

**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
AT LOUISVILLE**

NANCY SIEGEL

PLAINTIFF

V.

NO. 3:08CV-429-JDM

FISHER & PAYKEL APPLIANCES HOLDINGS LTD., et al.

DEFENDANTS

MEMORANDUM OPINION

One of the remaining defendants, Dynamic Cooking Systems, Inc., has moved to exclude Thomas Crane from testifying as an expert witness in this matter (*see* docket no. 122). Having considered the motion and all responses thereto, and for the reasons stated below, the court will grant the motion.

I.

This case arose because a range manufactured by Dynamic Cooking Systems exploded while Ms. Siegel was using it. One of the component parts of the range – the regulator – was manufactured by Burner Systems International. When expert analysis indicated that the regulator was the source of the leak that caused the explosion, Dynamic Cooking Systems, the range manufacturer, filed a third party complaint against Burner Systems, the regulator manufacturer, seeking indemnity.

Burner Systems International hired Thomas Crane, a professional engineer, and designated him as its expert witness. He prepared a report and gave deposition testimony (including extensive cross-examination by all counsel) before this court granted Burner Systems' motion for summary judgment. Plaintiff, who has retained no expert of her own, now wishes to use Mr. Crane's expert testimony in furtherance of her claims, even though she is not his client,

and his original client (Burner Systems) is no longer in the case. Dynamic Cooking Systems objects.

Mr. Crane's Opinion

Mr. Crane began by examining the range at issue in this case – a Dynamic Cooking Systems model RGS 305. While Mr. Crane, as did the other retained experts, concurred that the leak occurred at the range's regulator, the explosion that caused Ms. Siegel's injuries so severely damaged the regulator and its component parts that neither he, nor any of the other experts hired by the parties have been able to determine what, precisely, caused the accident. Consequently, Mr. Crane decided to perform additional experiments on another range of the same model and draw conclusions as possible.

Because Dynamic Cooking Systems had ceased manufacturing RGS 305 ranges, a new or unused model of that particular type of range was not readily available to Mr. Crane. He therefore obtained a used range (referred to herein as the "exemplar range") from a homeowner in New Jersey. When Mr. Crane acquired the exemplar range, however, it had a usage history that was quite different from Ms. Siegel's range. The exemplar range had been fueled by natural gas and used almost daily for five years. Ms. Siegel's range, by contrast, was fueled by propane¹ and had been used very infrequently over the course of thirteen months.

¹Although Mr. Crane does not explicitly state this in his expert report, this court can take judicial notice of the fact that propane is a higher pressure gas that provides approximately two and one-half times the British Thermal Units of energy per unit of volume than natural gas does. Whether this makes a difference on the durability of the regulator is not analyzed by Mr. Crane.

Mr. Crane first tested the exemplar range as it was configured (*i.e.* using natural gas) and observed that “higher than anticipated”² temperature was generated in the area surrounding the regulator during normal operation of the oven at temperatures of 350° F and above. He then removed the regulator, which had not failed in the exemplar range in spite of the higher than anticipated temperatures and five years of daily use, and examined it. On the surface of the regulator’s diaphragm, Mr. Crane observed visual details that he opined “would be consistent with the deterioration of the Buna rubber material [of the diaphragm] due to high temperatures.” He does not discuss whether other factors might have caused this degradation.

Mr. Crane reassembled the exemplar range, and then converted it to propane use. During his tests of the range using propane gas, he observed that the temperature in the area surrounding the regulator was again higher than anticipated – specifically, as much as 34° F higher than the 225° F for which the Burner Systems regulator was rated.

Mr. Crane then ran more specific tests on the regulator itself, to try to determine which component part would, if it failed, permit a sufficient flow of gaseous fuel to cause the type of explosion that injured Ms. Siegel. From those tests, he determined that sufficient flow could only occur if the diaphragm’s perimeter (which functioned as a seal) failed.

Finally, Mr. Crane obtained one of Dynamic Cooking Systems’s new, and different model number, ranges. During his testing of that range, he observed that the newer model had a different barrier between the oven chamber and the area containing the regulator. He also observed that, in contrast to the exemplar range, temperatures surrounding the regulator in the newer model did not exceed 225° F until the oven control was set to 500° F (its maximum

²How much higher, he did not specify in his report.

setting) and that temperatures around the regulator were only 214° F when the oven was set to 450° F.

Based on these observations, he opined that “it is reasonable to conclude that temperature degradation of the perimeter diaphragm seal [of the Burner Systems regulator] contributed to the leak.” He did not, however, discuss in detail his reasons for concluding that his observations regarding the condition of the frequently-used, and natural gas fed, exemplar range were an appropriate basis for concluding what may have gone wrong with respect to the newer, infrequently used, propane fueled range used by Ms. Siegel. Nor did he gather or discuss any information about other Burner Systems’ regulators that may have leaked, or the conditions that created the leaks, to determine whether the degradation of the regulator’s diaphragm that he observed was typical or atypical. He did not do any testing of the materials on the regulator to determine if and, if so, how quickly and at what temperatures its diaphragm degraded.

II.

Federal Rule of Evidence 702 states:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and its progeny, *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999), the Supreme Court charged trial courts with acting as “gatekeepers” with respect to whether proffered expert testimony meets the

requirements of Fed. R. Evid. 702. The party proffering the expert testimony bears the burden of proving that Rule 702's requirements are met.

Typically, *Daubert* is used to exclude so-called “junk science” (*i.e.*, theories that have some putative scientific basis, but are inadequately tested, examined, proven, or reliable, or scientific or technical sounding explanations that lack scientific support). This court certainly would not call Mr. Crane’s analysis “junk science,” as that term is pejorative. There is no indication that Mr. Crane’s educational background is lacking, or that he is not, in fact, a qualified professional engineer. Nor is there any evidence that he is the sort of expert witness who is known less for his reliability than for his willingness to contort his scientific or technical evaluation to whatever degree necessary to support his client’s position. His report is detailed and clear. Rather, the problem is far more mundane. His opinions about the temperature degradation and failure, as careful and circumscribed as he tried to make them, are founded largely on speculation.

He first speculated that the exemplar range was an adequate exemplar, in spite of the differences in how it was fueled, and how frequently it was used as compared to Ms. Siegel’s range. From information gleaned during the testing of the exemplar range, but without adequately ruling out the historical differences in use between the exemplar range and Ms. Siegel’s range, or analyzing what differences might be attributable to the use of two different types of fuels in the two ranges, he then speculated what might have caused the leak in the regulator. He did not, however, attempt to replicate the data that formed the basis for his opinion by testing and examining other exemplar ranges. Nor did he gather historical data regarding other Burner Systems regulators that leaked to test his theories. Rather, he tested a redesigned

model and made further assumptions based on the differences in design, but without testing the regulator in the redesigned model for signs of heat degradation at within-range operating conditions.

Mr. Crane nowhere addressed in his report the undisputed fact that diaphragm in the regulator of the exemplar range, used for five years on an almost daily basis, never failed. He inferred that the diaphragm in the regulator of Ms. Siegel's range failed when with used with propane, as opposed to natural gas, much less frequently and during an markedly shorter overall time period, but nowhere explained why it would fail under those circumstances, yet not under heavier usage with natural gas. He never tested the exemplar range with propane until failure.

As the Sixth Circuit recently observed, "Rule 702, we recognize, does not require anything approaching absolute certainty," but "no matter how good experts' credentials may be, they are not permitted to speculate." *Tamraz v. Lincoln Electric, Co.*, ___ F.3d ___, 2010 WL 3489002 , *5-*6 (6th Cir. 2010). Informed speculation, even thoughtful speculation by a well-schooled expert, is not necessarily the type of scientific analysis that is appropriate for use at trial pursuant to Rule 702. *Id.* at *6. Conclusions, based on accurate data, may rest on a modicum of reasonable, reliable, speculation, that is informed by the rigorous application of the scientific method, particularly where, as here, the product being evaluated has been destroyed by its failure. But Mr. Crane's opinion, like that of the expert at issue in *Tamraz*, "contains not just one speculation, but a string of them," whose numerosity will not permit the string to hold. *Id.* He has a seemingly plausible hypothesis, but he has not tested it in a way that is admissible under the Federal Rules of Evidence.

III.

Some comment is appropriate on the impact of this ruling, when taken together with the court's prior ruling on the motion for summary judgment of Burner Systems, Inc. (docket no. 103). Both the range manufacturer, and the regulator manufacturer, have pointed fingers at one another as the probable source of responsibility for the accident. The court's analysis in the summary judgment ruling concluded that the indemnity claim by Dynamic Cooking against Burner Systems should be dismissed, because there was no adequate opinion which found a manufacturing or design flaw with the Burner Systems regulator. The court concluded that the doctrine of *res ipsa loquitur* does not apply, and as a result, merely identifying the regulator as the area of the range in which the problem originated was insufficient to assign legal liability to Burner Systems.

In the present ruling, the court additionally concludes that the opinion of Burner Systems's expert, Dr. Crane, is also inadequate. The reasons are set out above, and the court will not repeat them, except to say that the opinions of Dr. Crane do not show sufficient rigor to meet the standards of the federal rule for expert opinions – Rule 702. As a result, the testimony of the experts of each of the manufacturers have been prevented by legal rulings from asserting a theory of liability against the other. This may leave the plaintiff, who appears to have no expert of her own, without any expert opinion. However, the overall effect of this ruling on plaintiff's claims against Dynamic Cooking is not definitively addressed here.

IV.

This case presents an unfortunate circumstance, one that is perhaps not uncommon in product liability cases. The product that failed was, during the event caused by the product's failure, so severely damaged that the cause of the failure cannot be precisely determined. Mr. Crane has offered a plausible, possibly reasonable, explanation that, as presented, is not sufficiently scientifically sound to permit its inclusion at trial as expert testimony. Ours is not a no-fault system: the plaintiff must demonstrate the product's flaw; the plaintiff must establish that any opinions or testimony she proffers as "expert testimony" meet the requirements of Rule 702. She has not done this and, accordingly, Dynamic Cooking Systems's motion to exclude the expert testimony of Thomas Crane will be granted by separate order entered concurrently with this memorandum opinion.

DATE:

cc: counsel of record