follows:

Although “the availability of a safer design” is listed by the court in *Voss* among several “nonexclusive” factors to be considered by the jury, the court in *Voss* also clearly stated that “[t]he plaintiff, of course, is under an obligation to present evidence that the product, as designed, was not reasonably safe because there was a substantial likelihood of harm and it was feasible to design the product in a safer manner.” This language indicates that the existence of a feasible alternative design is not just a “nonexclusive” factor, but rather is a requirement for Plaintiff’s prima facie case. Accordingly, New York courts have required Plaintiffs to demonstrate the feasibility of a safer alternative design to establish a prima facie design defect case.

Id. (quoting *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204 (1983) (emphasis added)) (citations omitted); see also *Sorto-Romero v. Delta Int’l Mach. Corp.*, No. 05-CV-5172 (SJF)(AKT), 2007 WL 2816191, at *7-10 (E.D.N.Y. Sept. 24, 2007) (applying New York law) (plaintiff’s expert testifying to alternative design that would have required an interlock mechanism on a wood shaper did not meet *Daubert* standards and plaintiff thus failed to make out a prima facie case for design defect); *Kass v. West Bend Co.*, No. 02-CV-3719 (NGG), 2004 WL 2475606, at *13 (E.D.N.Y. Nov. 4, 2004), *aff’d*, 158 F. App’x 352 (2d Cir. 2005) (applying New York law) (granting summary judgment to defendant-manufacturer of a coffee maker that scalded infant plaintiff with hot water when it turned over on the grounds that the alternative design proposed by plaintiff was not properly tested and thus did not meet *Daubert* standards); *Colon ex rel. Molina v. BIC USA, Inc.*, 199 F. Supp. 2d 53, 77 (S.D.N.Y. 2001) (applying New York law) (plaintiff’s expert opinion on an alternative design of a child-proof cigarette lighter was not subjected to testing and did not meet *Daubert* standards). In granting the defendant’s motion for summary judgment the federal district court in *Colon ex rel. Molina* said: “The presence of this factor in a design defect case also ensures that the focus of the jury’s deliberation is on whether the manufacturer could have designed a safer product, not on whether an expert’s proposed but untested hypothesis might bear fruit.” *Id.*

¹⁴⁰ Colorado first adopted strict liability in *Union Supply Co. v. Pust*, 583 P.2d 276, 280 (Colo. 1978), in accordance with the RESTATEMENT (SECOND) OF TORTS § 402A (1965). In *Ortho Pharmaceutical Corp. v. Heath*, 722 P.2d 410 (Colo. 1986), *overruled in part by Armentrout v. FMC Corp.*, 842 P.2d 175 (Colo. 1992) (overruling *Heath* solely on the issue of placement of burden of proof for design defect—placing the burden on the plaintiff), Colorado “adopted a straightforward risk-benefit analysis.” See *Barton v. Adams Rental, Inc.*, 938 P.2d 532, 537 (Colo. 1997) (plaintiff introduced evidence of an alternative design that would have avoided the injury; court granted judgment for defendant since there was no credible evidence that on balance the alternative design was safer). While the risk-utility standard incorporates consumer expectations, the high court explicitly rejected a design standard based exclusively on a consumer expectations test. See

non to make out a prima facie case for design defect. However, in these states, all classic design cases in which plaintiff has reached the jury are cases in which plaintiff has proved an alternative design. No plaintiff has ever reached the jury in the absence of such proof. The interesting question is why would courts make such a serious theoretical error? Why would they insist that reasonable alternative design is only a relevant factor in risk-utility balancing when, in actuality, they treat it as controlling?

One reason is that many courts have relied on a highly influential article published in 1973 by the late Dean and Professor John Wade. In that article, Wade set forth seven risk-utility factors that should be considered in deciding whether a product design is unreasonably dangerous.¹⁴⁴ One of the Wade factors is the availability of a safer design: “[t]he availability of a substitute product would meet the same need and not be as unsafe.”¹⁴⁵ In a different setting, we observed that Wade was referring to the empirical question as to whether an alternative design was technologically feasible, whereas the issue of reasonable alternative

Camacho v. Honda Motor Co., 741 P.2d 1240, 1246-47 (Colo. 1987). While proof of a reasonable alternative design is part of Colorado’s risk-utility standard, it “is not always necessary.” See *Armentrout*, 842 P.2d at 185 n.11 (citing *Wilson v. Piper Aircraft Corp.*, 577 P.2d 1322, 1328 n.5 (Or. 1978)). Thus, according to *Wilson* and as cited by the high court, it would appear that the only exceptions to the reasonable alternative design requirement in Colorado are those cases where the product has negligible utility and high risk.

¹⁴¹ See *supra* Part IV.A.

¹⁴² In *Vautour v. Body Masters Sports Industries, Inc.*, 784 A.2d 1178 (N.H. 2001), the court adopted the risk-utility approach as the governing standard for design defect litigation. It held, however, that it was not incumbent on the plaintiff to prove a reasonable alternative design as part of its prima facie case. The court rejected the reasonable alternative design requirement of the *Products Liability Restatement* as placing too heavy a burden on the plaintiff. Instead, whether a reasonable alternative design was available would be one of many factors to be taken into consideration in deciding whether a product was defective. *Id.* at 1182; see also *Price v. BIC Corp.*, 702 A.2d 330, 332 (N.H. 1997) (failure to incorporate child-proof features in cigarette lighter to be governed by risk-utility analysis). It is worthwhile to note that although the court held that proof of a reasonable alternative design is not required in each of the above cases, plaintiff offered proof of a reasonable alternative design to support its position that the product was defective and unreasonably dangerous. *Vautour*, 784 A.2d at 1184; see also *Collins v. Tool Exch. LLC.*, No. Civ. 01-302-M, 2002 WL 31395929, at *2 (D.N.H. Oct. 16, 2002) (summary judgment on design defect claim denied; plaintiff noted three design defects, the elimination of which would have rendered power saw safer).

¹⁴³ Although Nevada courts have referred to the failure of a design to meet reasonable consumer expectations in explaining pro-plaintiff decisions, they have done so in cases involving product malfunctions. See, e.g., *Ginnis v. Mapes Hotel Corp.*, 470 P.2d 135, 137-38 (Nev. 1970). In more recent decisions, the Supreme Court of Nevada has made clear that plaintiffs may reach the jury by proving that an alternative design was available at time of sale, although “[a]lternative design is [only] one factor for the jury to consider when evaluating whether a product is unreasonably dangerous.” *McCourt v. J.C. Penney Co., Inc.*, 734 P.2d 696, 698 (Nev. 1987); see also *Robinson v. G.G.C. Inc.*, 808 P.2d 522, 525-26 (Nev. 1991) (holding that the failure to admit evidence of alternative design was grounds to reverse jury verdict for defendant). Notwithstanding this “only one factor” language in *McCourt*, no case in Nevada has been found, not involving product malfunction, in which a plaintiff has reached the jury with a design claim without proof of a reasonable alternative design.

¹⁴⁴ John W. Wade, *On the Nature of Strict Tort Liability for Products*, 44 MISS. L.J. 825, 837-38 (1973). For a critique of the Wade factors, see OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 8.4.

¹⁴⁵ Wade, *supra* note 144, at 837.

design looks to the normative question as to whether the alternative design should have been implemented.¹⁴⁶ However, that just makes the problem worse. How can the technological feasibility of an alternative design simply be a factor in deciding whether a product is defectively designed? As noted earlier, if there is no technologically feasible alternative, then the plaintiff perforce is attacking the product category. We are constrained to conclude that Wade was simply wrong in listing the availability of an alternative design as one factor among many in deciding whether a product design is unreasonably dangerous. A partial defense for Wade may be that in 1973 the issue of product category liability, although an early concern of products liability scholars at the time section 402A was adopted,¹⁴⁷ was not on his radar screen. We reinvigorated the issue and popularized the phrase “category liability” in an article published in 1991,¹⁴⁸ since then, scholars¹⁴⁹ and courts¹⁵⁰ have discussed the subject. Wade could not have been sensitive to the possibility that his formulation might lead to category liability.

We conclude that the view that a court can embrace risk-utility balancing and yet insist that the availability of a reasonable alternative design is simply one factor in the equation has no practical significance. The only cases in which plaintiffs successfully dodge summary judgment without proof of a reasonable alternative design are those covered by section 3 of the Restatement, which allows a plaintiff to draw an inference of defect when the product fails in its manifestly intended function.¹⁵¹ This *res ipsa*-like inference has been widely recognized,¹⁵² and the Restatement specifically provides that in those cases no

¹⁴⁶ See Henderson & Twerski, *Achieving Consensus*, *supra* note 2, at 888-89.

¹⁴⁷ See OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 6.2; Joseph A. Page, *Generic Product Risks: The Case Against Comment k and for Strict Tort Liability*, 58 N.Y.U. L. REV. 853 (1983).

¹⁴⁸ See Henderson & Twerski, *Closing the Frontier*, *supra* note 11, at 1297.

¹⁴⁹ See OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 10.3; Carl T. Bogus, *War on the Common Law: The Struggle at the Center of Products Liability*, 60 MO. L. REV. 1, 8, 30, 36 (1995); Owen, *supra* note 11; Ellen G. Wertheimer, *The Smoke Gets in the Eye: Product Category Liability and Alternative Feasible Designs in the Third Restatement*, 61 TENN. L. REV. 1429 (1994).

¹⁵⁰ See, e.g., *Becker v. Baron Bros.*, 649 A.2d 613, 620-21 (N.J. 1994) (in rejecting trial court's jury instructions that all asbestos products were to be found defective as a matter of law and endorsing use of risk-utility analysis instead, court cited to Henderson & Twerski, *Closing the Frontier*, *supra* note 11, at 1314-15, for evidence that category liability law did not control in any jurisdiction); *Rose v. Brown & Williamson Tobacco Corp.*, 855 N.Y.S.2d 119 (App. Div. 2008), *aff'd sub nom. Adamo v. Brown & Williamson Tobacco Corp.*, 11 N.Y.3d 545 (2008). For a comprehensive discussion of the case law on category liability, see OWEN, PRODUCTS LIABILITY LAW, *supra* note 9, § 10.3.

¹⁵¹ RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998).

¹⁵² See, e.g., *Welge v. Planters Lifesavers Co.*, 17 F.3d 209, 211 (7th Cir. 1994) (applying Illinois law); *Hartford Fire Ins. Co. v. Dent-X Int'l, Inc.*, Civil No. 3:05 CV 1019(TPS), 2007 WL 911841, at *3-*4 (D. Conn. Mar. 23, 2007) (citing RESTATEMENT (THIRD) TORTS: PRODS. LIAB. § 3 (1998)) (applying Connecticut law); *Myrlak v. Port Auth. of N.Y. & N.J.*, 723 A.2d 45, 55 (N.J. 1999) (citing RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998)); *Speller ex rel. Miller v. Sears, Roebuck & Co.*, 790 N.E.2d 252, 255 (N.Y. 2003) (citing RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998)).

reasonable alternative need be proffered.¹⁵³ It may be that some courts are put off by the language of section 2(b), which seems to mandate a reasonable alternative design in *all* product design cases. Both section 2, comment f,¹⁵⁴ and section 3, comment b,¹⁵⁵ make it exquisitely clear that the Restatement does not mandate that result. In short, in jurisdictions that use risk-utility balancing as the test for design in classic design defect cases, no decisions have been reported in which plaintiffs have been able to reach juries without evidence that a reasonable alternative design was available that would have reduced or eliminated the risk of injury.

¹⁵³ RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 cmt. b (1998) (“[W]hen the incident . . . is one that ordinarily occurs as a result of product defect, and evidence in the particular case establishes that the harm was not solely the result of causes other than product defect . . . , it should not be necessary for the plaintiff to incur the cost of proving whether the failure resulted from a manufacturer defect or from a defect in the design of the product.”).

¹⁵⁴ Section 2, comment f provides:

While a plaintiff must prove that a reasonable alternative design would have reduced the foreseeable risks of harm, Subsection (b) does not require the plaintiff to produce expert testimony in every case. Cases arise in which the feasibility of a reasonable alternative design is obvious and understandable to laypersons and therefore expert testimony is unnecessary to support a finding that the product should have been designed differently and more safely. For example, when a manufacturer sells a soft stuffed toy with hard plastic buttons that are easily removable and likely to choke and suffocate a small child who foreseeably attempts to swallow them, the plaintiff should be able to reach the trier of fact with a claim that buttons on such a toy should be an integral part of the toy’s fabric itself (or otherwise be unremovable by an infant) without hiring an expert to demonstrate the feasibility of an alternative safer design. Furthermore, other products already available on the market may serve the same or very similar function at lower risk and at comparable cost. Such products may serve as reasonable alternatives to the product in question.

Id. § 2 cmt. f.

¹⁵⁵ Section 3, comment b allows an inference of design defect without proof of a reasonable alternative design:

Although the rules in this Section, for the reasons just stated, most often apply to manufacturing defects, occasionally a product design causes the product to malfunction in a manner identical to that which would ordinarily be caused by a manufacturing defect. Thus, an aircraft may inadvertently be designed in such a way that, in new condition and while flying within its intended performance parameters, the wings suddenly and unexpectedly fall off, causing harm. In theory, of course, the plaintiff in such a case would be able to show how other units in the same production line were designed, leading to a showing of a reasonable alternative design under § 2(b). As a practical matter, however, when the incident involving the aircraft is one that ordinarily occurs as a result of product defect, and evidence in the particular case establishes that the harm was not solely the result of causes other than product defect existing at time of sale, it should not be necessary for the plaintiff to incur the cost of proving whether the failure resulted from a manufacturing defect or from a defect in the design of the product. Section 3 allows the trier of fact to draw the inference that the product was defective whether due to a manufacturing defect or a design defect. Under those circumstances, the plaintiff need not specify the type of defect responsible for the product malfunction.

Id. § 3 cmt. b.

E. *The Two-Prong Test for Defect*

Some jurisdictions apply a two-prong test for defect under which a plaintiff can establish design defect by demonstrating either that (1) the product failed to meet consumer expectations; or (2) the product failed to meet risk-utility standards. Arizona,¹⁵⁶ Alaska,¹⁵⁷ California,¹⁵⁸ Connecticut,¹⁵⁹ Florida,¹⁶⁰ Hawaii,¹⁶¹ Ohio,¹⁶² Oregon,¹⁶³ Puerto Rico,¹⁶⁴ Tennessee,¹⁶⁵ and Washington¹⁶⁶ appear to fall in this camp.

¹⁵⁶ See *Dart v. Wiebe Mfg., Inc.*, 709 P.2d 876, 879, 881-82 (Ariz. 1985) (en banc); *Golonka v. Gen. Motors Corp.*, 65 P.3d 956, 962-63 (Ariz. Ct. App. 2003).

¹⁵⁷ *Caterpillar Tractor Co. v. Beck*, 593 P.2d 871, 884 (Alaska 1979) (citing *Barker v. Lull Engineering Co., Inc.*, 573 P.2d 443, 457-58 (Cal. 1978)) (adopting California's two-prong test for imposing design-based liability), *superseded by statute on other grounds*, Act effective June 11, 1986, 1986 Alaska Sess. Laws ch. 139 (1986), *as recognized by Smith v. Ingersoll-Rand Co.*, 14 P.3d 990 (Alaska 2000). Under this test, a product is defective:

- (1) if the plaintiff demonstrates that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner, or
- (2) if the plaintiff proves that the product's design proximately caused his injury and the defendant fails to prove, in light of the relevant factors discussed above, that on balance the benefits of the challenged design outweigh the risk of danger inherent in such design.

Barker, 573 P.2d at 457-58. In *General Motors Corp. v. Farnsworth*, 965 P.2d 1209, 1220 (Alaska 1998), the Supreme Court of Alaska reaffirmed its use of the consumer expectations test without requiring proof of a reasonable alternative design.

¹⁵⁸ See *Barker*, 573 P.2d at 457-58; *see also* discussion accompanying notes *infra* 170-174.

¹⁵⁹ See *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1333-34 (Conn. 1997); *see infra* notes 176-178 and accompanying text.

¹⁶⁰ Florida case law supports the two-prong test for defect. *See, e.g., Force v. Ford Motor Co.*, 879 So. 2d 103, 105 (Fla. Dist. Ct. App. 2004). A large number of cases that rely on the consumer expectations test are cases that would be decided identically under section 3 of the *Products Liability Restatement*. As the court notes in *Force*, Florida law is not clear as to the line of demarcation between cases that can be decided under the consumer expectations test and those which require risk-utility balancing. *Id.* at 106-07. The court does, however, note that there are cases of such complexity that the ordinary consumer would not know what to expect and would require risk-utility balancing to set the standard for defect. *Id.* at 109. From the onset the Florida courts acknowledged that the consumer expectations test is problematic in classic design defect cases. In the much cited case of *Cassisi v. Maytag Co.*, 396 So. 2d 1140 (Fla. Dist. Ct. App. 1981), the court said:

The consumer expectation standard, though adequate to identify unintended manufactured defects, is more difficult to apply as to the other two generally recognized types of product defects: (1) design defects—those which are due to design error because unforeseen hazards accompany normal use of the product created according to design, and (2) defects resulting from misinformation or inadequate warnings. As to the last two defects, the standard is said to be a very vague and imprecise one because the ordinary consumer cannot be said to have expectations as to safety regarding many features of complexly made products that are purchased, such as the risk of fire from the way gasoline tanks are installed in cars, or the magnitude of risks involved in vehicles overturning. Due to the difficulty in applying the consumer expectation standard to all types of product defects, many thoughtful commentators have suggested that it should be rejected, particularly as to those defects arising from design, in favor of a test that would weigh the utility of the design versus the magnitude of the inherent risk.

Id. at 1145. More recently, in *Liggett Group, Inc. v. Davis*, 973 So. 2d 467, 473-74 (Fla. Dist. Ct. App. 2007), the issue before the court was whether it should adopt section 2(b) of the *Products Liability Restatement* in the context of a claim alleging a design defect in cigarettes. The court found that plaintiff had not presented evidence of a reasonable alternative design and upheld a jury verdict

based on the consumer expectations test. *Id.* The case was appealed to the Florida Supreme Court and it at first accepted jurisdiction to review the intermediate appellate court's decision. *See Liggett Group Inc. v. Davis*, 997 So. 2d 400, 401 (Fla. 2008). Then after oral argument, the court declined jurisdiction. *Id.* Florida law thus remains uncertain as to when it is proper to use the consumer expectations test and when a case requires risk-utility balancing.

¹⁶¹ *Acoba v. Gen. Tire Co.*, 986 P.2d 288, 304 (Haw. 1999). Though the *Acoba* court said that plaintiff could proceed under both consumer expectations and risk/utility, plaintiff introduced evidence of a design alternative that would have avoided the injury. *Id.*

¹⁶² Ohio has a bifurcated statute governing design-based liability. The statute, OHIO REV. CODE ANN. § 2307.75 (A)-(F), provides two avenues for imposing design-based liability. "[A] product design is in a defective condition to the user or consumer if (1) it is more dangerous than an ordinary consumer would expect when used in an intended or reasonably foreseeable manner, or (2) if the benefits of the challenged design do not outweigh the risk inherent in such design." *Knitz v. Minster Mach. Co.*, 432 N.E.2d 814, 818 (Ohio 1982). Despite presenting alternate bases of design-based liability, subsection (F) provides:

A product is not defective in design or formulation if, at the time the product left the control of its manufacturer, a practical and technically feasible alternative design or formulation was not available that would have prevented the harm for which the claimant seeks to recover compensatory damages without substantially impairing the usefulness or intended purpose of the product.

OHIO REV. CODE ANN. § 2307.75(F) (LexisNexis 2005). Ohio courts largely track the above-mentioned statutory requirements but support the proposition that a plaintiff can proceed either under consumer expectations or risk-utility balancing. *See Pruitt v. Gen. Motors Corp.*, 599 N.E.2d 723, 726 (Ohio Ct. App. 1991); *Aldridge v. Reckart Equip. Co.*, No. 04CA17, 2006 WL 2716696, at *11 (Ohio Ct. App. Sept. 19, 2006).

¹⁶³ OR. REV. STAT. § 30.920 (2007) adopts section 402A, including comments a through m, as the law governing products liability in Oregon. In *McCathern v. Toyota Motor Corp.*, 23 P.3d 320, 329-30 (Or. 2001), the Oregon Supreme Court said that it was bound by the legislative determination set forth in section 402A, comment i (consumer expectations test). The court then said:

Plaintiff acknowledges that evidence related to risk-utility balancing of that kind may be necessary to show that a product failed to perform as safely as an ordinary consumer would have expected. However, plaintiff disputes the Court of Appeals' holding that, under the consumer expectations test, a plaintiff *must* introduce such evidence. *See McCathern*, 160 Or. App. at 211, 985 P.2d 804 (proof of safer practicable alternative design essential to consumer risk-utility theory). According to plaintiff, evidence related to risk-utility balancing, as described above, is required only under the now-defunct reasonable manufacturer test. *See Wilson v. Piper Aircraft Corporation*, 282 Or. 61, 67-69, 577 P.2d 1322 (1978) (relying on *Phillips's* reasonable manufacturer test; requiring that, when risk-utility balancing and proof of design alternative are necessary, proof must include evidence that alternative design was practicable).

We agree that evidence related to risk-utility balancing, which may include proof that a practicable and feasible design alternative was available, will not *always* be necessary to prove that a product's design is defective and unreasonably dangerous, *i.e.*, that the product failed to meet ordinary consumer expectations. However, because the parties did not dispute that evidence related to risk-utility balancing was necessary in this case, we leave for another day the question under what circumstances ORS 30.920 requires a plaintiff to support a product liability design-defect claim with evidence related to risk-utility balancing of the kind discussed above.

McCathern, 23 P.3d at 331-32.

¹⁶⁴ In *Collazo-Santiago v. Toyota Motor Corp.*, 149 F.3d 23, 24 (1st Cir. 1998), involving a claim that an airbag in an automobile was defectively designed, the federal court of appeals reviewed Puerto Rico's products liability law in affirming a verdict and judgment for the plaintiff-appellee. The court's Erie-educated guess regarding Puerto Rican law, based on prior decisions by the Supreme Court of Puerto Rico, was that the two-prong approach adopted in California in *Barker v. Lull Engineering Co.*, 573 P.2d 443 (1978), applied. *Collazo-Santiago*, 149 F.3d at 25-26. Notwithstanding expert testimony from defendant's witnesses that the benefits of the airbag

To the extent that these states utilize risk-utility balancing, we have already demonstrated that it inevitably leads to requiring proof of a reasonable alternative design.¹⁶⁷ The questions of real import concern how the courts administer the consumer expectations test. What are the parameters of the test? By what barometer does one measure whether consumer expectations have been disappointed? Unless the consumer expectations test is carefully cabined, it is open to telling criticisms. First, for many products, consumers do not have clear expectations as to how the product will perform when subjected to a broad range of uses. Second, under the consumer expectations test, defect and causation are merged. Plaintiffs need only allege disappointment of expectations and injury. Third, since risk-utility is not an issue, the product as designed may provide greater overall safety than an alternative product that would meet consumer expectations and would have avoided a particular plaintiff's harm. Fourth, consumer expectations may vary; thus placing

outweighed its risks overall and that no reasonable alternative design was feasible, the First Circuit Court of Appeals concluded that after the plaintiff proved that deployment of the airbag caused the second-degree burns to the plaintiff's face, "the burden shifted to the defendant to establish that the benefits of the design outweighed its risks The jury was not required to believe the testimony of the defendant's expert witness regarding the feasibility of an alternative design or the other *Barker* factors . . ." *Id.* at 27-28. More recently, in *Fremaint v. Ford Motor Co.*, 258 F. Supp. 2d 24, 26, 30-31 (D.P.R. 2003), the federal district court, applying Puerto Rican law, granted summary judgment for defendant in a case involving second-collision injuries suffered in a single-car accident. The court held that the consumer expectation prong of the *Barker* two-prong approach did not apply because the case involved complex technical matters of automobile design, and the plaintiff failed to introduce expert testimony to establish that an alternative, safer design was feasible that would have avoided plaintiff's injuries in the accident. *Id.* at 29-30.

¹⁶⁵ *Jackson v. Gen. Motors Corp.*, 60 S.W.3d 800 (Tenn. 2001); *see also* discussion *infra* notes 181-186 and accompanying text.

¹⁶⁶ WASH. REV. CODE § 7.720.030(3) (1981) imposes strict liability for design defects and provides that "[i]n determining whether a product was not reasonably safe under this section, the trier of fact shall consider whether the product was unsafe to an extent beyond that which would be contemplated by the ordinary consumer."

It would at first blush seem that Washington allows a plaintiff to prevail under a pure consumer expectations test. However, in several cases the court has included risk-utility factors as necessary to determine whether plaintiff meets the consumer expectations test. *See, e.g.*, *Bruns v. PACCAR, Inc.*, 890 P.2d 469 (Wash. Ct. App. 1995), where the court said:

Alternatively, the plaintiff may establish manufacturer liability by showing the product was unsafe as contemplated by a reasonable consumer. RCW 7.72.030(3). Several factors contribute to this consumer expectation determination, including "[t]he relative cost of the product, the gravity of the potential harm from the claimed defect and the cost and feasibility of eliminating or minimizing the risk[.]"

Id. at 474 (quoting *Seattle-First Nat'l Bank v. Tabert*, 542 P.2d 774 (Wash. 1975) (en banc)); *see also* *Higgins v. Intex Recreation Corp.*, 99 P.3d 421 (Wash. Ct. App. 2004), where the court said:

In determining the reasonable expectations of the ordinary consumer, a number of factors must be considered. The relative cost of the product, the gravity of the potential harm from the claimed defect and *the cost and feasibility of eliminating or minimizing the risk may be relevant in a particular case. In other instances the nature of the product or the nature of the claimed defect may make other factors relevant to the issue.*

Id. at 426.

¹⁶⁷ *See supra* notes 73-78 and accompanying text.

the manufacturer in the impossible position of being subject to liability no matter how the product is designed.

For these reasons, courts in these two-prong states have been very sensitive to the limitations of the consumer expectations test and have confined its application to cases that instantiate *res ipsa*-like product failures i.e., where a product fails to perform its manifestly intended function. We have made reference to section 3 of the *Products Liability Restatement* earlier in this paper. At this juncture we set it out in full.

§ 3. Circumstantial Evidence Supporting Inference of Product Defect

It may be inferred that the harm sustained by the plaintiff was caused by a product defect existing at the time of sale or distribution, without proof of a specific defect, when the incident that harmed the plaintiff:

(a) was of a kind that ordinarily occurs as a result of product defect; and

(b) was not, in the particular case, solely the result of causes other than product defect existing at the time of sale or distribution.¹⁶⁸

To the extent that a court recognizes that if a product does not fall within section 3 the plaintiff must establish that the product fails to meet risk-utility norms, the law of that jurisdiction is perfectly congruent with the *Products Liability Restatement*. For example, in its leading case *Dart v. Wiebe Mfg.*,¹⁶⁹ the Arizona Supreme Court noted that the consumer expectations test is adequate for manufacturing defect cases but will only “sometimes work well” in design cases, as consumers will very often not know what to expect of a complex or unfamiliar design. More recently in *Golonka v. General Motors Corp.*,¹⁷⁰ the Arizona Court of Appeals reiterated that the consumer expectations test works well for manufacturing defect cases and has “limited utility” in design defect cases where risk-utility standards must govern.¹⁷¹ California, the originator of the two-prong test in *Barker v. Lull Engineering Co.*,¹⁷² later found it necessary in *Soule v. General Motors Corp.*¹⁷³ to explain that the consumer expectations test is very limited in scope. The court said:

As we have seen, the consumer expectations test is reserved for cases in which the *everyday experience* of the product’s users permits a conclusion that the product’s design violated *minimum* safety assumptions, and is thus defective *regardless of expert opinion about the merits of the design*¹⁷⁴ [T]he jury may not be left free to find a violation of ordinary consumer expectations whenever it chooses. Unless the facts actually permit an inference that the product’s performance did not meet the minimum safety expectations of its

¹⁶⁸ RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 3 (1998).

¹⁶⁹ 709 P.2d 876, 878 (Ariz. 1985) (en banc).

¹⁷⁰ 65 P.3d 956, 962 (Ariz. Ct. App. 2003).

¹⁷¹ *Id.*

¹⁷² 573 P.2d 443 (Cal. 1978).

¹⁷³ 882 P.2d 298 (Cal. 1994).

¹⁷⁴ *Id.* at 308.

ordinary users, the jury must engage in the balancing of risks and benefits required by the second prong of *Barker*.¹⁷⁵

In two telling footnotes the court outlined the proper role of each of the two prongs. As to the consumer expectations test, the court said the following:

For example, the ordinary consumers of modern automobiles may and do expect that such vehicles will be designed so as not to explode while idling at stoplights, experience sudden steering or brake failure as they leave the dealership or roll over and catch fire in two-mile-per-hour collisions. If the plaintiff in a product liability action proved that a vehicle's design produced such a result, the jury could find forthwith that the car failed to perform as safely as its ordinary consumers would expect, and was therefore defective.¹⁷⁶

The Court went out of its way in rejecting the attempt by plaintiff to broaden the scope of the consumer expectations test saying:

Plaintiff insists that manufacturers should be forced to design their products to meet the "objective" safety demands of a "hypothetical" reasonable consumer who is fully informed about what he or she *should* expect. Hence, plaintiff reasons, the jury may receive expert advice on "reasonable" safety expectations for the product. However, this function is better served by the risk-benefit prong of *Barker*. There, juries receive expert advice, apply clear guidelines, and decide accordingly whether the product's design is an acceptable compromise of competing considerations.¹⁷⁷

Connecticut, as we explained earlier, has formally rejected the *Products Liability Restatement* test for design defect. Yet it limits its consumer expectations test to cases where an ordinary consumer is "able to form expectations of safety."¹⁷⁸ In cases involving issues of complex product design, the court admits that risk-utility balancing must be utilized in order to decide whether a design is defective. As noted earlier, in *Potter v. Chicago Pneumatic Tool Co.*,¹⁷⁹ the seminal Connecticut case pronouncing this two-prong analysis, the plaintiff presented evidence of several reasonable alternative designs that were readily available and that would have minimized or eliminated the injury to the plaintiff. Since *Potter*, the Connecticut cases in which the consumer expectations test has been applied by state and federal courts are all *res ipsa*-like cases in which the inference of defect was entirely appropriate under section 3 of the Restatement.¹⁸⁰

¹⁷⁵ *Id.* at 309.

¹⁷⁶ *Id.* at 308 n.3.

¹⁷⁷ *Id.* at 308 n.4.

¹⁷⁸ *Potter v. Chicago Pneumatic Tool Co.*, 694 A.2d 1319, 1333 (Conn. 1997).

¹⁷⁹ *Id.*

¹⁸⁰ *Hartford Fire Ins. Co. v. DENT-X Int'l, Inc.*, No. 3:05CV1019 (TPS), 2007 U.S. Dist. LEXIS 20858 (D. Conn. Mar. 23, 2007); *Moran v. E. Equip. Sales, Inc.*, 818 A.2d 848 (Conn. App. Ct. 2003); *Martone v. C. Raimondo & Sons Constr.*, No. CV000704975S, 2002 WL 31234758 (Conn. Super. Ct. Aug. 28, 2002).

Tennessee's Product Liability Act embraces a two-prong test for design defect similar to the tests in Arizona and California. In *Jackson v. General Motors Corp.*,¹⁸¹ the Tennessee Supreme Court held that the consumer expectations test was not limited to the malfunction of simple products but could apply to complex products as well. It will be noted, however, that the court also observed that "plaintiffs, in cases involving highly complex products," will often be unable "to establish that the product is dangerous to an extent beyond that which would be contemplated by an ordinary consumer."¹⁸² This caveat was applied in *Brown v. The Raymond Corp.*¹⁸³ where a plaintiff was driving his forklift when he collided with a forklift driven by another employee. The wheel well of the other employee's forklift entered the operator compartment of the plaintiff's forklift, crushing his left foot. Plaintiff's expert testified that the defendant's forklift was defectively designed because the company could have eliminated the hazard of its forklift's wheel intruding into the compartment of another. The trial court found that the plaintiff's expert testimony did not meet *Daubert* standards and was inadmissible.¹⁸⁴ Plaintiff argued that even though he had not satisfied the risk-utility prong for design defect, he was entitled to take the case to the jury under the consumer expectations test.¹⁸⁵ In rejecting the plaintiff's argument, the court noted that, notwithstanding the broad language in *Jackson* that the consumer expectations test could be applied to complex products, the requirement that the product be more dangerous than expected by the ordinary consumer could not be met in this case.¹⁸⁶ The complexity of the product would not allow for such an inference of defect.

We need not deluge the reader with cases in which the courts have held that the consumer expectations test is inappropriate and the case requires risk-utility balancing. If one needs reminding, the *Soule* case in California was a crashworthiness case in which the court held that the consumer expectations test was improper and required risk-utility balancing.¹⁸⁷ As we see it, most cases in which the courts have imposed liability under consumer expectations and have not required risk-utility balancing are cases that would have met the test set forth in section 3 of the *Products Liability Restatement*. A few cases may be found in which courts, in our opinion, have given an overly broad reading to the

¹⁸¹ 60 S.W.3d 800 (Tenn. 2001).

¹⁸² *Id.* at 806.

¹⁸³ 432 F.3d 640 (6th Cir. 2005).

¹⁸⁴ *Id.* at 642-43.

¹⁸⁵ *Id.* at 644.

¹⁸⁶ *Id.*

¹⁸⁷ *Soule v. Gen. Motors Corp.*, 882 P.2d 298, 309 (Cal. 1994) ("Unless the facts actually permit an inference that the product's performance did not meet the minimum safety expectations of its ordinary users, the jury must engage in the balancing of risks and benefits . . .").

consumer expectations test.¹⁸⁸ Would results in those states that have given a broader reading to consumer expectations than is to our liking have been different had the court applied the language of section 3? That is hard to tell. The *res ipsa* doctrine has had an accordion-like quality to it and courts have at times given it an expansive reading.¹⁸⁹ One fact is undeniable. Those courts that have opted for a two-prong test for design defect manifest by that doctrinal choice that they understand that the consumer expectations test has serious limitations and cannot be the exclusive test for design liability. Although we do not formally count them as states that agree with the *Products Liability Restatement*, the reality is that when one considers sections 2 and 3 together and lines them up with the law of: (1) the states that require proof of a reasonable alternative design; (2) the states that profess to apply risk-utility balancing; and (3) the two-prong states, the consensus that support the general approach of the *Products Liability Restatement* is overwhelming. We never anticipated that we would persuade states to speak in the same dialect. But they are, in fact, speaking in one common language.

F. *The Pure Consumer Expectation States*

A handful of states embrace the consumer expectations test as the sole standard for defect. Thus, Kansas,¹⁹⁰ Maryland,¹⁹¹ Nebraska,¹⁹² Oklahoma,¹⁹³ and Wisconsin¹⁹⁴ all profess allegiance to the consumer

¹⁸⁸ See, e.g., *Bresnahan v. Chrysler Corp.*, 38 Cal. Rptr. 2d 446 (Ct. App. 1995) (plaintiff was injured when her car was rear-ended and the air bag inflated in a low speed collision; court held that plaintiff was entitled to go to the jury on consumer expectations theory and that risk-utility evidence as to the effectiveness of air bags was not relevant); *Force v. Ford Motor Co.*, 879 So. 2d 103 (Fla. Dist. Ct. App. 2004) (consumer expectations test appropriate for injury allegedly caused by a defective seatbelt shoulder harness). *But see* *Pruitt v. Gen. Motors Corp.*, 86 Cal. Rptr. 2d 4 (Ct. App. 1999) (On facts similar to *Bresnahan*, the appellate court upheld a trial court finding that the consumer expectations test was inappropriate.). For other cases indicating that California courts generally read the consumer expectations test narrowly, see HENDERSON AND TWERSKI, *supra* note 9, at 287.

¹⁸⁹ See OWEN, *PRODUCTS LIABILITY LAW*, *supra* note 9, § 2.5; DAN B. DOBBS, *THE LAW OF TORTS* §§ 154-55 (2000); PROSSER AND KEETON, *THE LAW OF TORTS* § 39 (1984); HENDERSON & TWERSKI, *supra* note 9, at 176.

¹⁹⁰ See *Delaney v. Deere & Co.*, 999 P.2d 930 (Kan. 2000). Answering a certified question from the U.S. Court of Appeals for the Tenth Circuit, the Kansas high court announced that it rejected the *Restatement (Third)* standard and “adopted the consumer expectations test . . .” *Id.* at 946. It should be borne in mind that in *Delaney*, the plaintiff had clearly proven a reasonable alternative design case sufficient to reach the jury under the *Restatement (Third)* section 2(b) test.

¹⁹¹ See *infra* note 193 and accompanying text.

¹⁹² See *Haag v. Bongers*, 589 N.W.2d 318, 329 (Neb. 1999) (approving earlier case law that refused to require plaintiffs to prove a reasonable alternative design); *Kudlacek v. Fiat, S.p.A.*, 509 N.W.2d 603, 610 (Neb. 1994); *Rahmig v. Mosley Mach. Co.*, 412 N.W.2d 56, 64 (Neb. 1987).

¹⁹³ In *Kirkland v. General Motors Corp.*, 521 P.2d 1353, 1360 (Okla. 1974), the court adopted the consumer expectations test. There is a dearth of Oklahoma cases utilizing the consumer expectations test in classic design defect cases. The consumer expectations test has been applied to section 3 *res ipsa*-like cases. See, e.g., *Dutsch v. Sea Ray Boats, Inc.*, 845 P.2d 187, 190 (Okla. 1992).

¹⁹⁴ In *Vincer v. Esther Williams All-Aluminum Swimming Pool Co.*, 230 N.W.2d 794 (Wis. 1975), Wisconsin adopted the consumer expectations test. More recently, in *Green v. Smith &*

expectations test. In the case of Maryland there is good reason to believe that the issue is not settled and that risk-utility balancing will ultimately prevail in classic design defect cases.

For almost two decades, Maryland utilized risk-utility balancing and required proof of a reasonable alternative design to make out a prima facie case of design defect.¹⁹⁵ Then, in what appeared to be an abrupt reversal in *Halliday v. Sturm, Ruger & Co.*,¹⁹⁶ the Supreme Court embraced the consumer expectations test. Plaintiffs' decedent, a three-year old boy, shot himself while playing with his father's handgun. The gun was sold with a lock box in which to store the gun, the magazine, and a padlock for the box. The instruction manual set forth multiple warnings about storing the handgun with special cautionary instructions about storing the gun away from children. There were also warnings that ammunition should be stored separately from the firearm. The boy's father disregarded virtually every one of the warnings. Rather than putting the gun in the lock box, he placed it under his mattress and kept the loaded magazine on a bookshelf in the same room so that it was visible and accessible to his son. The child found the gun and the magazine. From watching television he knew how to load the magazine into the gun. While playing with the loaded handgun, he shot and killed himself.

Plaintiff alleged that the gun was defective and unreasonably dangerous, suggesting a host of alternative designs that would have substantially reduced the likelihood that a young child could fire the gun.¹⁹⁷ After a lengthy discussion of earlier Maryland cases, the court concluded that it would not apply a risk-utility standard to handguns and would bar the action because the gun met consumer expectations. The court said:

It is clear that under the consumer expectations test that . . . no cause of action had been stated in this case. There was no malfunction of the gun; regrettably it worked exactly as it was designed and intended to work and as any ordinary consumer would have expected it to work. The gun is a lawful weapon and was lawfully sold. What caused this tragedy was the carelessness of [the] father in leaving the weapon and the magazine in places where the child was able to find them, in contravention not only of common sense but of multiple warnings given to him at the time of purchase.¹⁹⁸

Nephew AHP, Inc., 629 N.W.2d 727, 751-52 (Wis. 2001), the court reiterated its support for the consumer expectations test and rejected the section 2(b) standard of the *Products Liability Restatement*.

¹⁹⁵ See, e.g., *Singleton v. Int'l Harvester Co.*, 685 F.2d 112, 114-15 (4th Cir. 1981) (applying Maryland law); *Ziegler v. Kawasaki Heavy Indus.*, 539 A.2d 701, 707 (Md. Ct. Spec. App. 1988); *Troja v. Black & Decker Mfg. Co.*, 488 A.2d 516, 519-20 (Md. Ct. Spec. App. 1985).

¹⁹⁶ 792 A.2d 1145 (Md. 2002).

¹⁹⁷ *Id.* at 1148.

¹⁹⁸ *Id.* at 1158.

The court then noted that, given the controversy surrounding the risk-utility standard of the *Products Liability Restatement* and given the fact that the legislature had enacted its own standard for the sale and distribution of handguns, it would not adopt the risk-utility test for handguns.¹⁹⁹

Although the consumer expectations test is generally considered to be more favorable to plaintiffs, a rigorous application of the test as the sole grounds for deciding defect would result in negating legitimate plaintiffs' claims when a product satisfies consumer expectations, perhaps because the risks are obvious, but could be made safer by adopting reasonable alternative designs.²⁰⁰ Nonetheless, in comments written shortly after *Halliday*, we predicted that Maryland courts would revert to risk-utility balancing in classic design defect cases by declaring that consumers have a right to expect reasonably designed products.²⁰¹ Several post-*Halliday* cases have proven our prediction to be accurate.²⁰² Although the consumer expectations test may occasionally be used as a shield against liability, when the issue is whether a product was reasonably designed, Maryland courts will resort to risk-utility balancing and will not simply allow a plaintiff to recover based on disappointed consumer expectations.

CONCLUSION

One may quibble with our assessments here and there regarding whether one state or another has fully adopted risk-utility/reasonable alternative design as the standard for design defect liability. But in the broad view of the national landscape set forth in this Article, there is little doubt that risk-utility balancing has carried the day.²⁰³ The

¹⁹⁹ *Id.* at 1159 ("Given the controversy that continues to surround the risk-utility standard articulated for design defect cases in § 2 of the RESTATEMENT (THIRD), we are reluctant at this point to cast aside our existing jurisprudence in favor of such an approach on any broad, general basis So far, the Legislature has chosen not to place these burdens on gun manufacturers but has attempted to deal with the problem in other ways. We shall respect that policy choice.").

²⁰⁰ *Clayton v. Deere & Co.*, No. 05-3377, 2007 U.S. Dist. LEXIS 47371 (D. Md. June 27, 2007) (summary judgment granted to defendant against claim that a lawnmower was defectively designed because dangers were known to a reasonable consumer); *Halliday*, 792 A.2d at 1158.

²⁰¹ See JAMES A. HENDERSON, JR. AND AARON D. TWERSKI, *PRODUCTS LIABILITY: PROBLEMS AND PROCESS* 266-67 (5th ed. 2004).

²⁰² *Higginbotham v. KCS Int'l*, 85 F. App'x 911 (4th Cir. 2004) (utilizing risk-utility balancing in deciding that swim ladder of a yacht was not defectively designed); *Celmer v. Jumpking Inc.*, No. 04-3959, 2006 U.S. Dist. LEXIS 34104 (D. Md. May 26, 2006) (denying motion for summary judgment to manufacturer of trampoline relying on risk-utility balancing to show that an alternative design was available that would have prevented plaintiff's injury); *Hoon v. Lightolier, L.L.C.*, 857 A.2d 1184, 1195-96 (Md. Ct. Spec. App. 2004) (discussing use of risk-utility balancing in Maryland design defect litigation and citing to section 2(b) of *Products Liability Restatement*), *rev'd on other grounds*, 876 A.2d 100 (Md. 2005).

²⁰³ The issue is still unclear in only six states: Pennsylvania, Idaho, North Dakota, South Dakota, Wyoming, and Vermont.

Whether Pennsylvania will adopt section 2 of the *Products Liability Restatement* will shortly be decided by the Pennsylvania Supreme Court. The issue is before them in *Bugosh v. I.U.*

North America Inc., 942 A.2d 897, 897 (Pa. 2008). In South Dakota, the superior court, in *Engberg v. Ford Motor Company*, 205 N.W.2d 104 (S.D. 1973), adopted section 402A. We have found no cases interpreting the standard for design defect in classic design defect cases.

The case law on design defect in North Dakota is similarly sparse. N.D. CENT. CODE §§ 28-01.3-05 to 28-01.3-06(4) (2006) set forth the consumer expectations test as the test for defect. The first case, *see Johnson v. Am. Motors Corp.*, 225 N.W.2d 57 (N.D. 1974), involved a driver and passenger of an automobile who were incinerated when the gasoline tank exploded when struck from behind by another automobile. *Id.* at 59. The lower court granted summary judgment for the manufacturer, holding that the manufacturer was under no duty to make the automobile accident-proof. *Id.* at 62. On appeal, the high court reversed and remanded, indicating that the issue—whether a reasonable alternative design to the gasoline tank would have prevented the injury—was for the trier of fact. While the high court in *Johnson* adopted strict liability in tort, the standard applied was negligent design. *Id.* at 65. The second case, *see Endresen v. Scheels Hardware & Sports Shop, Inc.*, 560 N.W.2d 225 (N.D. 1997), involved a man who was permanently blinded in his right eye when his handgun exploded when he attempted to shoot an overloaded cartridge. *Id.* at 227. The lower court, without a jury, granted judgment for the plaintiff in the amount of \$259,079.21. *Id.* An expert for the plaintiff testified that the use of reloaded ammunition was a common and foreseeable practice. *Id.* Further, the expert testified that other brands of firearms were designed to withstand reloaded ammunition. *Id.* Given that there is no judicial interpretation of the statute and that the few cases dealing with design defect were supported by reasonable alternative design, we believe that the standard for design defect is undecided in North Dakota.

Many Idaho cases deal with the issue of when courts may draw an inference of defect without having to prove a specific defect. These are invariably *res ipsa*-like cases that are totally consistent with section 3 of the *Products Liability Restatement*. *See, e.g.*, *Fitting v. Dell Catalog Sales USA*, No. CV-06-23-S-LMB, 2008 U.S. Dist. LEXIS 41946 (D. Idaho May 21, 2008); *Bachman FXC Corp.*, No. CV-06-140-2-JLQ, 2007 U.S. Dist. LEXIS 20938 (D. Idaho Mar. 21, 2007); *Mortenson v. Chevron Chem. Co.*, 693 P.2d 1038 (Idaho 1984). Few cases deal with the standard of design defect. Aside from noting that Idaho adopted section 402A for both manufacturing and design defects, *see Rindilsbaker v. Wilson*, 519 P.2d 421 (1974), the cases do not address the standard for design defect. However, in *Pate v. Columbia Machine, Inc.*, 930 F. Supp. 451 (D. Idaho 1996), plaintiff's hand was crushed when he sought to break up a jam in a block splitting machine. Plaintiff alleged that the machine was defectively designed in that it did not have a guard that would have prevented the accident. In rejecting plaintiff's claim the court said that plaintiff's counsel "did not point the Court to any expert testimony concerning such a guard, and did not refer to any ANSI standard that would require such a guard. In the absence of such evidence, the Court is left to speculate as to the feasibility, cost, function, availability and suitability of such modifications to the machine." *Id.* at 460; *see also Curtis v. DeAtley*, 663 P.2d 1089 (Idaho 1983) (housekeeper injured when the chandelier she was cleaning fell on her; court reversed trial court's grant of directed verdict against the distributor because the plaintiff's expert suggested two alternative designs that would have prevented the accident).

Wyoming has few cases discussing the issue of the standard for deciding design defect cases. However, in *Campbell v. Studer, Inc.*, 970 P.2d 389, 392 (Wyo. 1998), the court cited to the text of section 2(b) in deciding a design defect case. Plaintiff had been thrown from an asphalt compactor and was killed with the compactor rolled over him. Plaintiff's expert posited an alternative design on the grounds that the expert's testimony was insufficient to support the proposition that the alternative design was practical. After citing to section 2(b) the court said:

The requirement that plaintiff show the existence of a reasonable alternative design as an element of her claim has been the subject of extensive debate. Comments *b* and *e* to this section, however, suggest an alternative design may not be necessary in every design defect case. We need not enter the debate at this time because Campbell's allegations clearly rest on her contention that a feasible alternative design was available.

Id. at 392 n.1. It is important that the court noted to the comments to section 2(b) that indicate that the *Products Liability Restatement* does not always require proof of a reasonable alternative design. This would indicate that the court understands the subtlety of the Restatement and would be more likely to adopt it. Nonetheless, in our opinion, we would categorize Wyoming as a state that is leaning toward adoption of Restatement section 2(b) and its comments.

Not many Vermont cases, both on the state and federal level, deal directly with the standard for design-based liability. Vermont adopted the doctrine of strict products liability in 1975, in accordance with the RESTATEMENT (SECOND) OF TORTS § 402A (1965). *See Zaleskie v. Joyce*, 333 A.2d 110, 113-14 (Vt. 1975). Subsequent high court decisions indicate that design-based

overwhelming majority of cases that rely on consumer expectations as the theory for imposing liability do so only in *res ipsa*-like situations in which an inference of defect can be drawn from the happening of a product-related accident. We do not disagree with those holdings. Indeed, section 3 of the *Products Liability Restatement* enthusiastically supports the principle that there is no need to prove a reasonable alternative design when a product fails to perform its manifestly intended function.²⁰⁴

Putting legal theory aside, the simple reality is that plaintiffs base their design defect claims on the availability of a reasonable alternative design. They are compelled by logic to do so. They must be able to explain to juries what is wrong with a product. The only way to do so is to posit a better, safer design. When their experts falter in providing credible evidence that a reasonable alternative design was available, they almost always face *Daubert* challenges. If they do not survive the *Daubert* challenge, they cannot fall back on the consumer expectations test. Where plaintiffs cannot establish product malfunction they must establish that the product failed to meet the risk-utility standard. They live or die by their ability to establish a reasonable alternative design. The test for design defect set forth in the *Products Liability Restatement* merges sound legal theory and actual litigation practice. It will stand the test of time.

jurisprudence in Vermont remains largely undeveloped. See *Farnham v. Bombardier, Inc.*, 640 A.2d 47 (Vt. 1994); see also *Webb v. Navistar Int'l Transp. Corp.*, 692 A.2d 343 (Vt. 1996). *Farnham* involved a plaintiff who suffered a head injury when he was thrown off his snowmobile while driving at high speeds. *Farnham*, 640 A.2d at 48. Plaintiff claimed that the snowmobile was defectively designed with regard to its ability to break at high speeds. *Id.* The lower court granted summary judgment for the defendant in a strict products liability action. *Id.* On appeal, the high court affirmed, citing the open and obvious nature of the risk involved in addition to the failure of the plaintiff's expert to establish a design defect. *Id.* at 49. The high court did not address nor expand upon any of the customary design-based tests.

²⁰⁴ See *supra* note 151.