

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS**

JAMES B. MCCOY, et al.,)	
)	
)	CIVIL ACTION
Plaintiffs,)	
)	No. 02-2064-KHV
v.)	
)	Consolidated with:
WHIRLPOOL CORP.,)	No. 02-2229-KHV
)	No. 02-2230-KHV
Defendant.)	
)	
<hr/>		

MEMORANDUM AND ORDER

Plaintiffs James B. McCoy, Lorry McCoy and American National Property and Casualty Company filed separate suits against Whirlpool Corporation (“Whirlpool”) for wrongful death, personal injury and property loss.¹ The McCoy’s also filed a survival action on behalf of the Estate of Emily M. McCoy. The case went to trial in August of 2003, and ended in a mistrial. On February 10, 2005, a second jury returned a \$1,712,914 verdict in favor of plaintiffs. See Jury Verdict (Doc. #396). This matter comes before the Court on defendant’s oral Motion For Directed Verdict And Judgment As A Matter Of Law (Doc. #391) made February 2, 2005, defendant’s oral Motion For Directed Verdict And Judgment As A Matter Of Law (Doc. #392) made February 9, 2005 and Defendant Whirlpool’s Renewed Motion For Judgment As A Matter Of Law And Motion For Judgment Notwithstanding The Verdict Or, In The Alternative, Motion For New Trial (Doc. #398) filed February 24, 2005. For reasons stated below, the Court sustains defendant’s motions.

¹ The Court dismissed the personal injury claim in August of 2003.

Standards For Motion For Judgment As A Matter Of Law

A court should grant judgment as a matter of law under Rule 50(b), Fed. R. Civ. P., “cautiously and sparingly.” Zuchel v. City & County of Denver, 997 F.2d 730, 734 (10th Cir. 1993). A party is entitled to judgment as a matter of law if the evidence points but one way and is susceptible to no reasonable inferences supporting the party opposing the motion. Johnson v. Unified Gov’t of Wyandotte County/Kan. City, Kan., 371 F.3d 723, 728 (10th Cir. 2004). If the record does not include a legally sufficient evidentiary basis for a claim under the controlling law, judgment as a matter of law is proper. Brown v. Gray, 227 F.3d 1278, 1285 (10th Cir. 2000); Mason v. Okla. Turnpike Auth., 115 F.3d 1442, 1450 (10th Cir. 1997). The Court may not weigh the evidence, consider witness credibility or substitute its judgment for that of the jury. Affiliated FM Ins. Co. v. Neosho Constr. Co., Inc., 192 F.R.D. 662, 666 (D. Kan. 2000). The Court must find that more than a scintilla of evidence favors the nonmoving party. See Cooper v. Asplundh Tree Expert Co., 836 F.2d 1544, 1547 (10th Cir. 1988). The Court views the evidence in favor of the nonmoving party. Id.

Factual Background

Plaintiffs allege that Whirlpool is strictly liable for damages which the McCoys sustained in a fire which killed their daughter and destroyed their home on February 16, 2000.² Plaintiffs allege that the fire originated in a Kenmore New Generation dishwasher which they purchased from Sears on August 26, 1996. Whirlpool, which manufactured the dishwasher during the week of June 16, 1996, denies that the

² In addition to strict liability, plaintiffs originally sought actual and punitive damages for negligence. On May 15, 2003, plaintiffs filed a motion to amend the pretrial order to withdraw those claims. Motion To Amend Pretrial Order (Doc. #149). On June 6, 2003, the Court sustained plaintiffs’ motion. Order (Doc. #155). Plaintiffs’ sole remaining theory is strict liability.

fire originated in the dishwasher and argues that the dishwasher was not defective or unreasonably dangerous.

Briefly summarized, the evidence at trial was as follows:

I. The Fire

Lorray McCoy and daughter Emily spent the evening of February 16, 2000 at home. Some time between 5:00 and 7:00 p.m., Lorray set the delay timer function of the dishwasher. At the end of the delay the dishwasher was supposed to automatically start a 90-minute wash cycle, followed by a 30-minute dry cycle, then automatically turn off. Lorray set the timer for the maximum delay of five hours. At about 11:10 p.m. Emily went to bed in her second floor bedroom. About 20 minutes later, Lorray went to bed in her first floor bedroom. As Lorray fell asleep, she smelled smoke. Initially, she thought the smell was from a neighbor's fireplace. Four or five minutes later she got out of bed and walked to the kitchen to investigate.

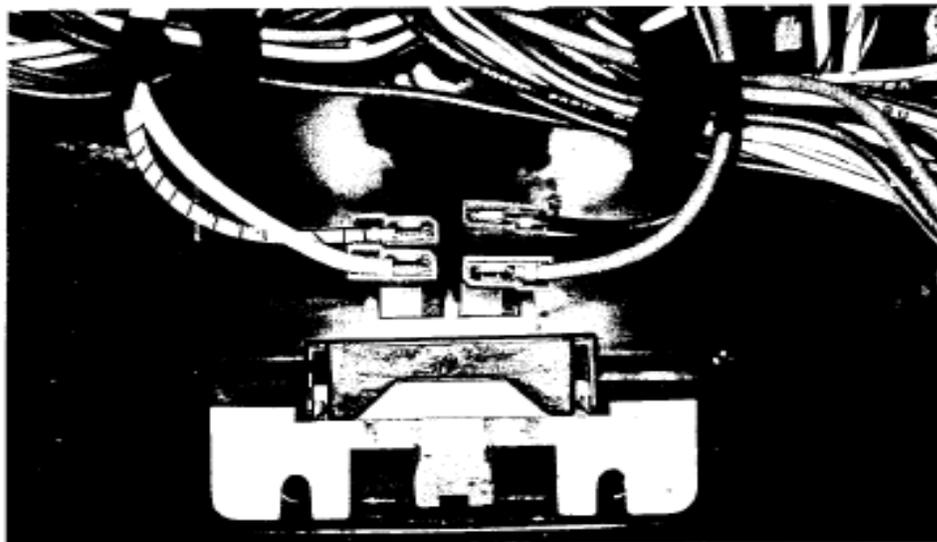
Lorray looked into the kitchen and saw flames coming out the front of the dishwasher. Lorray called to Emily, who was asleep in her bedroom, then called 911. The Louisburg Fire Department was dispatched to the McCoy home at 11:42 p.m.

II. New Generation Dishwasher

In November of 1990, Whirlpool first produced and marketed the premium and base models of the New Generation dishwasher. The door latch switch assembly, which is located at the top center of the dishwasher door, originally consisted of a latch bolt, a door lever latch, two white microswitches, two AMP

flag terminals which attached to each microswitch,³ and a crimp attachment at each of the four AMP flag terminals. The crimp attachments connected the AMP flag terminals to wire conductors in the wiring harness of the dishwasher. Each microswitch included a plunger. When the dishwasher door was shut, the plunger was depressed and allowed the electrical contacts inside the microswitch to make contact, so that electrical current could allow the dishwasher to operate. When the dishwasher door was opened during a cycle, the plunger retracted to separate the electrical contacts inside the microswitch and automatically turn off the dishwasher.

The following picture shows how the four crimp attachments connected the flag terminals (two on each microswitch) to the wires of the wiring harness in the dishwasher:



³ “Microswitch” is the trade name for a miniature interlock switch which Whirlpool has used in its New Generation dishwashers since April of 1992. When the door handle of the dishwasher is raised to open the door, the microswitch operates to mechanically stop all electrical current to the dishwasher. When the door is shut, a plunger inside the switch is depressed so that electrical current can pass through the electrical contacts of the switch.

Each microswitch had two metal tabs which extended outside the microswitch. The AMP flag terminals slid over these tabs. Each AMP flag terminal included a crimp attachment which connected the AMP flag terminal to one of the conductors from the wiring harness.

Trial Exhibit 657.004 (not admitted).⁴

The New Generation dishwasher is energized with a nominal 120 volts. The current flow varies throughout the various dishwasher cycles, but it does not exceed 11.6 amps. The entire current flow passes through the two microswitches in the door latch switch assembly area.

In 1992, Whirlpool implemented certain design changes in the premium New Generation dishwashers. For some premium models manufactured between April of 1992 and May of 1993, this design change caused overheating at the AMP flag terminals on the microswitches. Therefore, in May of 1993, Whirlpool changed from AMP flag terminals to ETCO flag terminals. The ETCO terminals had different crimp attachments to conductor wires.⁵ The McCoy dishwasher had ETCO terminals, and not the AMP terminals which had problems with overheating.

In all premium models manufactured after April of 1992, Whirlpool also replaced the white microswitches with black ones. The electronic properties of the black and white switches were the same,

⁴ At trial, the Court admitted several dishwasher door switch assembly exemplars which gave the jury roughly the same illustration. See Exhibit 425. The parties apparently did not offer Trial Exhibit 657.004 because the exemplars were in evidence. The Court refers to this exhibit solely for demonstrative purposes.

⁵ Plaintiffs claim that dishwashers manufactured after April of 1992 had problems with excessive heating which the change to ETCO terminals did not correct. Whirlpool's engineering expert, Ernst Grunewald, testified that the initial ETCO terminal samples in 1993 had problems with crimp heights, which could potentially cause excessive resistance heating. See Jury Trial - Testimony Of Ernst Grunewald (Doc. #418) filed May 25, 2005 at 111-12. ETCO (who manufactured the terminals) immediately changed the crimp height on the terminals and the problem was resolved. See id. at 112. Plaintiffs presented no evidence that dishwashers with ETCO terminals manufactured after 1993 had problems with overheating. In addition, Whirlpool presented evidence that even though excessive resistance heating is possible with ETCO terminals, they could not reach sufficient temperatures to ignite surrounding combustibles because of the thermal properties of black microswitches which it had started to use in April of 1992. See infra text at 10-11.

but they were made of different material. After the change, Whirlpool received several complaints that dishwashers with black microswitches would not run. In investigating those complaints, Whirlpool discovered that when the ambient air temperature near the black microswitches reached 160 degrees Centigrade / 320 degrees Fahrenheit, the plungers in the black microswitches melted and opened the electrical circuits, causing the dishwashers to stop running. Because of this so-called “fail safe,” the black microswitches prevented fires that might otherwise result from overheating at or near the microswitches.⁶

Whirlpool performs dishwasher “Life Testing,” which involves hooking up a dishwasher as it would be hooked up in a consumer’s home and running it for 24 hours a day for at least 4,000 cycles. During such testing, Whirlpool inspects the dishwasher on a regular basis, then dismantles and further inspects it. On four occasions in 1993, the New Generation life tests indicated that a black microswitch appeared to fail with the plunger in the “closed position.” These tests did not result in fires, but they suggested that the plungers had not melted, the electrical circuits had not opened, and the electrical current continued to flow in those four dishwashers. As to three of the four microswitches where the plunger appeared to fail in the closed position, Grunewald explained that the electrical contacts in the microswitches were actually open so no current could continue to flow. See Grunewald Testimony at 109-10. As to the fourth microswitch, Grunewald testified that the plunger had partially melted and that the electrical contacts in the microswitch would have failed in the open position if the temperature had reached 160 degrees Centigrade /

⁶ In reality, the black microswitches had two types of “fail safes.” First, the mechanical operation of the plunger within the microswitch temporarily stopped all electrical current when the door was opened. Second, when the plunger melted, it separated the electrical contacts within the microswitch and permanently stopped all electrical current.

320 degrees Fahrenheit. See id. at 105-06. This testimony was undisputed.⁷

III. Fire Origin And Cause

At trial, plaintiffs presented four expert witnesses as to the origin and cause of the fire. Those witnesses were James L. Kuticka, David L. Yates, Daniel E. Anderson and Michael Schulz.⁸ Kuticka and Schulz testified that the dishwasher was the origin and cause of the fire, that the fire originated within the upper door of the dishwasher in the door latch switch assembly area, and that the cause of the fire was electrical in nature.

The parties stipulated as to the expert opinions of Yates and Anderson as follows:

[B]oth Mr. Yates and Mr. Anderson conducted their investigations using generally accepted fire origin and cause investigation methodology and reached conclusions regarding the origin and cause of the McCoy fire to a reasonable degree of fire science certainty.

⁷ Grunewald theoretically conceded that both black microswitches in a dishwasher could simultaneously fail at temperatures below 160 degrees Centigrade / 320 degrees Fahrenheit, and that the electrical contacts would therefore remain in the closed position. The danger in such a scenario was not a fire, however, but that a user who opened the door while the dishwasher was running could get sprayed. See id. at 38-39. This scenario involves the first type of “fail safe” of the black microswitch, i.e. the fact that the mechanical operation of the plunger within the microswitch temporarily stops all electrical current when the door is opened. Whether the black microswitches in the McCoy dishwasher operated with such a “fail safe” is not directly relevant to plaintiffs’ claim that excessive resistance heating caused their fire. Plaintiffs’ claim involves the second type of “fail safe” on the black microswitches, i.e. the fact that at 160 degrees Centigrade / 320 degrees Fahrenheit, the plunger melts and separates the electrical contacts within the microswitch, permanently stopping all electrical current and preventing further excessive resistance heating.

⁸ David L. Yates, a fire investigator for the Kansas State Fire Marshall’s office, arrived at the fire scene at 5:19 a.m. on February 17, 2000. Yates determined that the fire was accidental and suspected that the fire started at or near the dishwasher. Yates also arranged for James L. Kuticka of Kuticka Fire Investigations, L.L.C. to investigate the origin and cause of the fire. Goben Company, which had installed the dishwasher, hired Daniel E. Anderson of Anderson Investigations to investigate the fire. Kuticka and Anderson separately concluded that the fire was accidental and that it originated in the dishwasher.

. . . [I]f called to testify, David L. Yates and Daniel E. Anderson would testify to opinions that are essentially the same as the expert opinions of plaintiffs' two retained fire origin and cause experts, James Kuticka and Michael Schulz, as to the origin and cause of the McCoy fire, to-wit, (1) the origin and cause of the McCoy fire was the Whirlpool dishwasher located on the north wall of the kitchen of the McCoy residence; and (2) the McCoy fire did not originate within the joist space of the ceiling of the basement below the first floor of the McCoy residence. It is further stipulated and agreed by the parties that Daniel E. Anderson would also testify that (1) the McCoy fire specifically originated within the door latch switch assembly of the Whirlpool dishwasher; and (2) the fire was electrical in origin.

Joint Stipulation Regarding Expert Opinions Of David L. Yates And Daniel E. Anderson (Doc. #314) filed September 30, 2004. Plaintiffs also presented an electrical engineering expert, Wesley Sherman, who testified that he could not find any potential cause of the fire other than the dishwasher.

Finally, plaintiff presented an electrical engineering expert, James L. Martin.⁹ Martin testified that the electrical circuit of the door latch switch assembly contains ten potential points of excessive resistance heating. See Jury Trial - Testimony Of James L. Martin (Doc. #415) filed May 25, 2005 at 54-55; Plaintiff's Exhibit 44. In this context, excessive resistance heating describes the increase in heat which is produced when the electrical resistance in a dishwasher is increased. See Martin Testimony at 43. Ordinarily, excessive resistance heating occurs at an electrical connection, i.e. a point of discontinuity, and increases gradually over a period of time. See id. at 43-44. The process can occur where strands of a conductor wire are outside a crimp, where a crimp is not the proper size or where the electrical connection

⁹ Martin holds a bachelor of science degree in electrical engineering and has continuously practiced as a licensed professional electrical engineer since August of 1968. In 1977 he formed Martin Engineering, which specializes in consulting engineering and forensic engineering. On behalf of Martin Engineering, Martin has provided electrical engineering consulting to a wide variety of electrical construction projects and has completed many forensic engineering assignments. About 600 of those assignments involved fires.

is otherwise defective. See id. at 44. When the appliance is energized and current passes through the defective electrical connection, the air around the connection warms and forms an oxide which fills the voids in the connection. See id. at 44-45. The next time the appliance is energized and current passes through the electrical connection, the air becomes even warmer at the electrical connection and more oxidation occurs. See id. at 45. If the defect at the electrical connection is severe enough and if the appliance is turned on enough times, excessive resistance heating can eventually manifest itself as a fire. See id. In describing how excessive resistance heating is created, Martin stated that excessive resistance heating can occur (1) at one or more of the four crimps which connect the flag terminals to the conductors in the wiring harness; (2) at one or more of the four connections of the flag terminals to the microswitches; and (3) at one or two connections inside the microswitches.¹⁰ See id. at 55-59. Martin testified that if the fire originated in the door latch assembly of the dishwasher, as the cause and origin experts had testified, it resulted from a manufacturing defect which caused excessive resistance heating in the current flow path in the door latch assembly. See Martin Testimony at 104-05. Martin concluded that without such a defect, the fire would not have occurred. See id. at 105. Martin testified that excessive resistance heating can result from manufacturing defects (such as a loose crimp or wire strands outside a crimp) and can ignite plastics in the vicinity.¹¹ See id. at 28, 44-47.

¹⁰ Whirlpool did not design or manufacture the black microswitches.

¹¹ Martin testified that he had seen a fire caused by excessive resistance heating in a Whirlpool “rework dishwasher.” See id. at 28, 47. Martin did not explain what he meant by a “rework dishwasher,” but he apparently was referring to one of the New Generation dishwashers which became part of a “rework program” which Whirlpool implemented in 1996. The rework program was in response to several dishwasher fires which resulted from excessive resistance heating at AMP flag terminals. Whirlpool determined that the root cause of the fires was the manufacturing process for the AMP flag terminals (continued...)

Defendant's engineering expert, Ernst Grunewald, agreed that a manufacturing defect could cause excessive resistance heating which at approximately 400 degrees Centigrade / 752 degrees Fahrenheit could ignite combustibles in that area of the dishwasher. See Grunewald Testimony at 9-10. Grunewald also agreed that even with ETCO terminals, a manufacturing defect in the crimping process could cause excessive resistance heating. See id. at 16. Grunewald testified, however, that with black microswitches

¹¹(...continued)

between June 1, 1991 and April 10, 1992. See Grunewald Testimony at 130. The rework program covered all New Generation dishwashers manufactured between those dates. See id. at 128. As part of the rework program, technicians installed rework kits which replaced the AMP flag terminals with ETCO flag terminals and replaced the white microswitches with black ones. See id. at 128-32. The dishwasher in the McCoy home, which was manufactured in 1996, was not subject to the rework program. See id. at 80. From the time of manufacture, it had different flag terminals (ETCO terminals instead of AMP ones) and different microswitches (black ones instead of white ones) than the dishwashers in the rework program. See id.

Plaintiffs did not present evidence of the total number of fires in the "rework dishwashers," but at least two fires occurred because the technicians had not properly connected the rework kits to the wiring harnesses. See id. at 140-41, 166-67, 169-70. The black microswitches did not prevent those fires because the microswitches were six or seven inches away from the improper connections and the connections were in "heat sinks" which prevented the heat from raising the ambient air temperature near the plungers in the black microswitches to 160 degrees Centigrade / 320 degrees Fahrenheit. See id. Consequently, the plungers did not melt and separate the electrical contacts to interrupt the flow of current, and excessive resistance heating ignited the combustibles in the surrounding areas of the two dishwashers.

Grunewald conceded that excessive resistance heating caused "several" fires in New Generation dishwashers with black microswitches. See id. at 41. Plaintiffs did not offer evidence of the number of such fires or exactly where within the door latch switch assembly excessive resistance heating occurred in these dishwashers. Grunewald explained that in each case, the black microswitches had been compromised or totally bypassed by improper service or the fire had originated in a "heat sink," as in the case of the two fires in rework dishwashers. See id. at 41-42, 139-41. In this case, improper service is not an issue because plaintiffs' sole theory is a manufacturing defect. Furthermore, plaintiffs do not claim that their fire originated in a "heat sink" which prevented the black microswitches from acting as a "fail safe." Accordingly, evidence concerning these other fires does not support plaintiffs' claim that their dishwasher was defective in the respects which they allege. In addition, plaintiff's general evidence concerning these fires is insufficient for a reasonable jury to conclude that the plungers in the black microswitches do not melt and separate the electrical contacts when exposed to temperatures of 160 degrees Centigrade / 320 degrees Fahrenheit.

like the ones in the McCoy dishwasher, the plungers would melt at 160 degrees Centigrade / 320 degrees Fahrenheit and open the electrical contacts inside the black microswitches so that no current could flow through the dishwasher. See id. at 16, 46-47, 101-02, 114. Without continued current, any excessive resistance heating would cease and the temperature could never get high enough to ignite the surrounding plastic combustibles. See id. at 16. At trial, Grunewald generally testified that if the McCoy fire originated in the “door latch switch area” – as opined by plaintiffs’ experts – the fire was caused by “a defect of some kind within that wiring system” and the black microswitches had failed to act as thermal fuses. Id. at 43; see id. at 12-14, 43-44. He also testified that with the black microswitches in the New Generation dishwashers, it was impossible for excessive resistance heating to ignite combustibles in the door latch switch assembly area. See id. at 28. Grunewald explained that while Whirlpool and Underwriters Laboratories did not specifically test or list the black microswitches as thermal fuses, they functioned as thermal fuses when the ambient temperature near the microswitches reached 160 degrees Centigrade / 320 degrees Fahrenheit. See id. at 127.

As noted, a jury returned a \$1,712,914 verdict in favor of plaintiffs. Defendant argues that it is entitled to judgment as a matter of law or a new trial because the verdict is (1) against the weight of the evidence and (2) founded upon mere speculation and conjecture in violation of Rule 702, Fed. R. Evid., and Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993). In particular, defendant argues that (1) the Court abused its discretion under Daubert when it permitted Martin to testify, (2) even if Martin’s testimony was admissible, plaintiffs did not present sufficient evidence that a defect in the dishwasher caused

the fire, and (3) the Court erred in submitting plaintiffs' claim for loss of services to the jury.¹²

Analysis

Plaintiffs specifically alleged that the McCoy dishwasher had two manufacturing defects, each of which involved the ETCO flag terminals on the black microswitches: (1) the terminals were not properly crimped to the conductors in the wiring harness in the door latch switch assembly; and/or (2) the terminals were not properly attached to the microswitches themselves. See Inst. No. 12. At trial, to establish their claims, plaintiffs had to prove that the following essential elements of their strict liability claim were more probably true than not true:

- (1) the McCoy dishwasher had a defect which made it unreasonably dangerous to persons who might be expected to use it;
- (2) the dishwasher was defective when it left the possession and control of Whirlpool Corporation;
- (3) the dishwasher was expected to reach and did reach the McCoy's without substantial change in the condition in which it was manufactured and sold; and
- (4) plaintiffs suffered damages as a result of the defect or defects.

Inst. No. 13; see Jenkins v. Amchem Prods., Inc., 256 Kan. 602, 630, 886 P.2d 869, 886 (1994), cert. denied, 516 U.S. 820 (1995); Mays v. CIBA-Geigy Corp., 233 Kan. 38, 54, 661 P.2d 348, 360 (1983).

I. Admissibility Of Testimony Of James L. Martin

Plaintiffs' experts – Kuticka, Schulz and Anderson – opined that the McCoy fire originated within the door latch switch assembly of the dishwasher, and that the cause of the fire was electrical in nature.

¹² Because the Court sustains defendant's motion on other grounds, it need not address Whirlpool's argument that the Court erred in submitting plaintiffs' claim for loss of services to the jury.

Such testimony was insufficient to establish that the fire resulted from either of the two manufacturing defects alleged by plaintiffs, i.e. the terminals were not properly crimped to the conductors in the wiring harness in the door latch switch assembly and/or the terminals were not properly attached to the black microswitches themselves. Martin purported to bridge this gap through testimony that if the fire originated in the door latch switch assembly, it resulted from a manufacturing defect in the current flow path of that assembly which caused excessive resistance heating. See Martin Testimony at 104-05. At trial, Whirlpool asked the Court to exclude Martin's testimony because (1) he had not personally conducted testing to support his opinion; and (2) he did not apply a scientific methodology in a reasonably reliable manner to the facts of this case. The Court overruled both objections. Defendant has renewed its objections.¹³

Rule 702, Fed. R. Evid., provides that an expert may testify as to scientific, technical or other specialized knowledge "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 determining whether an opinion or particular scientific theory is "reliable," the Court may consider several nondispositive factors: (1) whether the proffered theory can and has been tested; (2) whether the theory has been subject to peer review; (3) the known or potential rate of error; and (4) the general acceptance of a methodology in the relevant scientific community. Daubert, 509 U.S. at 593-94. The Supreme Court has emphasized, however, that while a trial court *may* consider one or more of these factors, the test of reliability is flexible and Daubert's list of factors does not

¹³ Defendant also criticized Martin because he did not identify a specific wiring connection which constituted a manufacturing defect. The Court previously noted that this criticism did not implicate Daubert. The Court addresses below whether plaintiffs sufficiently alleged and proved a specific defect in the dishwasher. See infra text, Analysis, Part II.

necessarily or exclusively apply to all experts or every case. Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137, 141 (1999). Therefore, while a trial court should consider the specific factors identified in Daubert where they are reasonable measures of the reliability of expert testimony, id., the law does not require an expert to back his or her opinion with independent tests that unequivocally support his or her conclusions. See Bonner v. ISP Techs., Inc., 259 F.3d 924, 929 (8th Cir. 2001); Heller v. Shaw Indus., Inc., 167 F.3d 146, 155 (3d Cir. 1999). Where an expert otherwise reliably utilizes scientific methods to reach a conclusion, lack of independent testing may “go to the weight, not the admissibility” of the testimony. See Zuchowicz v. United States, 140 F.3d 381, 387 (2d Cir. 1998).

In support of its objections to Martin’s testimony, Whirlpool relies primarily on Truck Insurance Exchange v. Magnetek, Inc., 360 F.3d 1206 (10th Cir. 2004). In Magnetek, investigators concluded that a fire started in the space between a basement storeroom ceiling and a kitchen floor. Plaintiff’s experts attempted to establish that a fluorescent light fixture on the storeroom ceiling caused the fire. The light fixture contained a ballast, which defendant manufactured, that contained a thermal protector. The thermal protector was designed to shut off the power if the temperature exceeded 232 degrees Fahrenheit, which was well below the approximately 400 degrees Fahrenheit necessary to ignite the wood in the storeroom ceiling and kitchen floor. See id. at 1208. The parties agreed that even after the fire, the thermal protector functioned properly. Plaintiff’s experts conducted tests, however, which showed that a similar ballast did not cut off power until temperatures reached 300 to 340 degrees Fahrenheit. See id. at 1209. Based on a theory called “pyrolysis,” which posited that wood can catch fire if it is exposed to temperatures below 400 degrees Fahrenheit over a long period of time, plaintiff’s expert proposed to testify that the ballast started the fire. See id.

The district court excluded plaintiff's expert testimony under Daubert. It reasoned that the long-term low-temperature ignition theory was unreliable and had not been reliably applied to the facts of the case. See id. at 1210-11. In particular, the district court held that plaintiff's experts did not have "any evidence that the ballast could generate enough heat to ignite combustibles in the ceiling." Id. at 1213. The Tenth Circuit held that the district court did not abuse its discretion when it excluded such testimony under Daubert. See id. It noted that the authors of the articles offered by plaintiff, and plaintiff's own expert, gave cautionary statements about the reliability and foundation of pyrolysis. See id. at 1212.

Concepts of general and specific causation, as Kansas courts have applied them in product liability cases which involve pharmaceuticals and medical products, shed light on plaintiffs' evidentiary burden and the type of expert testimony which is admissible under Daubert.¹⁴ See Norris v. Baxter Healthcare Corp., 397 F.3d 878, 881 (10th Cir. 2005) (applying principles in silicone breast implant case). On the issue of general causation, plaintiffs must show through reasonably reliable evidence that excessive resistance

¹⁴ In the medical context, general causation refers to proof that "the [product] can cause the injury at issue" and specific causation refers to proof that "the [product] did cause the injury at issue." Kuhn v. Sandoz Pharms. Corp., 270 Kan. 443, 464, 14 P.3d 1170, 1184 (2000) (outlining district court's description of phrases). The Court recognizes that in a products liability action under Kansas law, independent proof of general causation is not necessarily required. See id. at 464-65, 14 P.3d 1170, 1184-85 (evidence of general causation not required to admit evidence of specific causation; proof of general causation ordinarily required only in mass tort litigation with large existing epidemiological records). In this case, however, the circumstantial nature of plaintiffs' evidence of causation and the holding in Magnetek suggest that plaintiffs must show that for their particular dishwasher, their theory of how the fire started is scientifically plausible. Factually, Magnetek is virtually on "all fours" with this case. In each case, a fire occurred in spite of a thermal protective device which should have cut off power before electrical heating reached a temperature sufficient to ignite surrounding combustibles (wood or plastic). In Magnetek, the parties stipulated that the thermal protective device functioned properly even after the fire. The parties in this case had no such stipulation, but the record contains no evidence or claim that the black microswitches – the thermal protective devices in the McCoy dishwasher – were defective.

heating in a New Generation dishwasher equipped with black microswitches *can* cause a fire. In other words, plaintiffs must show that a manufacturing defect which causes excessive resistance heating in the door latch switch assembly is a scientifically plausible cause of fire in a New Generation dishwasher. See Magnetek, 360 F.3d at 1213 (expert must have evidence that ballast could generate enough heat to ignite surrounding combustibles). On the issue of specific causation, plaintiffs must show through reasonably reliable evidence that excessive resistance heating due to one of the two alleged defects did raise the temperature high enough to ignite combustibles in that area of the dishwasher. See Mays, 233 Kan. at 52, 661 P.2d at 359 (circumstances shown must justify inference of probability as distinguished from mere possibility). For reasons explained below, Martin’s expert testimony was not sufficiently reliable on either issue.

A. Expert Testimony Of General Causation: Excessive Resistance Heating Can Cause A Fire In New Generation Dishwashers Equipped With Black Microswitches

Plaintiffs must show through reasonably reliable evidence that excessive resistance heating can raise the temperature in the door latch switch assembly area of a New Generation dishwasher to approximately 400 degrees Centigrade / 752 degrees Fahrenheit – high enough to ignite plastic combustibles inside the dishwasher.¹⁵ Martin and Grunewald agreed that in theory, a defective crimp between a terminal and a conductor can create excessive resistance heating which can eventually raise the temperature high enough to ignite surrounding combustibles. See Grunewald Testimony at 9-10, 14, 16-20. Grunewald testified that this scenario cannot occur in New Generation dishwashers with black microswitches, however,

¹⁵ All combustibles inside the New Generation dishwasher are plastic.

because at 160 degrees Centigrade / 320 degrees Fahrenheit, *i.e. significantly* below the 400 degrees Centigrade / 752 degrees Fahrenheit required to ignite surrounding combustibles, the plungers in the black microswitches will melt and open the electrical contacts of the microswitches so that electrical current can no longer flow through the dishwasher wiring harness to generate excessive resistance heating. See id. at 16, 114.

In Norris, a toxic tort case, the Tenth Circuit held that where the record contains a large body of contrary epidemiological evidence, plaintiff's experts must at least address it with evidence that is based on a medically reliable and scientifically valid methodology. See Norris, 397 F.3d at 882. Norris held that the district court properly excluded the testimony of plaintiff's experts as unreliable because they simply ignored or without explanation discounted all contrary epidemiological evidence.¹⁶ See id. at 884-85.

Here, Whirlpool presented evidence that the plunger in a black microswitch will melt at 160 degrees Centigrade / 320 degrees Fahrenheit and open the electrical contacts in the microswitch so that no electrical current can flow through the dishwasher to generate excessive resistance heating. This evidence was undisputed, and Martin never addressed or attempted to explain how excessive resistance heating at the flag terminals could cause a fire in a New Generation dishwasher equipped with black microswitches.¹⁷

¹⁶ "Although it is not always a straightforward exercise to disaggregate method and conclusion, when the conclusion simply does not follow from the data, a district court is free to determine that an impermissible analytical gap exists between premises and conclusion." Bitler v. A.O. Smith Corp., 391 F.3d 1114, 1121 (10th Cir. 2004).

¹⁷ Martin testified that to suggest that a plunger in a black microswitch will always melt and act as a thermal fuse is "not good engineering science" because the interruption of current "would be totally a by-chance event." Martin Testimony at 80. Martin never explained what he meant by a "by-chance event" or why "by-chance" events are inconsistent with "good engineering science." In referring to a "by-chance event," Martin was perhaps referring to the fact that the black microswitches were not intentionally
(continued...)

In failing to do so, Martin ignored undisputed and known evidence about the thermal properties of black microswitches. See Norris, 397 F.3d at 884-85. Martin’s theory therefore suffers a more fundamental defect than the expert’s theory in Magnetek – that is, Martin’s theory does not explain how excessive resistance heating could ignite the surrounding combustibles in the dishwasher model which was in the McCoy home. Absent a theory on this issue, Martin could not test it. So Martin opined generally that excessive resistance heating is possible and that it has caused some dishwasher fires in the past. Martin

¹⁷(...continued)

designed to act as thermal fuses. The undisputed evidence, however, was that black microswitches do function as thermal fuses when temperatures reach 160 degrees Centigrade / 320 degrees Fahrenheit. For purposes of this case, the functionality of a black microswitch is what counts – not the manufacturer’s subjective intent in designing and manufacturing it or Whirlpool’s intent in using it. Therefore it is irrelevant whether black microswitches interrupt the current flow “by chance” – as Martin may have used the phrase – or because black microswitches are designed to act as thermal fuses. The critical question is whether black microswitches *function* as thermal fuses.

The record contains no evidence that black microswitches operate as thermal fuses only randomly, sporadically or erratically when temperatures reach 160 degrees Centigrade / 320 degrees Fahrenheit, which is what a reasonable factfinder would consider to be “by chance.” Furthermore, Martin never attempted to explain what evidence supported his bald conclusion that a black microswitch does not function as a thermal fuse. See Martin’s Testimony at 92. Martin’s criticism that the microswitch interrupted electrical current as a “totally . . . by-chance event,” and that it was not “good engineering science” to assume that it would act as a thermal fuse does not establish that black microswitches do not act as thermal fuses or establish any circumstances under which they would fail to do so. See Norris, 397 F.3d at 886 (mere criticism of epidemiology cannot establish causation). If black microswitches do not consistently and reliably act as thermal fuses, this point could be easily established through testing – which Martin did not do. As noted above, the undisputed evidence is that black microswitches act as thermal fuses when ambient temperatures around them reach 160 degrees Centigrade / 320 degrees Fahrenheit. They will not prevent fires which originate in “heat sinks,” because the “heat sinks” prevent temperatures near the black microswitches from reaching 160 degrees Centigrade / 320 degrees Fahrenheit. In this case, however, the alleged manufacturing defects were either on the black microswitches themselves or less than one inch away from them. The record contains no evidence that any black microswitch has failed to function as a thermal fuse in such circumstances. That is to say, the record contains no evidence that an electrical fire in a New Generation dishwasher has originated at or within one inch of a black microswitch with ETCO terminals.

never attempted to apply that theory to the facts in this case, i.e. a New Generation dishwasher with black microswitches. See Daubert, 509 U.S. at 591 (gatekeeping inquiry must be tied to facts of particular case). Martin did not explain how – in a New Generation dishwasher with black microswitches – excessive resistance heating can raise the temperature to 400 degrees Centigrade / 752 degrees Fahrenheit – high enough to ignite surrounding combustibles. In other words, Martin’s methodology has an impermissible analytical gap between its premises and conclusions. See Bitler, 391 F.3d at 1121. Plaintiffs do not claim that the black microswitches in the McCoy dishwasher were defective, or that any defects which they do allege would prevent the black microswitches from functioning as thermal fuses. The Court must therefore exclude Martin’s opinion that a manufacturing defect in a New Generation dishwasher with non-defective black microswitches can cause excessive resistance heating which can cause a fire. See Magnetek, 360 F.3d at 1211-13 (expert must present sufficiently reliable theory to establish that product defect could generate sufficient heat to ignite fire).

B. Expert Testimony Of Specific Causation: Excessive Resistance Heating Caused By One Of The Two Defects Alleged Did Raise The Temperature High Enough To Ignite Surrounding Combustibles

In addition to plaintiffs’ failure to present reasonably reliable evidence of general causation, plaintiffs also failed to present reasonably reliable evidence that one of the two alleged defects actually raised the temperature in the McCoy dishwasher high enough to ignite surrounding combustibles. Again, on this issue, plaintiffs relied on Martin’s expert testimony.

Experts must apply a scientific methodology in a reasonably reliable manner to the facts of the case. In seeking to exclude testimony under Daubert, defendant must “[call] sufficiently into question” the principles, methods, or applications which Martin employed. Daubert, 509 U.S. at 592.

Martin testified that if the fire originated in the door latch assembly of the dishwasher, as the cause and origin experts testified, a manufacturing defect in the current flow path at the door latch assembly caused excessive resistance heating, which in turn caused the fire. See Martin Testimony at 104-05. Martin concluded that a manufacturing defect caused the excessive resistance heating and that without such a defect, the fire would not have occurred. See id. at 105. Martin’s conclusory opinions are not admissible under Daubert.

First, Martin never explained how or under what circumstances a plunger in a black microswitch would fail to separate the electrical contacts inside the microswitch (and stop the electrical current flow through the dishwasher) before a fire could ignite. See supra text, Analysis, Part I.A. Martin basically agreed that black microswitches act as thermal fuses (although he claimed that this functionality was “totally a by-chance event”), and plaintiffs never alleged or proved that the black microswitches in the McCoy dishwasher were defective in any way. Therefore Martin did not explain how a fire could result from excessive resistance heating in the McCoy dishwasher.

Second, Martin did not attempt to apply known data from New Generation dishwashers to specifically explain how the McCoy fire resulted from a manufacturing defect. See Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997) (trained experts ordinarily extrapolate from existing data; Daubert does not require court to admit opinion evidence which is connected to existing data only by *ipse dixit* of expert). As explained above, excessive resistance heating from a manufacturing defect is a *gradual* process. It depends on a number of factors such as how loose the electrical connection is, the electrical current load of the dishwasher (which varies throughout each cycle) and the number of times the dishwasher has been used. See supra text at 8-9. Most or all of these factors were known or capable of estimation in this case.

Martin ignored them all, in favor of a general theory that because a manufacturing defect can start fires in the door latch switch assembly areas of some dishwashers, such a defect must have caused the McCoy fire. The fact that some fires have ignited in this manner does not establish, however, that the McCoy fire ignited in this manner.¹⁸ Martin did not explain his conclusion in this regard or show how he reliably used scientific methods to reach his conclusion. On voir dire, Martin acknowledged that the standard within his field of science is to form a hypothesis and test the hypothesis by applying the established laws of science to known and estimated variables. See Martin Testimony at 82. Martin’s attempt to simply “reason it out,” based on general principles of electrical engineering, is not sufficiently reliable under the facts of this case. Id. at 83. This is particularly true because his attempt to “reason it out” does not address the thermal protective function which the black microswitches perform.

The Court recognizes that Martin’s *general* testimony about potential causes of excessive resistance heating in door latch switch assemblies is scientifically reliable, based on Ohm’s Law.¹⁹ Martin

¹⁸ In this regard, the Court notes that the record contains no evidence that the McCoy’s experienced any problems in the four years they owned and operated their dishwasher, or that they observed any unusual behavior on its part. Assuming that ignition cannot occur until excessive resistance heating builds to 400 degrees Centigrade / 752 degrees Fahrenheit, and that excessive resistance heating would build to this point gradually over time, with multiple uses, one might expect the McCoy’s to have detected some problem with overheating well before the point of ignition. The parties did not explain the insulating properties of the dishwasher door or what the peak temperature in a dishwasher would be under normal circumstances, but Grunewald noted that in the Life Tests which sought to replicate actual conditions, Whirlpool used water at 160 degrees. See Grunewald Testimony at 44. Grunewald did not explain whether the water temperature was measured in Centigrade or Fahrenheit, but at the first trial, Grunewald testified that in general, except for certain heating elements, the temperature of the dishwasher should not exceed 150 degrees Centigrade / 302 degrees Fahrenheit. See Transcript of Jury Trial, August 12-28, 2003 (Doc. #264) filed February 17, 2004 at 1436-37.

¹⁹ Ohm’s Law is a well recognized and basic principle for understanding the relationship between electricity and fire. It states that the voltage is equal to current multiplied by resistance. Martin
(continued...)

did not explain, however, under what scientific principles he concluded that a manufacturing defect caused the excessive resistance heating which caused the McCoy fire. Furthermore, plaintiffs cannot rely on Grunewald's testimony to establish the reliability of Martin's testimony under Daubert. Grunewald speculated that *if* the fire originated in the door latch switch area, the fire resulted from "a defect of some kind within that wiring system" and that the black microswitches in that circumstance had failed to act as thermal fuses. See id. at 43-44. Grunewald did not testify what defect in the wiring system would have caused the fire. Based on his other testimony, Grunewald apparently assumed that such a defect would have to be at some distance from the microswitches, in a "heat sink" which prevented the excessive resistance heating from raising the ambient air temperature near the plungers to the point where they would melt. See id. at 41-42, 139-41, 166-67, 169-70. Grunewald's testimony does not prove the two specific defects which, as plaintiffs alleged, are located on the microswitches themselves (where they attach to the ETCO flag terminals) or less than one inch away (where the ETCO flag terminals connect to the conductors in the wiring harness). In sum, Martin did not show how he reliably used scientific methods to reach his conclusion.²⁰ Accordingly, the Court must exclude Martin's testimony that a manufacturing defect caused

¹⁹(...continued)

also relied on another accepted formula of electrical engineering which provides that heat (measured in watts) is equal to volts multiplied by amps. Combining the two equations, Martin derived the heat formula which states that heat (measured in watts) is equal to the current (measured in amps) squared multiplied by the resistance (measured in ohms).

²⁰ Even at trial, the Court noted that if defendant had raised the issue in a more timely manner and presented competing scientific testimony as to Martin's methodology, the Court might have rejected his testimony as unreliable. See Martin Testimony at 98-99. Absent competing scientific testimony, however, and without the opportunity to conduct a pre-trial Daubert hearing, the Court accepted Martin's own testimony that his methodology was reliable. See id. at 99. On further reflection, the Court finds that Martin did not adequately explain under what scientific principles he concluded that a product defect
(continued...)

excessive resistance heating which caused the McCoy fire.²¹ See Kannankeril v. Terminix Int'l, Inc., 128 F.3d 802, 806 (3d Cir. 1997) (opinion must be based on valid reasoning and reliable methodology); In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 746 (3d Cir. 1994) (judge should exclude evidence if expert lacks “good grounds” for his conclusions), cert. denied, 513 U.S. 1190 (1995); Daubert, 509 U.S. at 590.

II. Evidence Of Causation / Specific Defect

To show that the dishwasher was defective, plaintiffs rely on a theory analogous to *res ipsa loquitur*, *i.e.* absent a defect in the dishwasher, the fire would not have occurred. The Kansas Supreme Court has noted:

Strictly speaking, since proof of negligence is not in issue, *res ipsa loquitur* has no application to strict liability; but the inferences which are the core of the doctrine remain, and are not less applicable. The plaintiff is not required to eliminate all other possibilities, and so prove his case beyond a reasonable doubt. As on other issues in civil actions, it is enough that he makes out a preponderance of probability. It is enough that the court cannot say that reasonable men on the jury could not find it more likely than not that the fact is true.

Mays, 233 Kan. at 50, 661 P.2d at 358 (quoting Southern Co. v. Graham Drive-In, 607 S.W.2d 677, 679 (Ark. 1980)) (further quotations and citations omitted).

Whirlpool argues that even if Martin’s testimony was admissible under Daubert, plaintiffs did not present sufficient evidence to establish causation. See Defendant’s Memorandum (Doc. #399) at 18. The elements of a product liability claim “may be proven inferentially, by either direct or circumstantial

²⁰(...continued)
created excessive resistance heating which caused the McCoy fire.

²¹ The Court also should have excluded Martin’s testimony at trial because Martin did not explain how the two specific alleged defects caused excessive resistance heating which in turn caused the fire. See infra text, Analysis, Part II. He therefore did not apply his theories to the particular facts of this case. See Daubert, 509 U.S. at 591.

evidence.” Mays, 233 Kan. at 54, 661 P.2d at 360. Nevertheless, generalized assertions that a product is defective are insufficient; plaintiffs must establish the existence of a specific defect to prevail on a defective product claim. Jenkins, 256 Kan. at 635, 886 P.2d at 889. When plaintiffs rely on circumstantial evidence to make their case, such evidence “must tend to negate other reasonable causes, or there must be an expert opinion that the product was defective.” Mays, 233 Kan. at 54, 661 P.2d at 360.

Here, to establish a specific defect in the McCoy dishwasher, plaintiffs and their experts rely on a theory analogous to that of “differential diagnosis” in the medical field. “Differential diagnosis” refers to the process by which a physician “rule[s] in” all scientifically plausible causes of plaintiff’s injury and then “rules out” the least plausible causes of injury until the most likely cause remains. See Hollander v. Sandoz Pharm. Co., 289 F.3d 1193, 1209 (10th Cir.), cert. denied, 537 U.S. 1088 (2002). Under such a theory, plaintiffs’ experts must “rule in” defendant’s product as a “scientifically plausible cause” as well as “rule out” other possible causes. Id. at 1211. In other words, plaintiffs must do more than show a set of circumstances bringing their theory within the realm of possibilities. See Franklin v. Skelly Oil Co., 141 F.2d 568, 570-71 (10th Cir. 1944). “Because liability in a products liability action cannot be based on mere speculation, guess or conjecture, the circumstances shown must justify an inference of probability as distinguished from mere possibility.” Mays, 233 Kan. at 52, 661 P.2d at 359.

Whirlpool first argues that plaintiffs did not present sufficient evidence to dispute Grunewald’s conclusion that black microswitches act as thermal fuses to prevent temperatures from rising over 160 degrees Centigrade / 320 degrees Fahrenheit in the door latch switch assembly area, i.e. plaintiffs’ experts never “ruled in” as a scientifically plausible cause a manufacturing defect which causes excessive resistance heating. The Court agrees. Martin admitted that at 160 to 180 degrees Centigrade / 320 to

356 degrees Fahrenheit (well below the 400 degrees Centigrade / 752 degrees Fahrenheit required to ignite surrounding combustibles), the plungers in the black microswitches will melt. See Martin Testimony at 78. He also conceded that he had not done any testing which revealed that black microswitches do not shut off the current flow at 160 degrees Centigrade / 320 degrees Fahrenheit. See id. at 73-74. The dishwasher Life Tests, which Martin reviewed, did show that of the four microswitches which failed, three of them *appeared* to fail with their plungers in the closed position. Grunewald, however, explained that the electrical contacts in the microswitches were actually open so no electrical current could continue to flow. See Grunewald Testimony at 109-10. As to the fourth switch, Grunewald explained that the plunger had only partially melted and that if it had been exposed to a temperature of 160 degrees Centigrade / 320 degrees Fahrenheit, it would have totally melted and opened the electrical contacts.²² See id. at 50-51, 105-06, 113-14. Grunewald's testimony on these issues was undisputed.²³

Plaintiffs argue that in addition to Martin's testimony and the Whirlpool Life Tests, the testimony of Lorry McCoy, the testimony of the cause and origin experts and evidence of five other fires was

²² As explained above, this example illustrates only that a user who opened the door while the dishwasher was running faced a risk of being sprayed. See supra note 7.

²³ The parties did not present evidence as to the material and ignition temperatures of the individual components in the door latch switch assembly, *i.e.* the microswitches, the latch bolt, the latch lever, the flag terminals and the wire connectors. Martin and Grunewald testified generally that most of these materials (including the black microswitches and the material which covers and insulates the flag terminals) are plastic. Martin and Grunewald apparently agreed that if excessive resistance heating occurs because of a defective connection at the flag terminals, the surrounding plastic combustibles (such as the insulation on the wire adjacent to the defective connection) will be the first thing to ignite. See Martin Testimony at 70-71. As noted, these combustibles are within one inch of the black microswitches.

sufficient for a jury to find that black microswitches do not always act as thermal fuses.²⁴ The Court finds that such evidence is insufficient, however, for a reasonable jury to find in plaintiffs' favor. Lorry McCoy and the cause and origin experts testified only generally as to the location where the fire originated; they did not mention the black microswitches or any of the alleged manufacturing defects. Under Magnetek, evidence that a fire originated at or within a certain product is insufficient by itself to establish that a product defect caused the fire. See Magnetek, 360 F.3d at 1213. Plaintiffs must present a sufficiently reliable theory to establish that a defect in the product could (and did) generate sufficient heat to start the fire. See id. at 1212-13. As to the five other fires in New Generation dishwashers, the undisputed evidence was that in each case, the black microswitches had been compromised by improper service or the fire originated in a heat sink some six to seven inches away from the black microswitches. See Grunewald Testimony at 41-42, 139-41. Because plaintiff's experts did not explain how a manufacturing defect could cause a fire in the McCoy dishwasher in light of properly installed non-defective black microswitches, the Court must sustain defendant's motions for judgment as a matter of law.²⁵

In the alternative, Whirlpool argues that plaintiffs did not present sufficient evidence that a specific defect caused the fire. At trial, plaintiffs alleged that the McCoy dishwasher had two manufacturing defects:

²⁴ The five other fires occurred in dishwashers with black microswitches. At least two of these fires were in "rework dishwashers." See supra note 11. The fires in the rework dishwashers originated six or seven inches away from the black microswitches and the improper connections were in "heat sinks" which prevented the heat from melting the plungers in the black microswitches. The other three fires occurred in dishwashers where the black microswitches had been compromised or totally bypassed by improper service or the fire had originated in a "heat sink," as in the case of the two fires in rework dishwashers. See id.

²⁵ Plaintiffs did not attempt to negate reasonable causes of the fire, other than the defects they alleged – such as design or manufacturing defects in the black microswitches. Mays, 233 Kan. at 54, 661 P.2d at 360.

(1) the flag terminals were not properly crimped to the conductors in the wiring harness of the door latch switch assembly; and/or (2) the flag terminals were not properly attached to the microswitches themselves. See Inst. No. 12. Whirlpool argues that plaintiffs did not present specific evidence of either defect. See Defendant's Memorandum (Doc. #399) at 22. Defendant has slightly overstated plaintiffs' evidentiary burden. Plaintiffs must identify the type of manufacturing defect which caused the fire (e.g., a defective crimp), but they are not required to identify which specific crimp or electrical connection was defective and caused the fire. Under the Court's instructions, plaintiffs had to produce sufficient evidence for a reasonable jury to find that excessive resistance heating occurred where the flag terminals were attached to the wiring harness and/or the microswitches themselves. See Inst. No. 12. Plaintiffs' evidence on this issue consisted solely of the expert testimony of Martin, who admitted that the fire could have resulted from a defect inside the microswitches, i.e. not from excessive resistance heating where the flag terminals were attached to the wiring harness and/or to the microswitches themselves. See Martin's Testimony at 104-05, 123.

Even if Martin's testimony was admissible under Daubert, it was insufficient for a reasonable jury to conclude that the fire resulted from excessive resistance heating which occurred where the flag terminals were attached to the wiring harness and/or to the microswitches. See Inst. No. 12. Martin stated that excessive resistance heating could occur at three potential locations: the two locations alleged by plaintiffs and one more – inside the microswitches. See Martin Testimony at 55-59. Martin did not attempt to exclude the possibility that the McCoy fire resulted from defects in the electrical connections inside the microswitches or explain why, in concluding that the defect lay elsewhere, he ruled out the possibility that

the microswitches themselves were defective.²⁶ See Mays, 233 Kan. at 52, 661 P.2d at 359 (circumstances shown must justify inference of probability as distinguished from mere possibility); Hollander, 289 F.3d at 1211 (plaintiffs’ experts must “rule in” defendant’s product as a “scientifically plausible cause” as well as “rule out” other possible causes). Therefore, even if the fire originated in the dishwasher, the jury could not find in plaintiffs’ favor without speculating that the fire did not occur because of defects inside the microswitches. In sum, plaintiffs’ *res ipsa loquitur*-type theory is insufficient to show a specific defect. Plaintiffs presented evidence of three types of defects which could cause excessive resistance heating, but they did not present evidence for a reasonable jury to conclude that (1) either of the two alleged defects more likely than not caused the McCoy fire or (2) in light of the black microswitches, any of the three theoretical defects could cause a fire. Therefore, for these additional reasons, the Court must sustain defendant’s motions for judgment as a matter of law.²⁷

IT IS THEREFORE ORDERED that defendant’s oral Motion For Directed Verdict And Judgment As A Matter Of Law (Doc. # 391) made on February 2, 2005, defendant’s oral Motion For Directed Verdict And Judgment As A Matter Of Law (Doc. #392) made on February 9, 2005 and Defendant Whirlpool’s Renewed Motion For Judgment As A Matter Of Law And Motion For Judgment Notwithstanding The Verdict Or, In The Alternative, Motion For New Trial (Doc. # 398) filed

²⁶ Martin’s testimony could be read to suggest that the plungers in the black microswitches in the McCoy dishwasher may have failed to melt and thus separate the electrical contacts inside the microswitches. Plaintiffs did not allege such a manufacturing defect and the record is void of evidence how this scenario could take place, or whether it occurred.

²⁷ Because the record does not include a legally sufficient evidentiary basis for plaintiffs’ claim under the controlling law, the Court must enter judgment as a matter of law in favor of Whirlpool. See Brown v. Gray, 227 F.3d 1278, 1285 (10th Cir. 2000). In the alternative, however, the Court would sustain Whirlpool’s motion for a new trial because the Court erred in admitting Martin’s testimony.

February 24, 2005 be and hereby is **SUSTAINED**. The Court sustains defendant's motions for judgment as a matter of law. The Clerk is directed to enter judgment in favor of defendant.

Dated this 29th day of July, 2005 at Kansas City, Kansas.

s/ Kathryn H. Vratil
Kathryn H. Vratil
United States District Judge