[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS

FOR THE ELEVENTH CIRCUIT

No. 11-15011

D.C. Docket No. 5:10-cv-00199-RS-EMT

UNITED FIRE AND CASUALTY COMPANY,
a.s.o. Robert and Theresa Corral,

Plaintiff - Appellant,

versus

WHIRLPOOL CORPORATION,
a Delaware corporation,

Defendant - Appellee.

Appeal from the United States District Court
for the Northern District of Florida

(January 17, 2013)

Before BARKETT and JORDAN, Circuit Judges, and SCHLESINGER,[*] District Judge.

PER CURIAM:

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[*] Honorable Harvey E. Schlesinger, United States District Judge for the Middle District of Florida, sitting by designation.

United Fire and Casualty Company ("United Fire") appeals district court orders excluding the proffered testimony of two expert witnesses and granting Whirlpool Corporation's ("Whirlpool") motion for summary judgment on United Fire's sole claim of relief. United Fire, as subrogee for Robert and Theresa Corral (the "Corrals"), brought a strict products liability suit against Whirlpool, alleging that a Whirlpool-manufactured clothes dryer caused a June 2008 fire in the Corrals' home. On appeal, United Fire argues that the district court abused its discretion in finding testimony of its two expert witnesses unreliable on the grounds that the experts did not perform testing of exemplars and because their theories regarding the origin of the fire had not been published. Even if the experts were properly excluded, United Fire contends that the district court erred in granting Whirlpool's motion for summary judgment on its product liability claim as material facts surrounding the cause and origin of the fire were in dispute. After reviewing the proposed testimony of United Fire's expert witnesses, we conclude that the district court abused its discretion in categorically excluding all of the expert witnesses' testimony. As those experts' testimony creates a dispute as to a material fact about whether the fire started as a result of the operation of the Whirlpool dryer, we also reverse the district court's grant of Whirlpool's motion for summary judgment.

I. Background

At 9:57 pm on June 20, 2008, the Jackson County Fire Department received a report of a fire in the home of the Corral family. Details about how and when the fire began are sparse because the Corral family had gone out for the evening and nobody was home. However, shortly before leaving for dinner, at around 8:00 pm, one of the Corral children placed a load of laundry in the family's Whirlpool dryer and turned on the dryer.

Preliminary investigations by the Jackson County Fire Department suggested that the fire originated in the utility room where the Whirlpool dryer was located. United Fire retained Raymond Arms, a professional engineer and certified Fire and Explosives investigator, to investigate the cause and origin of the fire at the Corral residence. Mr. Arms investigated the scene of the fire using a systemic approach in accordance with the National Fire Protection Association's "NFPA 921" guide for fire and explosion investigations. Mr. Arms noted that the utility room in which the dryer was located was the most burned part of the house and concluded that the burn patterns within the utility room indicated that the dryer was at the center of the fire's origin. Further investigation revealed that the wall behind the dryer was totally consumed and that the wiring in that wall showed evidence of melting. Mr. Arms also observed that a piece of linoleum floor had burned and stuck to the bottom of the dryer. No other part of the floor of the utility room showed similar patterns of burning, including the floor near and underneath the

washing machine. Based on these observations, Mr. Arms concluded that the fire originated with the dryer. He ruled out the possibility that the fire started outside of the dryer because an external fire would not have burned the linoleum under the dryer in the manner that was observed at the fire scene.

Mr. Arms then removed the dryer from the fire scene to conduct a destructive examination of the dryer, which occurred on September 24, 2008 in the presence of Whirlpool's expert witness. At this examination, the dryer was systematically deconstructed and inspected. At the end of the examination, Mr. Arms discovered a wire sticking to the exhaust tube on the bottom of the dryer. Examining the wire and noting that its insulation had worn thin, Mr. Arms concluded that the wire was the likely source of the ignition of the fire. He determined that the wire faulted with the metal tube enabling electricity to flow through the resistance between the wire and the tube. This flow of electricity, combined with the operation of the dryer's fan blowing air over the area of the fault, generated enough heat to ignite venting on the outside of the dryer. Mr. Arms did not test any exemplars to evaluate the plausibility of his ignition theory. He could not point to any published studies documenting this ignition sequence and he had never seen this ignition sequence occur before in his professional experience.

Following the destructive examination of the dryer, United Fire retained Dr. Kendall Clarke to examine the metal exhaust tube in the base of the dryer, which

Mr. Arms had identified as the likely source of the electrical fault which ignited the fire. Dr. Clarke, a professional engineer with a doctorate in fracture mechanics, examined the steel tube using metallurgic imaging equipment, including a low-power microscope and an electron microscope. On one sample from the tube, he found columnar grains that suggested that part of the metal tube had melted. Dr. Clarke noted that to melt the type of the low-carbon steel used in the metal tube required a temperature of at least 2800 degrees combined with a forced draft. Dr. Clarke surmised that the fan in the dryer must have been the source of such a draft as there was no other source of a forced draft within the dryer.

II. Exclusion of United Fire's Experts

We turn first to the district court's decision to exclude the testimony of United Fire's two experts on the basis that neither expert's testimony was grounded in a reliable methodology. We review decisions about the admissibility of an expert's testimony on an abuse of discretion standard. Rink v. Cheminova, Inc., 400 F.3d 1286, 1291 (11th Cir. 2005). The Federal Rules of Evidence provide that a witness "who is qualified as an expert by knowledge, skill, experience, training, or education" may offer opinion testimony if (1) the expert's specialized knowledge "will help the trier of fact to understand the evidence"; (2) "the testimony is based on sufficient facts or data"; (3) the testimony is the product of reliable principles and methods"; and (4) " the expert has reliably applied the

principles and methods to the facts of the case." Fed. R. Evid. 702. "[T]he task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand" is assigned to the district court. Daubert v. Merrell Dow Pharm., Inc., 509 US 579, 597 (1993).

To guide district courts' assessments of the reliability of an expert's testimony, the Supreme Court has identified four factors that district courts should consider when assessing the reliability of an expert's testimony: (1) whether the expert's methodology has been tested or is capable of being tested; (2) whether the theory or technique used by the expert has been subjected to peer review and publication; (3) whether there is a known or potential error rate of the methodology; and (4) whether the technique has been generally accepted in the relevant scientific community. See id. at 593-94. At the same time, the Court has emphasized that these factors are not exhaustive and are intended to be applied in a "flexible" manner. Kumho Tire Co., Ltd. V. Carmichael, 526 U.S. 137, 141 (1999).

A. Testimony of Mr. Arms

The district court excluded all of Mr. Arms's testimony on the ground that his ignition theory did not satisfy the minimum indicia of reliability required by Daubert. We agree with the district court's holding with regards to Mr. Arms's testimony about the ignition sequence that started the fire. However, our inquiry

into the reliability of Mr. Arms' testimony does not end with a discussion of his ignition theory. Despite only discussing Mr. Arms' testimony with regards to the specific ignition sequence, the district court excluded all of Mr. Arms potential testimony, including his testimony relating to the location of the fire's origin. This sweeping exclusion constituted an abuse of discretion.

Mr. Arms's testimony that the fire originated from the dryer was rooted in his investigation of the scene of the fire and an examination of the dryer in accordance with the principles of the "NFPA 921" guide for fire and explosion investigations, a peer reviewed fire investigation guide that is the industry standard for fire investigation. Travelers Prop. & Cas. Corp. v. Gen. Elec. Co., 150 F. Supp. 2d 360, 366 (D. Conn. 2001) (NFPA 921 is "a peer reviewed and generally accepted standard in the fire investigation community"). By applying these principles to the distinctive burn patterns and other physical evidence he examined first-hand at the scene of the fire, Mr. Arms concluded that the fire began in the dryer area. Mr. Arms pointed to several specific pieces of evidence that supported his conclusion that the dryer was the origin of the fire to the exclusion of other possible sources of the fire in the laundry room. First, he noted that the burn patterns in the room in which the dryer was located indicated that the dryer was the center of the fire. Specifically, he observed that the wall directly behind the dryer was totally consumed and the wires in that wall had melted, suggesting that the fire

was centered in the dryer area. Second, he noted there was a lack of arcing, which suggested that an electrical fault was not the cause of the fire. Third, and perhaps most persuasively, he observed that the linoleum floor directly beneath the dryer had had burned and stuck to the bottom of the dryer. This evidence suggested that the fire was located in the bottom part of the dryer. That the linoleum stuck to the bottom of the dryer ruled out the possibility that the fire started adjacent to the dryer or in the washing machine, as no other part of the floor, including the area directly under the washer, showed burns of remotely similar levels of severity as the floor under the dryer. As there was no other potential source of heat that could have damaged the linoleum under the dryer besides a fire in the dryer and no other part of the floor suffered similar levels of damage, Mr. Arms concluded that the origin of the fire came from inside the bottom part of the dryer.

But the district court's order did not address any of Mr. Arms' testimony as it related to where the fire started. Contrary to what the district court held, Mr. Arms' testimony regarding the physical origin of the fire was based on a widely accepted methodology and grounded in the available physical evidence. For these reasons, we hold that excluding that part of Mr. Arms' testimony on Daubert grounds was an abuse of discretion. See City of Tuscaloosa v. Harcros Chem, Inc., 158 F.3d 548, 564 (11th Cir. 1999) (holding that "the district court abused its discretion in excluding admissible portions of [the expert's] testimony by ruling

that [the expert's] testimony in its entirety was inadmissible"); see also Weisgram v. Marley Co., 169 F.3d 514, 518 (8th Cir. 1999) (holding that although fire investigation expert was not qualified to opine on whether heater had malfunctioned, he could testify about the origin of the fire), aff'd on other grounds, 528 U.S. 440 (2000). We reverse as to the exclusion of the part of Mr. Arms' testimony that related to origin of the fire.

B. Testimony of Dr. Clarke

The second expert whose testimony was categorically excluded by the district court was Dr. Clarke, a metallurgy expert with a master's degree in extractive metallurgy, and a doctorate in fracture mechanics. United Fire retained Dr. Clarke as a metallurgist, not as a cause and origin expert. The sole purpose for which he was retained was to examine the metal exhaust tube within the dryer and estimate the temperature it reached during the fire.

Pointing to Dr. Clarke's failure to cite some type of publication supporting his testimony that the metal in the tube melts at 2800 degrees, the district court ruled that the testimony did not satisfy the minimum indicia of reliability outlined in Duabert. However, reference to a published study involving dryer ducts is not necessary to demonstrate minimum scientific reliability. See Daubert, 509 U.S. at 593 ("Publication (which is but one element of peer review) is not a sine qua non of admissibility; it does not necessarily correlate with reliability . . . ."). Indeed,

given that the scientific literature on dryer ducts or low carbon steel may not be extensive, the fact that Dr. Clarke was not aware of any literature finding that dryer ducts have reached temperatures of 2800 degrees Fahrenheit hardly suggests that the methodology underlying Dr. Clarke's conclusion was not minimally reliable. Dr. Clarke gave an extensive explanation of his methodology and explained how his education assisted him in reaching his conclusions.

Dr. Clarke is an engineer with advanced degrees and a specialty in metallurgy. He applied his advanced training and used several metallurgy imaging tools including an electron microscope to analyze the microstructural properties of the metal tube. Dr. Clarke's specialized knowledge included familiarity with the temperatures at which different types of metal melt and the microstructural properties of metal that has been exposed to high temperatures. While his ultimate conclusions may be contested, it was an abuse of discretion to conclude that the basic methodology Dr. Clarke applied to analyze the metal dryer duct lacked minimum scientific reliability. We therefore reverse the exclusion of Dr. Clarke's testimony.[2]

III. Summary Judgment

[2] To the extent that Dr. Clarke's expert testimony strays from providing an estimate of the temperature and physical conditions to which the metal exhaust tube was exposed, the district court should exercise its discretion in limiting that testimony.

To prevail on its motion for summary judgment under Florida law, Whirlpool had to demonstrate that there was no genuine dispute as to whether a manufacturing defect in the dryer caused the fire. McCorvey v. Baxter Healthcare Corp., 298 F.3d 1253, 1257 (11th Cir. 2002). After categorically excluding the testimony of both Mr. Arms and Dr. Clarke, the district court concluded there was no evidence that a defect in the dryer caused the fire and therefore granted summary judgment to Whirlpool. Because we have reversed the district court's categorical exclusion of that expert testimony, there is sufficient evidence of a defect such that a reasonable jury could find in favor of United Fire.

In Cassisi v. Maytag Co., 396 So. 2d 1140 (Fla. Dist. Ct. App. 1981), the Florida District Court of Appeals adopted the "Greco rule," derived from Greco v. Bucciconi Eng'g Co., 283 F. Supp. 978 (W.D. Pa. 1967) aff'd, 407 F.2d 87 (3d Cir. 1969). Under that rule, "when a product malfunctions during normal operation, a legal inference . . . arises [of a product defect], and the injured plaintiff thereby establishes a prima facie case for jury consideration." Cassisi, 396 So. 2d at 1148.[3] United Fire put forth sufficient evidence to create a dispute as to whether the dryer was in operation when the fire started. First, the Fire Marshal's report states that

[3] Whirlpool argues that, unlike in Cassisi, the dryer here was not "so badly damaged by a malfunction that the plaintiff [could not] point with specificity [to] the dangerous condition which caused the accident." However, the Cassisi "inference is not dependent solely upon [products that have been lost or destroyed]." Cassisi, 396 So. 2d at 1151; see also McCorvey v. Baxter Healthcare Corp., 298 F.3d 1253, 1259 (11th Cir. 2002) ("Cassisi allows, but does not require, that the product be destroyed in the accident which gives rise to the suit.").

the fire originated in or near the clothes dryer in the southwest corner of the utility room. Second, United Fire offered Mr. Arms' now admissible expert testimony that the fire originated from inside the dryer. Third, there is no dispute than less than two hours before the fire was reported to the fire department one of the Corral children had turned the dryer on. Applying the "Cassisi inference" to this evidence it is clear that there genuine dispute as to whether a manufacturing defect within the dryer caused the fire. Consequently, summary judgment was not proper.[4] See, e.g., Warner v. Sony Corp. of Am., 560 So. 2d 399, 400 (Fla. Dist. Ct. App. 1990) (holding that evidence that fire started within or in close proximity to audio receiver, together with Cassisi inference, allowed plaintiff's product liability claim to go to the jury).

IV. Conclusion

For these reasons, we AFFIRM IN PART and REVERSE IN PART the exclusion of Mr. Arms' expert testimony; REVERSE the exclusion of Dr. Clarke's expert testimony; REVERSE the grant of summary judgment; and REMAND the case to the district court for proceedings consistent with this opinion.

[4] None of this discussion is to suggest that United Fire needs to rely on the Cassisi inference to successfully make establish the elements of its claim on remand.