**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS**

**PROVIDENCE, SC** **Filed August 17, 2006** **SUPERIOR COURT**

| | | |
|---|---|---|
| **CECIL E. DODSON** | : | |
| | : | |
| **vs.** | : | **C.A. No. PC 96-1331** |
| | : | |
| **FORD MOTOR COMPANY** | : | |

**DECISION RE: EXPERT WITNESSES / SPOLIATION / BURN TEST**

**SAVAGE, J.** Before this Court are six motions in limine regarding the admissibility of expert opinion testimony in the underlying products liability action, four filed by the defendant, Ford Motor Company ("Ford"), and two filed by the plaintiff, Carol Dodson ("Dodson"), in her capacity as executrix of the estates of the late Cecil and Doris Dodson ("the Dodsons"). Ford, by its motions, seeks an order entirely excluding the proposed testimony of Dodson's three expert witnesses. Dodson, by her motions, seeks an order excluding portions of the proposed testimony of Ford's two expert witnesses. Supplementing the parties' motions are numerous affidavits, deposition transcripts, expert reports, and memoranda. Ford asks that this Court conduct evidentiary hearings under Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993)—mini-trials including examination and cross-examination of the proposed experts—to take testimony on Ford's motions. Dodson argues against the need for these hearings. Previously, this Court ruled it unnecessary to conduct Daubert hearings, at least in the first instance and pending review of these motions, because of the extensive briefing and supplementary

materials submitted in connection with these motions.[1] This Court will address each motion seriatim.

## FACTS AND TRAVEL

In the underlying products liability action, Dodson seeks damages from Ford, alleging, inter alia, that the Dodsons' 1982 Ford Crown Victoria was defectively designed and manufactured. (Dodson's Fourth Am. Compl. 3-4.) Dodson alleges that Ford's defective design and manufacture of the vehicle caused the vehicle to catch fire, which, in turn, caused the Dodson's house to catch fire. Dodson alleges that, as a result of the fire, Cecil Dodson sustained serious injury and Doris Dodson died. (Id. at 4.)

At trial, Dodson intends to offer expert opinion testimony from three witnesses: William Wilson ("Wilson"), John Jarrell ("Jarrell"), and Dr. Myron Kayton ("Kayton"). Dodson retained Wilson to investigate the cause and origin of the fire. Jarrell and Kayton were retained as experts in materials science and electrical engineering, respectively. Ford intends to offer expert testimony from two witnesses: Ralph Newell ("Newell"), Ford's fire investigator, and John Loud ("Loud"), Ford's electrical engineer. Dodson and Ford seek orders excluding part or all of each others' proposed experts' opinion testimony. The parties' arguments are addressed below.

## ANALYSIS

### I. The Admissibility of Expert Testimony

The admission of expert testimony in Rhode Island courts is governed by Rule 702 of the Rhode Island Rules of Evidence, which provides that:

---

[1] See Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999) ("The trial court must have the same kind of latitude in deciding how to test an expert's reliability, and to decide whether or when special briefing or other proceedings are needed to investigate reliability, as it enjoys when it decides whether that expert's relevant testimony is reliable.")

> [i]f 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 fact or opinion.

Our Supreme Court has held that "before admitting expert testimony, the trial justice must evaluate whether the testimony that a party seeks to present to the jury is 'relevant, within the witness' expertise, and based on an adequate factual foundation." Kurczy v. St. Joseph Veterans Assoc., 820 A.2d 929, 940 (R.I. 2003) (quoting Rodriguez v. Kennedy, 706 A.2d 922, 923 (R.I. 1998) (per curiam)).

In DiPetrillo v. Dow Chemical Co., 729 A.2d 677, 686 (R.I. 1999), the Rhode Island Supreme Court discussed the standard for admitting scientific testimony that should govern the trial court's decision about whether to allow the jury to hear this type of evidence. Although the court in DiPetrillo declined to expressly adopt the standards outlined by the United States Supreme Court in Daubert, the court drew guidance from the principles of that case. Owens v. Silvia, 838 A.2d 881, 890 (R.I. 2003) (citing DiPetrillo, 729 A.2d at 686).

In Daubert, the Court held that, under the Federal Rules of Evidence, a trial justice, in admitting expert testimony, acts as a "gatekeeper" to "ensure that any and all scientific testimony or evidence admitted is not only relevant, but [also] reliable." 509 U.S. at 589. Guided by Daubert, the Rhode Island Supreme Court held, in DiPetrillo, that when a party seeks to introduce novel or complex technical evidence through expert testimony it is proper for the trial justice to exercise a gatekeeping function.[2] 729 A.2d at 685. Our Supreme Court has held that "[t]he primary function of the trial justice's

[2] Adopting the holding of the United States Supreme Court in Kumho Tire, the Rhode Island Supreme Court, in DiPetrillo, held that the trial justice's gatekeeping duty applies "not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." 526 U.S. at 141.

gatekeeping role is to assure that the proposed expert testimony, presented as a scientifically valid theory, is not mere 'junk science.'" Owens, 838 A.2d at 891. The trial justice must ensure that any expert testimony presented to the jury is based on ostensibly reliable scientific reasoning and methodology. Id. (citing DiPetrillo, 729 A.2d at 690). In sum, a trial justice may admit expert testimony "only if the expert proposes to testify 'to (1) scientific knowledge that (2) will assist the trier of fact.'" Id. (citing DiPetrillo, 729 A.2d at 687).

In addressing the first part of this two-part inquiry, often referred to as the "reliability" test, the trial justice examines four non-exclusive factors in determining whether expert testimony about novel or technically complex theories or procedures possesses scientific validity. In re Mackenzie C., 877 A.2d 674, 683 (R.I. 2005); but see Owens, 838 A.2d at 891 ("Four non-exclusive factors can be helpful in determining if expert testimony about novel or technically complex theories or procedures possesses scientific validity." (emphasis added)). These factors are:

> (1) whether the proffered knowledge has been or can be tested; (2) whether the theory or technique has been the subject of peer review and publication; (3) whether there is a known or potential rate of error; and (4) whether the theory or technique has gained general acceptance in the scientific community.

Owens, 838 A.2d at 891 (quoting DiPetrillo, 729 A.2d at 689). Our Supreme Court has held that "[s]atisfaction of one or more of these factors may be sufficient to admit the evidence and each factor need not be given equal weight in the analysis." Id. "The court may also consider the qualifications of the expert in determining whether the underlying methods are reliable." Id. Importantly, however, our Supreme Court has held that, especially when the proffered knowledge is neither novel nor highly technical,

satisfaction of one or more of these factors is not a necessary condition precedent to allowing the expert to testify." Id.

In addressing the second part of the inquiry, the trial justice evaluates "the relevance of the proffered testimony in assisting the trier of fact to understand the evidence or to determine a fact in evidence." DiPetrillo, 729 A.2d at 689. To be admissible, the expert opinion must be "sufficiently tied to the facts of the case that it will aid the [fact-finder] in resolving a factual dispute." In re Mackenzie, 877 A.2d at 684 (quoting Owens, 838 A.2d at 891 n.3). In other words, the testimony must fit an issue in the case. "If the testimony 'logically advances a material aspect of the proposing party's case,' * * * the court may deem it relevant and admissible." Id.

"[O]nce an expert has shown that the methodology or principle underlying his or her testimony is scientifically valid and that it 'fits' an issue in the case, the expert testimony should be put to the trier of fact to determine how much weight to accord the evidence." DiPetrillo, 729 A.2d at 689-90 (citing Ambrosini v. Labarraque, 101 F.3d 129, 134 (D.C. Cir. 1996)). "The task of assigning weight, if any, to the opinion of an expert witness, is reserved for the jury." Beaton v. Malouin, 845 A.2d 298, 302 (R.I. 2004). The "jury is free to accept or reject expert testimony in whole or in part or to accord it what probative value the jury deems appropriate." Owens, 838 A.2d at 890 (quoting Morra v. Harrop, 791 A.2d 472, 476-77 (R.I. 2002)). "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." Id. at 892 (quoting Daubert, 509 U.S. at 690).

## II. The Motions In Limine

### A. William Wilson

1. Wilson's Opinion Testimony

According to Dodson's objection to Ford's motion to exclude William Wilson's expert testimony, Dodson retained Wilson to "investigate the cause and origin of the fire in the Dodson vehicle." (Dodson's Objection to Ford's Mot. to Exclude Expert Op. of William Wilson 1.) In her supplemental answer to Ford's interrogatory number four, Dodson asserts that "Wilson is expected to testify regarding the origin of the fire that took place on October 25, 1995, in the 1982 Ford Crown Victoria involved in this case." (Dodson's Supplemental Ans. to Ford's Interrogatory No. 4.) Dodson states, further, that:

> Wilson is expected to testify that he examined the subject vehicle in April of 1996, and that the debris samples he found within the 1982 Ford Crown Victoria were consistent with an ignition switch fire.[3] In addition, that the burn pattern that he found was consistent with the fire originating in the ignition switch and that he eliminated other possible ignition sources within the vehicle during his inspection of the vehicle in April of 1996.

(Id. at 2.) In addition, Dodson states that "Wilson is expected to testify that, in his opinion, the source of the origin of the fire in the 1982 Ford Crown Victoria was the ignition switch contained in the vehicle." (Id.)

Wilson inspected the vehicle on three occasions and drafted three report-like letters to Dodson's counsel. The third of these letters, dated December 17, 2001, appears

[3] In his deposition, Wilson states that he does not rely on his investigations of other ignition switch fires to support his opinions in this case. (Wilson Dep. 52:22-53:1, May 29, 2003.) He states, however, that other ignition switch fires give him the practice to search through debris, study burn patterns, examine the wiring, and examine the vehicle, itself. (Id. at 52:13-52:21.) When asked about his investigations of other ignition switch fires, however, Wilson states that the vehicles looked similar to the Dodson vehicle, referencing the locus of the burn and the burned wires. (Id. at 58:5-58:9.) Wilson could not, however, recall the condition of the B+ terminals in those vehicles. (Id. at 58:15-58:17.) Thus, Wilson cannot offer an opinion that the condition of the B+ terminal from the Dodson vehicle is consistent with an ignition switch fire unless he is able to review the evidence from the other investigations.

to be Wilson's final report on the cause and origin of the fire in the Dodson vehicle.[4] In that letter, Wilson reports:

> Based upon my examinations of the subject vehicle, examination of photographs, and numerous other documents concerning the vehicle in question, including but not limited to the depositions of Cecil E. Dodson and the materials listed below, I have concluded to a reasonable degree of certainty that the origin of the fire was the ignition switch that was mounted in the steering column in the 1982 Crown Victoria.

(Letter from William Wilson to Amato DeLuca, Dec. 17, 2001.) Wilson followed this statement with a list of materials he reviewed in the course of his investigation and a brief explanation of the bases for his opinion that "the fire started at and within the ignition switch" and that the "ignition switch burned first and was the origin of the fire in the vehicle." Id.

Wilson states that "[i]nspections of the vehicle reveal that the fire was contained to the interior of the vehicle" and "that the discovery of various materials at the driver's floor mat level under melted metal and plastic clearly supports [his] conclusion that the fire started at and within the ignition switch." Id. He adds that his "inspection, photographing and x-raying of the ignition switch wire harness with terminals attached" led him to conclude "that the ignition switch tumbler parts were contained in a large mass that fell onto the driver's floor mat level," which supports his conclusion that "the

---

[4] Wilson describes his first letter, in the first paragraph of the letter, as a "preliminary report as to [his] findings and discoveries which pertain to the examination of the 1982 Ford Crown Victoria involved in the vehicle fire that took place on October 25, 1995." (Letter from William Wilson to Jeffry Perlow, May 3, 1996.) Wilson begins his second letter by stating that

> [t]he following information is in response to [Perlow's] request of November 18, 1996 concerning the need to dismantle the ignition switch of the 1982 Ford Crown Victoria under investigation for purposes of testing to further our discoveries which will confirm the conclusion that the ignition switch was the origin and cause of the fire within this vehicle.

(Letter from William Wilson to Jeff Perlow, Jan. 20, 1997.) This Court reads these letters, which begin "Dear Mr. Perlow," as communications between Wilson and Dodson's counsel and not as memoranda of Wilson's final opinions, although they do contain some of Wilson's opinions and their bases. By contrast, it is apparent that Wilson's third letter, which lacks a greeting, is not a communication but, rather, an expert report containing Wilson's opinions and the bases therefor.

ignition switch burned first and was the origin of the fire in the vehicle." (Id.) Additionally, Wilson notes that, based on his inspection of the vehicle, he ruled out the radio and Chapman security alarm system as possible causes of the fire. (Id.) Wilson does not explain his conclusion that the "original ignition switch in the 1982 Crown Victoria was defective and caused the fire in the Dodson vehicle."

By its motion, Ford seeks the exclusion of Wilson's testimony in its entirety, arguing that Wilson's testimony is unreliable under Daubert and will not assist the trier of fact and that "Wilson is unqualified to offer many of the opinions he intends to offer on the issue of the cause and origin of the fire in the 1982 Crown Victoria." (Ford's Mot. to Preclude the Op. Test. of Pl.'s Expert, William Wilson 1.) Ford argues, specifically, for the exclusion of Wilson's testimony in its entirety because the physical evidence does not support Wilson's claim that the fire in the Dodson vehicle was caused by an unintended circuit between the B+ and ground terminals of the ignition switch.

Significantly, Ford's argument for the exclusion of Wilson's testimony fails to recognize that Dodson has offered Wilson as an expert in both the cause and the origin of the fire in the Dodson vehicle. Origin determination and cause determination are discussed in separate chapters of NFPA 921: Guide for Fire and Explosion Investigations (2001 ed.) [hereinafter NFPA 921]. §§ 15, 16. "Origin," itself, is not defined in NFPA 921. "Area of origin" is defined as "[t]he room or area where a fire began." Id. § 1.3.86.1. "Point of origin," more specifically, is "[t]he exact physical location where a heat source and fuel come in contact with each other and a fire begins." Id. § 1.3.86.2. "Cause," by contrast, is defined as "[t]he circumstances, conditions, or agencies that bring together a fuel, ignition source, and oxidizer (such as air or oxygen) resulting in a

fire or combustion explosion together." § 1.3.19. Stated simply, "area of origin" and "point of origin" refer to where the fire started. "Cause," on the other hand, refers to how the fire started. Not surprisingly, the methodologies used to determine "area of origin" and "point of origin" are different from those used to determine "cause." As a result, the methodologies used to determine "area of origin" and "point of origin" must be evaluated separately from those used to determine "cause."

Regardless, Wilson ostensibly holds the requisite credentials to determine the area and point of origin of the fire and the cause of the fire. Ford challenges Wilson's credentials, generally, characterizing him as an "automobile mechanic with a high school diploma." (Ford's Mot. to Preclude the Op. Test. of Pl.'s Expert, William Wilson 20.) It is well-settled, however, that "[a]n individual need not hold a particular license, title or certificate in a specialized field to testify as an expert." Mills v. States Sales, Inc., 824 A.2d 461, 470 (R.I. 2003). Our Supreme Court has held, adhering to the language of R.I. R. Evid. 702, that "[a] witness qualifies as an expert as long as his or her 'knowledge, skill, experience, training, or education' [can] deliver a helpful opinion to the jury." Beaton, 845 A.2d 298, 301 (quoting Owens v. Payless Cashways, Inc., 670 A.2d 1240, 1244 (R.I. 1996)). Wilson has been investigating fires since at least 1985. (Wilson Dep. 127:19, May 29, 2003.) He has attended courses provided by the National Fire Protection Association and the International Association of Arson Investigators. (Id. at 122:1-126:25.) In the capacity of fire investigator, Wilson has consulted for plaintiffs' attorneys, defense attorneys, prosecutors, and insurance companies. (Wilson Dep. 13:24-14:23, Mar. 21, 2002.) Significantly, Wilson has investigated several ignition switch fires in Ford vehicles. (Letter from William Wilson to Jeffry Perlow, May 3, 1996.)

Furthermore, both Toyota and General Motors have retained Wilson to investigate the cause and origin in a vehicle fire. (Wilson Dep. 144:22-147:1, May 29, 2003.) In addition, between 1978 and 1979, Wilson taught repair and diagnostics of "[a]nything from fuel ejection [sic] to electrical" at the Ford Training Center. (Id. at 117:13-120:15.) This Court, therefore, must reject Ford's challenge to Wilson's qualification as an expert fire investigator and deem him qualified to testify as to the cause and origin of the fire in the Dodson vehicle.

Wilson's credentials, however, do not, alone, establish the reliability of his methodologies. Chapter 2 of NFPA 921, which Ford refers to as the authority on proper fire investigation practices, gives broad-stroked guidance on how to conduct fire investigations. §§ 2.1-2.5. Section 2.4.3, entitled "Conducting the Investigation," provides that "[t]he investigator should conduct an examination of the scene, if it is available, and collect the data necessary to analysis." This paragraph also states that:

> [a] typical fire or explosion investigation may include all or some of the following: a scene inspection; scene documentation through photography and diagramming; evidence recognition, documentation, and preservation; witness interviews; review and analysis of the investigations of others; and identification and collection of data or information from other appropriate sources.

Id.

Dodson's supplementary answer to Ford's interrogatory number four, Wilson's deposition testimony, and the three letters Wilson wrote to Dodson's counsel reveal that Wilson's opinions as to the cause and origin of the fire in the Dodson vehicle are based almost exclusively on his inspection of the vehicle. Wilson determined "that the fire started at and within the ignition switch" after examining burn patterns, performing a de-

layering analysis, and examining wiring." (Letter from William Wilson to Amato DeLuca, Dec. 17, 2001.)

Chapter 22 of NFPA 921, which specifically addresses the investigation of motor vehicle fires, provides that "[t]he burn or damage patterns remaining on the body panels and in the interior of the vehicle are often used to locate the point(s) of origin and for cause determination." § 22.1. "The use of fire patterns or degree of fire damage to determine a point of origin or cause should be used with caution," however. "The interpretations drawn from these patterns should be verified by witness evidence, recall notices, or complaints and service bulletins that can be obtained from the National Highway Transportation Safety Administration (NHTSA)." Id.

Wilson's three letters to Dodson's counsel and his deposition testimony confirm that Wilson's methodology, with respect to his interpretation of the burn patterns, is consistent with the guidelines set forth in NFPA 921. Wilson lists a "[m]emorandum from State Farm to NHTSA, and Ford's Response, with Exhibits (Re: Minlon cases/recall), and Ford document prepared for legal counsel" among the materials he reviewed during his investigation. (Letter from William Wilson to Amato DeLuca, Dec. 17, 2001.) In addition, Wilson specifically states during his deposition that his conclusion that "the origin of that fire was that ignition switch, and the cause of that fire was the defective ignition switch" was based in part on Cecil Dodson's deposition testimony to the effect that the flames from the fire "initially started in the steering column near the switch." (Wilson Dep. 128:4-128:15, Mar. 21 2002; Dodson Dep. 39:11-39:21, 93:1-93:9, Apr. 18, 1999.) Wilson also considered the Smithfield Fire

Department report and witness statements, as well as the deposition testimony of Cecil Dodson. (Id.)

This Court is satisfied, therefore, that Wilson's investigation of the burn patterns represents sufficiently reliable methodology to pass muster under Daubert. Ford's claim to the contrary, therefore, must be rejected.

This Court, furthermore, is satisfied that Wilson's use of the much maligned de-layering method for the purpose of locating the origin of the fire in the Dodson vehicle is no cause for the exclusion of his testimony. Through an affidavit from Ford's expert electrical engineer, Loud, Ford criticizes Wilson's de-layering method, stating that "NFPA 921 does not suggest that an investigator can review material found in layers of fire debris to determine the cause of an electrical fire, but rather indicates that such analysis can assist in understanding the course of a fire." This Court agrees that Wilson cannot use his de-layering method to reach a conclusion regarding the cause of the fire—"[t]he circumstances, conditions, or agencies that bring together a fuel, ignition source, and oxidizer (such as air or oxygen) resulting in a fire or combustion explosion together." But, Wilson does not try to use his de-layering method to determine the cause of the fire. Wilson uses his de-layering method to trace the fire back to its origin—the ignition switch.

Other courts have admitted de-layering analyses of fire debris for this purpose, and Ford fails to cite any decision precluding testimony of a de-layering analysis. See TNT Road Co. v. Sterling Truck Corp., 2004 U.S. Dist. LEXIS 13463, at *14 (D. Me. July 19, 2004) ("'Delayering' means removing portions of the debris from the top of the debris pile down"); Tunnel v. Ford, 330 F. Supp. 2d 707, 725 (W.D. Va. 2004) ("layer by

layer examination . . . of the fire damage"). Rather, Ford criticizes Wilson's delayering method, stating that "NFPA 921 does not suggest that an investigator can review material found in layers of fire debris to determine the cause of an electrical fire, but rather that such analysis can assist in understanding the course of a fire." Ford's argument for the exclusion of Wilson's testimony in its entirety based on his use of this de-layering method is flawed because Ford fails to take into account that Wilson has been retained to determine both the cause and origin of the fire in the Dodson vehicle. It is clear from Wilson's deposition testimony that Wilson's de-layering method aided him in the establishment of the fire's chronology or course. Wilson worked backward through the layers and time to the fire's beginning, which Wilson believes to be at the ignition switch. Wilson, therefore, appropriately used his de-layering method to determine the "area of origin" and "point of origin" of the fire. Likewise, Wilson appropriately relied upon his finding that the steering column had burned early in the fire to help locate the origin of the fire.

Wilson was specifically requested to investigate the possibility that the fire was caused by the ignition switch. That the evidence supported a conclusion that the ignition switch caused the fire does not mean that Wilson made it so. Wilson cannot be made to disprove the possibility that the fire was caused by the ignition switch to validate his opinion.

Ford's remaining arguments go to the reliability of the evidence upon which Wilson bases his opinions rather than the methodology employed to reach his conclusions. This Court finds that, based on his expertise and past experience investigating automobile fires, Wilson is capable of interpreting the layering of debris,

the burn patterns, and the burned wire insulation as consistent with an ignition switch fire. Thus, Wilson is able to testify that the fire originated within the ignition switch of the Dodson vehicle.

On the other hand, Wilson's ability to testify to the cause of the fire, as defined in NFPA 921, is limited. This Court finds that Wilson's opinion that an unintended circuit was created between the B+ and ground terminals in the ignition switch is not predicated upon facts legally sufficient to form a basis for his conclusion. See Alterio v. Biltmore Constr. Co., 119 R.I. 307, 312-13, 377 A.2d 237, 240 (1977) (citing Nasco, Inc. v. Dir. of Pub. Works, 116 R.I. 712, 360 A.2d 871 (1976)). Wilson bases his opinion not on the physical evidence as recommended by NFPA 921 but, rather, on documents produced by Ford during discovery. Wilson lacks the requisite credentials to reach this conclusion independently. Indeed, when asked in his May 29, 2003 deposition if he had an opinion as to how the fire started within the switch, Wilson responded: "Well, this is out of my focus, but I would say that Ford has a problem with their design and their admission of their design of the switch itself." (Wilson Dep. 23:19-23:24, May 23, 2003.) Of course, Wilson may, as noted, offer an opinion, based on his investigation of other Ford ignition switch fires, that the layering of debris, the burn patterns, and the burned wire insulation in the Dodson vehicle are consistent with the physical evidence of fires beginning at and within the ignition switch.

In so ruling, this Court is mindful that Wilson's review of the physical evidence in this case will be subject to cross-examination. See Owens, 838 A.2d at 892 (R.I. 2003) (holding that cross-examination is an appropriate way to attack admissible, albeit shaky, evidence). Disputes regarding his findings and interpretations of the physical evidence

go to the weight, not the admissibility of his opinion. See id. at 892 n.3 ("conflicting evidence created factual issues that were appropriate for submission to the jury"). Ford's concerns over the conclusions Wilson draws from the evidence, however, are not cause for entirely excluding his testimony.

To summarize, this Court finds that Wilson may not testify to the cause of the fire as defined in NFPA 921, namely that, based solely on the presence of a wear mark on the B+ terminal, an unintended circuit formed within the ignition switch. Wilson's testimony regarding the "area of origin" and "point of origin" of the fire in the Dodson vehicle, however, is sufficiently tied to the facts of the case and will assist the jury in its determination of the origin of the Dodson vehicle fire. The same may be said of Wilson's comparison of the remains of the Dodson vehicle with the remains of other vehicles involved in ignition switch fires, which goes to the cause and origin of the fire. Ford's concerns regarding the strength of Wilson's credentials, his interpretation of the physical evidence, and his use of de-layering all go to the weight, not the admissibility, of his testimony. Accordingly, Ford's motion is granted in part and denied in part.

2. Wilson's Alleged Spoliation of Evidence

In a separate motion, Ford moves, in the alternative, to entirely exclude Wilson's testimony for having violated a court order that:

> [n]o party to this action, and no attorney, consultant, investigator or other person acting on behalf of any party, shall destroy, modify, alter, disassemble, destructively test, sell, or otherwise dispose of the 1982 Crown Victoria involved in the fire giving rise to the claim or any component parts or assemblies of parts from that vehicle without written stipulation signed by counsel for all parties or further Order of this Court.[5]

[5] In May of 1996, two nearly identical protective orders were entered in the underlying products liability action. The first protective order, entered on May 13, 1996, by Justice Williams, was prepared by Dodson. The second protective order, entered May 20, 1996, by Justice Williams, was prepared by Ford.

(Order ¶ 1, May 20, 1996.) Ford argues that Wilson caused the spoliation of evidence during his October 21, 2001 investigation of the Dodson vehicle when he, unaccompanied, inspected the Dodson vehicle.

On October 21, 2001, Wilson inspected the floor area on the driver's side underneath the steering column. After sweeping away some debris from the floor area, Wilson found a small multi-function switch embedded in the floor mat and, loose and adjacent to the multi-function switch, he found a larger ignition switch slider. Wilson cut and removed the section of the floor mat in which the multi-function switch was embedded. He then packed the debris he swept off the floor, the multi-function switch, and the ignition switch slider in three separate bags. Wilson photographed the car before and during the inspection and removal process.

Inexplicably, neither Wilson nor Dodson's counsel gave notice to Ford in advance of the inspection. Wilson claims that he had been authorized by Dodson's counsel to investigate the vehicle in this manner, but an order to preserve evidence was in place at that time, and authorization from Dodson's counsel does not vitiate the order. Because Wilson had neither a written stipulation signed by counsel for all parties nor an order of this Court permitting him to conduct his investigation, this Court finds that Wilson's investigation, indeed, violated the order to preserve evidence.

Pursuant to the doctrine omnia praesumuntur contra spoliatorem ("all things are presumed against a despoiler"), the deliberate or negligent destruction of relevant evidence by a party to litigation may give rise to an inference that the destroyed evidence would have been unfavorable to the spoliating party. Mead v. Papa Razzi Rest., 840 A.2d 1103, 1109 (R.I. 2004) (citing Tancrelle v. Friendly Ice Cream Corp., 756 A.2d

744, 748 (R.I. 2000)); Malinowski v. UPS, 792 A.2d 50, 54 (R.I. 2002) (citations omitted); Rhode Island Hosp. Trust Nat'l Bank v. E. Gen. Contractors, Inc., 674 A.2d 1227, 1234 (R.I. 1996). Although it may strengthen the inference, a showing of bad faith on the part of the despoiler is not necessary to permit the spoliation inference. Farrell v. Connetti Trailer Sales, Inc., 727 A.2d 183, 186 (R.I. 1999).

In Farrell, the Rhode Island Supreme Court addressed whether a trial justice had abused his discretion in imposing a penalty for spoliation more severe than a jury instruction. Id. at 186-87. In that case, the plaintiffs had filed suit against the retailer and manufacturer of their motor home for defective repairs to the vehicle. Id. at 184. Though aware of the potential relevance of their motor home to the action, the plaintiffs refused the manufacturer's requests to take possession of the vehicle to inspect it and allowed the motor home to be repossessed by the bank. Id. at 186-87. In response to the plaintiffs' spoliation, the trial justice barred the plaintiffs' introduction of all evidence of alleged defects to the motor home after the retailer performed the initial repair work and granted the defendants' motion to dismiss.

Ultimately, the court held that the trial justice had abused his discretion because he "went too far . . . in selecting a suitable remedy." Id. Implicit in the court's holding, however, is the court's acknowledgement that a more severe penalty for spoliation may, under certain circumstances, be appropriate. See id. The Court acknowledged that "[c]ourts in other jurisdictions have recognized the inherent authority of a trial court to bar all evidence relating to an expert's opinion, or even to a party's case-in-chief, based on that party's destruction of critical evidence." The court, however, noted with approval the practice in other courts, employed by the trial justice in that case, of using five factors

to determine an appropriate sanction for the spoliation of relevant evidence. See id. at 187 (citations omitted) ("The trial justice in the case at bar appropriately considered these five factors"). These five factors are: "(1) whether the defendant was prejudiced * * *; (2) whether the prejudice can be cured: (3) the practical importance of the evidence; (4) whether the [despoiler acted] in good faith or bad faith; and (5) the potential for abuse if the evidence is not excluded." Id. (quoting N. Assurance Co. v. Ware, 145 F.R.D. 281, 282-83 (D. Me. 1993)).

Applying these five factors in the instant case, this Court finds that Wilson's violation of an order to preserve evidence does not warrant so drastic a remedy as total exclusion of Wilson's testimony. Ford claims to have suffered incurable prejudice because Wilson's opinion that the fire in the vehicle originated at the ignition switch is based, in part, on his examination of the layers of debris in the vehicle. Ford argues that it cannot, itself, examine the layering of debris because the debris was not preserved in layers and because photographs of the debris do not illustrate the layering.

Because Wilson's opinion that the fire in the vehicle originated at the ignition switch is based, in part, on his examination of the layers of debris in the vehicle, this Court finds that the spoliated evidence has significant practical importance. This Court agrees that Ford has been prejudiced insofar as it cannot, itself, examine the layering of the debris. Wilson's photographs, however, mitigate the prejudice to Ford because, though imperfect, the pictures do show how Wilson conducted his delayering examination and what he found in the process. Moreover, there is no evidence before the Court to suggest that Wilson conducted his investigation in bad faith. It is apparent, from Wilson's deposition testimony, that Wilson truly believed he was appropriately furthering

his investigation. Although Wilson's documentation of the investigation may have been imperfect, this Court is satisfied that Wilson's investigation was not conducted so as to impede Ford's ability to similarly analyze the evidence. Furthermore, this Court notes that Ford did little to ensure the integrity of the Dodson vehicle and the evidence inside it, which were left outdoors, unprotected for years. Also, no Ford expert ever sought to look at the layers. This Court finds, therefore, that to entirely exclude Wilson's testimony would be draconian. The appropriate remedy for Wilson's violation of the order to preserve evidence is a jury instruction advising the jury that, although it is not required to, it may draw an adverse inference against Dodson with regard to Wilson's opinions pertaining to the spoliated evidence based upon Wilson's violation of the order to preserve evidence. The precise formulation of that instruction can be determined at trial.

**B. Ralph Newell**

1. Newell's Opinion Testimony

Dodson moves to exclude the testimony of Ford's fire investigator, Ralph Newell, "concerning the origin of the fire in the Dodson vehicle as not originating from the ignition switch." (Dodson's Mot. In Limine & Mem. to Exclude the Test. of Ralph Newell 1.) Dodson argues that Newell "has no expertise by virtue of his education or experience to be qualified to offer an opinion that: 'There is absolutely no evidence of failure of the ignition switch and no indication of electrical activity on the B-Plus Terminal. Therefore, there is no evidence, whatsoever, the ignition switch in the vehicle cause [sic] the fire.'" (Id. 1-2) Dodson argues, furthermore, that "Newell has no scientific basis for his opinion." (Id. at 2.)

With regard to his credentials, the evidence shows that Newell is qualified to testify as an expert in fire investigation. Newell is a certified fire investigator, has been qualified as an expert in over two dozen states, and has investigated more than 3000 vehicle fires. (Newell C.V. 1.) He has attended hundreds of hours of training and is involved with several organizations and committees related to his profession. (Id. at 2-4.)

Newell's credentials, however, do not, alone, establish the reliability of his methodology. Dodson relies on the United States Supreme Court's decision in Kumho Tire to support her position that "Newell has no scientific basis for his opinion." In Kumho Tire, the Court reviewed the opinions of an expert who opined that a tire manufactured by Kumho Tire was defective. 526 U.S. at 154-55. In forming his opinion, the expert had relied upon certain visual and tactile features of the tire. Id. The trial court excluded the expert's testimony because the absence of evidence that other experts

in the industry used the expert's particular approach with regard to visual and tactical examinations of tires cast doubt on the reliability of the expert's opinion and the basis therefor. Id. The Court held that the trial court had not abused its discretion in excluding the expert's testimony. Id. at 142.

Dodson relies on Kumho Tire for the proposition that because Newell relied upon visual examination of the B+ terminal, his conclusions based on his visual examination are unreliable and, therefore, must be excluded. Under Kumho Tire, however, Newell's conclusions based on his visual examinations are unreliable only if there is no evidence that experts in the industry employ the same methodology in analyzing the data obtained in the visual inspection. See id. at 146 (quoting Carmichael v. Samyang Tires, Inc., 1996 U.S. Dist. LEXIS 22431 (June 5, 1996)).

Here, the evidence shows that Newell employed a reliable methodology to reach his conclusions. Newell's examination of the ignition switch remains was part of a comprehensive approach, consistent with the guidelines set forth in NFPA 921. Newell reviewed numerous documents and photographs, including the Smithfield Fire Department Incident Report, the transcript of Cecil Dodson's deposition, and vehicle maintenance records. (See Letter from Ralph Newell to Brian Voke, Oct. 26, 2001.) Newell also looked at oxidation and burn patterns in the vehicle, the remains of the ignition switch, and after-market equipment. Later, Newell compared the remains of the ignition switch in the Dodson vehicle to other ignition switches, some of which had not been involved in fires and some of which had been damaged in burn-test vehicles. The switches used for comparative purposes included both phenolic-based switches, like the one installed in the 1982 Ford Crown Victoria, and Minlon-based switches.

Section 6.10 of NFPA 921, entitled "Interpreting Damage to Electrical Systems," reveals that "damage may occur on conductors, contacts, terminals, conduits, or other components." This section also advises that "these guidelines are not absolute, and many times the physical evidence will be ambiguous and will not allow a definite conclusion." This Court, therefore, is not surprised that Newell and Wilson differ in their interpretations of the remains of the ignition switch. Such divergent expert opinion is not cause for excluding either opinion. This Court finds that Newell's approach and methodology constitute "good science."

Turning to relevance, Newell's testimony clearly "fits" with the facts in this case and could assist the jury to determine where the fire began and what caused it. If the defense elects to present his testimony, Newell can describe for the jury what he saw and what he did not see among the remains of the Dodson vehicle. To the extent the jury hears from both experts, it may judge for itself the credibility of each expert's testimony. Any weaknesses in Newell's testimony thus could be explored on cross-examination and through the testimony of Dodson's expert, Wilson. Accordingly, Dodson's motion in limine to exclude Newell's testimony is denied.

2. Newell's Burn Test

In a separate motion, Dodson moves to exclude "evidence relating to Ford Motor Company's execution of a test intended to examine the validity of the plaintiff's claim that the fire started in the ignition switch of the Dodson 1982 Crown Victoria." (Dodson's Mot. In Limine and Mem. to Exclude Burn Test 1 [hereinafter Dodson's Mot. re: Burn Test].) Dodson argues that "[t]he burn test performed by Ford Motor

Company's expert, Ralph Newell, does not afford a fair comparison and thus will mislead the jury." (Id.)

By her motion, Dodson, in effect, challenges the validity of Newell's reliance on the burn test and, separately, the admissibility of the videotape of the test. In support of her position, Dodson relies, principally, on Hinkle v. City of Clarksburg, 81 F.3d 416 (4th Cir. 1995), in which the court held that "[d]emonstrations of experiments used to illustrate principles forming an expert's opinion are not required to reflect conditions substantially similar to those at issue in the trial," but that "because videotapes purporting to recreate events at issue in a trial have a life-like and persuasive nature, they must be substantially similar to the actual event to be admissible." Hinkle, F.3d at 424. Dodson argues that Newell's burn test constitutes a recreation of the fire in the Dodson vehicle and that the burn test and, by extension, the videotape of the burn test, "fail[] to reflect a number of conditions that were undisputedly present at the fire scene, such as the many materials within the garage structure that caught fire and fell onto the Dodson vehicle." (Dodson's Mot. re: Burn Test 1-2.) Citing Green v. Ford Motor Co., No. 3:00CV00049, 2001 U.S. Dist. LEXIS 20680, * 15 (W.D. Va. Dec. 10, 2001), Dodson asserts that, in the recreation of an event, failure to include significant undisputed conditions is a sufficient basis for exclusion of the test. Dodson alleges that the "conditions in Ford's burn experiment were not substantially similar to those present at the time of the fire" and that, as a result, the evidence relating to the burn test and the videotape should be excluded. (Dodson's Mot. re: Burn Test 2.)

Ford, on the other hand, argues that the video of the burn test is not a recreation but, rather, a "tool to educate the jury," demonstrating the burn patterns resulting from a

fire started in the ignition switch and the amount of smoke and resulting lack of visibility from such a fire inside a garage. (Tr. of Various Pretrial Mots. 209-10.) Ford argues that the video of the burn test cannot be a recreation because the car is not burned to the extent that the Dodson vehicle burned, "so there is no . . . realistic chance in any way, shape, or form anyone is going to confuse this burn with the Dodson vehicle." (Id. at 210.)

To determine whether the evidence relating to Newell's burn test and accompanying videotape are admissible, this Court must first determine whether the burn test was conducted under conditions substantially similar to the conditions at the time of the fire in the Dodson vehicle. Newell conducted the videotaped burn test, setting fire to an exemplar 1982 Ford Crown Victoria. The test was conducted in a garage built to match the dimensions of the Dodson garage. (Id. at 89:20-90:5.) During the test, the garage doors were kept closed because "Dodson said he didn't open the door," and the right front window was left open "a little over a fourth of the way" because Newell's inspection of the vehicle revealed that that window was partially rolled down. (Id. at 85:13-85:25, 96:8-96:23.) In order to start a fire in the area of the ignition switch, Newell packed the area with fabric softener sheets and lit them on fire. (Id. at 94:22-24.)

In Green, the court excluded the defendant's burn test because the test deviated from the event it was intended to portray to such an extent that its probative value was outweighed by the significant risk of jury prejudice and confusion that may result if such "video" were presented at trial and because the test did not portray the accident conditions as the plaintiff's expert maintained they existed even though the test was intended to replicate the accident conditions as the plaintiff described them. 2001 U.S.

Dist. LEXIS 20680, at *15-16. Here, too, the test was intended to replicate the accident conditions as the plaintiff described them.

Dodson argues that the experiment "fail[ed] to reflect a number of conditions that were present at the fire scene, such as the many materials within the garage structure that caught fire and fell onto the Dodson vehicle." (Dodson's Mot. re: Burn Test 1.) Even if the burn test failed to result in the material within the garage structure catching fire and falling onto the Dodson vehicle, this Court is not convinced that the absence of those conditions allegedly present in connection with the Dodson vehicle fire are material to the determination of substantial similarity because these materials would have fallen after the creation of the burn patterns in the vehicle.

In her motion, Dodson does not provide any other examples of how the burn test failed to reflect significant undisputed conditions. At oral argument, however, Dodson argued that Newell's use of fabric softener to propagate the fire in the ignition switch was "certainly not the same thing as a fire starting by virtue of an unintended circuit." (Tr. Various Pretrial Mots. 213.) Considering the difficulty in propagating a fire started by virtue of an unintended circuit within the ignition switch, however, this Court is not persuaded that Newell's use of fabric softener to start the fire is material to the determination of substantial similarity, either.

This Court is aware, however, that though Wilson, Dodson's fire investigator, and Newell, Ford's fire investigator, agree that a window in the Dodson vehicle was partially rolled down at the time of the fire, they do not agree on which window. (See Newell Dep. 85:13-85:25, Aug. 27, 2003; Wilson Dep. 90:25-91:19, May 29, 2003.) Whereas Wilson, in his deposition, asserts that the driver's side window was down, Newell, in his

deposition, asserts that his inspection of the vehicle revealed that the right front window was partially rolled down, and Newell conducted the burn test with the right front window open in accordance with his observations. (Id.) Considering the fact that the purpose of the burn test was to refute Dodson's position, this Court finds that, because the window rolled down in the burn test is different from the window Wilson believes was rolled down, the burn test was not conducted under conditions substantially similar to the conditions at the time of the fire in the Dodson vehicle. Thus, the burn test and accompanying videotape are not a recreation.

Ford, as noted, argues that the burn test and accompanying videotape are an illustration, not a recreation. As such, the burn test need not have been conducted under conditions substantially similar to the conditions at the time of the fire in the Dodson vehicle to be admissible. Nevertheless, to be admissible as an illustration, this Court must, finally, determine whether the probative value of the burn test and accompanying videotape is "outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." R.I. R. Evid. 403.

The rationale for the "substantial similarity" requirement is that "video reenactment by its very nature creates the risk of jury prejudice." Green, 2001 U.S. Dist. LEXIS 20680, at *15. "[V]ideo evidence is likely to be given greater weight by jury members, and have a longer lasting effect, than conventional testimony." Id. at *4. Accordingly, "if the video lacks significant probative value, it should be excluded under [R.I.] R. Evid. 403." Id. at 15. The "substantial similarity" requirement ensures that a reenactment has significant probative value. Here, because this Court has determined

that the burn test was not conducted under conditions substantially similar to the conditions at the time of the fire in the Dodson vehicle, the probative value of the burn test and accompanying videotape are called into question. Newell can hardly refute Dodson's position via a burn test that does not reflect the circumstances of the fire as Dodson's expert maintains they existed.

That is not to say, however, that the burn test has no probative value. This Court finds that Newell may discuss the burn test during his testimony because the burn test, though prejudicial to Dodson, is not unduly so. This Court reserves judgment on the admissibility of the accompanying videotape until after this Court has had an opportunity to view the videotape. The purpose of the burn test was not to demonstrate the progression of the fire through the vehicle. Rather, the purpose of the test was to compare burn patterns in the Dodson vehicle, alleged to have been caused by a fire originating in the ignition switch, with burn patterns in an exemplar vehicle, actually caused by a fire originating in the ignition switch. (See Newell Dep. 80:23-81:5, Aug. 27, 2003 ("Q: And what was the intended purpose of this [burn test]? A: Well, my intension [sic] was to start a fire at the ignition switch to demonstrate burn pattern in a vehicle that had—where a fire has actually started at an ignition switch and allowed to burn through the windshield and through the passenger compartment of the vehicle.").) This Court is unconvinced that videotape of the actual fire is an integral element of Newell's testimony. As noted, video evidence, by its very nature, creates the risk of jury prejudice. This Court is concerned that a videotape of the fire would inflame rather than help the jury. Dodson's motion, insofar as it does not concern the admissibility of the

videotape of the burn test, is denied. The question of admissibility of the videotape itself is reserved until the time of trial.

**C. John Jarrell**

Dodson retained John Jarrell, an expert metallurgist,[6] (Jarrell Dep. 43:16-43:17, May 22, 2003), to "inspect the Ford ignition switch as a possible cause of fire in this Dodson case." (Id. at 18:6-18:9.) On December 17, 2001, Jarrell sent Dodson's counsel a "preliminary report on the issue of arcing on the contacts of the ignition switch" recovered from the Dodson vehicle. (Letter from John Jarrell to Amato DeLuca, Dec. 17, 2001.) Jarrell reported that:

> the eight terminals from the instant vehicle were covered to varying degrees with corrosion product. This precluded the identification by SEM of certain microscopic features. Electrical discharge machining (EDM) was visible on the instant B+ terminal and on the exemplar B+ terminal. Examination of the exemplar B+ terminal and the exemplar slider evidenced electrically conductive copper particles (powder) within a greasy matrix.
>
> It is my opinion, therefore, to a reasonable degree of metallurgical certainty that arcing, erosion and pitting was present on the B+ terminal. This resulted in the generation of copper powder, which embedded itself in a matrix comprised of degraded [sic]. This is the beginning of the establishment of a conductive path between the B+ and negative terminals.
>
> The evidence of arcing, erosion and pitting on the B+ terminal means that the ignition switch could have been the cause or origin of this vehicle fire.
>
> It is my opinion to a reasonable degree of engineering certainty that the original ignition switch in the 1982 Crown Victoria was not reasonably designed and manufactured and was defective.

(Id.) According to his deposition testimony, Jarrell intends, at trial, to offer his opinion:

> [t]hat there is erosion on the tip of the B+ terminal of the Dodson ignition switch. That that erosion results in the generation of copper particles. That those copper particles become mixed with the grease. That that contributes to the formation of a conductive pathway between the B+ terminal and the ground, adjacent ground terminal. And that there is the appearance of melting and vaporization at the edge of the B+ terminal.

[6] "Metallurgy is a domain of materials science and of materials engineering that studies the physical and chemical behavior of metallic elements, their intermetallic compounds and their mixtures, which are called alloys." Wikipedia.com, Metallurgy, http://en.wikipedia.org/wiki/Metallurgy.

(Jarrell Dep. 47:25-48:9, May 22, 2003.) In his deposition, Jarrell goes so far as to say that a conductive path formed between the B+ terminal and the ground terminal in the Dodson vehicle. (See Jarrell Dep. 110:16-111:22, May 22, 2003.)

Ford, in its motion to preclude Jarrell's testimony, argues that Jarrell's testimony is unreliable under Daubert and will not assist the trier of fact and that "Jarrell is unqualified to offer many of the opinions he intends to offer on the issues of ignition switch design as well as the cause and origin of the fire in the 1982 Crown Victoria." (Ford's Mot. to Preclude the Test. of Pl.'s Expert, John Jarrell 1.) Ford seeks the exclusion of Jarrell's testimony in its entirety, challenging Jarrell's qualifications "to offer any opinions in this case." (Id. at 9.)

Ford's argument that Jarrell is not qualified to offer any opinions in this case focuses on Jarrell's lack of knowledge, skill, experience, training, or education with regard to fire investigation and ignition switches. (Id.) Ford, therefore, seeks to exclude all of Jarrell's testimony by challenging his qualifications to offer any opinions outside his area of expertise. As this Court finds that Jarrell is an expert in materials science and engineering, this Court declines to exclude Jarrell's testimony in its entirety simply because he is not an expert in fire investigation and ignition switches.

Jarrell holds bachelor's and master's degrees in materials science and engineering from Brown University. (Jarrell Dep. 136:22-136:25, May 22, 2003.) Since 1993, Jarrell has been the president of Materials Science Associates, a firm located in Providence, Rhode Island that provides failure analysis services on electronic components, mechanical components, and medical devices, as well as engineering consulting in materials science and medical engineering. (Id. at 7:7-7:19; Jarrell C.V.) Jarrell has prior

experience in the evaluation of beading and vaporization of metals and, more generally, in the effect of fire on metals. (Jarrell Dep. 130:21-132:23, May 22, 2003.) While employed at Thielsch Engineering, Jarrell investigated the cause of shorting in a hermetically sealed switch that was involved in fires. (Id. at 125:11-125:21.)

In this case, Jarrell visited the remains of the Dodson vehicle and examined the remains of the vehicle's ignition switch. (Id. at 18:20-19:1.) By optical stereoscopic microscopy, Jarrell examined the B+ terminals of the ignition switch from: (1) the Dodson vehicle; (2) an exemplar steering column; and (3) a newly purchased Ford switch. (Letter from John Jarrell to Amato DeLuca, Dec. 17, 2001.) In addition, Jarrell charred a small shard of phenolic to test its conductivity. (Id. at 49:6-49:8, 75:2-75:12.) Most of Jarrell's opinions regarding the ignition switch in the Dodson vehicle are based upon his observations of corrosion, arcing, melting, and vaporization. (See Letter from John Jarrell to Amato DeLuca, Dec. 17, 2001; Jarrell Dep. 107:1-107:18, May 22, 2003.) The science behind his opinions is neither novel nor highly technical. Jarrell simply describes what he sees. This Court finds that Jarrell is an expert in materials science and engineering and is qualified to testify accordingly.

In addition to its overarching argument for the exclusion of Jarrell's testimony based on his lack of qualification, Ford specifically seeks to exclude Jarrell's opinion "that a conductive path formed between the B+ terminal and the ground terminal in the Dodson vehicle," arguing that Jarrell's opinion is not based on reliable scientific methodology. (Ford's Mot. to Preclude the Test. Of Pl.'s Expert, John Jarrell 4.) Ford argues that Jarrell arrived at his conclusion before conducting an investigation, that Jarrell never tested his theory that a grease mixture formed between the B+ terminal and

the ground to form a conductive path, and that Jarrell based his conclusion solely on incorrectly interpreted evidence of erosion that he was not qualified to interpret. (Id. at 4-5.)

In his preliminary report, Jarrell's opinion is not that a conductive path actually formed between the B+ terminal and the ground terminal in the Dodson vehicle. Rather, Jarrell's opinion is that the evidence of erosion on the B+ terminal means that copper powder resulting from the erosion became embedded in the grease within the switch and that if enough copper were embedded in the grease, a conductive path would form between the B+ and negative terminals. As noted, however, in his deposition, Jarrell apparently does opine that a conductive path formed between the B+ terminal and the ground terminal in the Dodson vehicle. (See Jarrell Dep. 110:16-111:22, May 22, 2003.) This Court finds that Jarrell is qualified to offer the former opinion, but not the latter.

This Court has already determined that, as an expert in metallurgy, Jarrell is qualified to interpret evidence of beading and vaporization of metals. Accordingly, this Court finds that Jarrell is qualified to interpret the evidence of erosion on the B+ terminal of the ignition switch. In addition, this Court finds that Jarrell, based on his knowledge, skill, experience, training, and education, is qualified to offer an opinion that copper particles were present in the grease in the exemplar switch and that the presence of copper particles throughout the grease "can become a problem if that grease and those particles form a continuous line, continuous contact from the B+ to the negative." (Jarrell Dep. 77:1-77:11, May 22, 2003.) This "continuous line" or "continuous contact" is what Jarrell refers to as a "conductive path" between the B+ and negative terminals.

Jarrell bases his opinion regarding "the beginning of a conductive path between the B+ and negative terminals" on his observation of the close proximity of the B+ terminal to the ground, his observation of copper particles in grease smeared "within the air gap and on both sides of the walls that were separating the B+ terminal from the negative terminal" in an exemplar switch, his observation of erosion at the tip of the B+ terminal from the Dodson vehicle and the exemplar switch, and his knowledge, skill, experience, training, and education. (Jarrell Dep. 68:25-69:15, 77:1-77:11, May 22, 2003.) Jarrell, however, has not determined the point at which a conductive path would actually form between the B+ terminal and the ground in the ignition switch installed in the Dodson vehicle, and the mixture of grease and copper powder within the exemplar switch was not conductive. (Id. at 111:7-111:22.) Therefore, this Court finds that because Jarrell cannot determine that the grease within the ignition switch in the Dodson vehicle was conductive based solely on the observation of erosion on the B+ terminal, Jarrell cannot testify that a conductive path actually formed between the B+ terminal and the ground in the ignition switch installed in the Dodson vehicle.

Jarrell could conclude that a conductive path could have formed, but our Supreme Court has "frequently held that to be admissible, an expert must testify in terms of probability and not possibility." Ferguson v. Wayland Manor Assocs., 771 A.2d 888, 892 (R.I. 2001). Additionally, "[i]n evaluating the 'helpfulness' of the actual testimony, Rhode Island courts require an expert's opinion to be of 'substantial probative value.'" Parrella v. Bowling, 796 A.2d 1091, 1099 n.6 (R.I. 2002). Jarrell's opinion sounds in the realm of possibility, not probability, and a "could have" opinion lacks sufficient certainty to be of any help to a jury.

Likewise, this Court finds that Jarrell's opinion that "[t]he evidence of arcing, erosion and pitting on the B+ terminal of [the ignition switch] means that the ignition switch could have been the cause or origin of this vehicle fire" similarly lacks adequate reasoning and support. (Letter from John Jarrell to Amato DeLuca, Dec. 17, 2001.) Moreover, Jarrell lacks the requisite knowledge, skill, experience, training, and education to offer an opinion as to the cause or origin of the fire. Jarrell, therefore, is precluded from offering his opinion that "the ignition switch could have been the cause or origin of this vehicle fire."

In the December 17, 2001 letter to Dodson's counsel, Jarrell states, as well, that it is his "opinion to a reasonable degree of engineering certainty that the original ignition switch in the 1982 Crown Victoria was not reasonably designed and manufactured and was defective." Jarrell, however, never explains in the letter or his deposition the basis of this naked assertion beyond his interpretation of the wear mark on the B+ terminal and the resulting build up of copper in the ignition switch. "Unquestionably, an expert's opinion must be predicated upon facts legally sufficient to form a basis for his conclusion." DeChristofaro v. Machala, 685 A.2d 258, 267 (R.I. 1996) (quoting Alterio v. Biltmore Constr. Corp., 119 R.I. 307, 312, 377 A.2d 237, 240 (1977)). This portion of Jarrell's expert testimony fails "to provide the jury with a sufficiently probative evidentiary basis upon which to determine the cause of the fire." Montuori v. Narragansett Elec. Co., 418 A.2d 5, 14 (R.I. 1980). Jarrell, furthermore, lacks the requisite knowledge, skill, experience, training, or education in switch design and manufacture to offer his opinion. Consequently, Jarrell is precluded from offering opinion testimony concerning the reasonableness of the design and manufacture of the

Dodson's ignition switch. In addition, he is precluded from opining that the switch was defective because he draws this conclusion based upon the reasonableness of the design and manufacture of the switch, about which he cannot testify.

This Court finds that Jarrell's examination and testing in this case are in accord with basic scientific principles. His opinions concern the remains of the ignition switch from the Dodson vehicle—evidence that is critically important to this case. His opinions are highly relevant and may assist the trier of fact. It will be up to the jury to determine how much weight, if any, to give Jarrell's observations and explanations. Accordingly, this Court finds that Jarrell, in light of his knowledge, skill, experience, training, and education in materials science and engineering, is qualified to offer certain expert opinion testimony regarding his observations of the remains of the ignition switch from the Dodson vehicle and the significance of those observations. In particular, Jarrell may offer his opinion that "[t]he eight terminals from the instant vehicle were covered to varying degrees with corrosion product," that "[e]xamination of the exemplar B+ terminal and the exemplar slider evidenced electrically conductive particles (powder) within a greasy matrix," and that "arcing, erosion and pitting was present on the B+ terminal [which] resulted in the generation of copper powder, which embedded itself in a matrix comprised of degraded [sic]." Accordingly, Ford's motion in limine regarding Jarrell is denied in part and granted in part.

**D. Dr. Myron Kayton**

Dodson retained Dr. Myron Kayton, a "consulting engineer" by trade, "to find out what the cause was" of the fire in the Dodsons' 1982 Ford Crown Victoria. (Kayton C.V.; Kayton Dep. 54:13-54:15, July 29, 2003.) In the report memorializing his findings, Kayton opines "to a reasonable degree of engineering certainty that the fire originated in the passenger compartment of the vehicle and was caused by a defective ignition switch." (Kayton Rep. 3.) Kayton adds:

> The opinions that I hold are based upon my education, training, and experience in the field of electrical engineering. In addition, I have had the opportunity to review and examine numerous materials, records, depositions, and photographs as listed below. Some of the information contained in these materials was used as a basis for the opinions that I hold in this case. All of the opinions that I hold concerning the origin, cause and events leading up to and after the fire in the Dodson vehicle are held to a reasonable degree of engineering certainty.

(Id. 1.)

According to Dodson, Kayton's opinions are that the ignition switch originally installed in the Dodsons' 1982 Ford Crown Victoria was defectively designed because the B+ terminal was placed too close to the ground terminal, because the blower motor was wired through the ignition switch, and because the current broke at the battery connection rather than the accessory terminal. (Pl.'s Mem. In Support of Objection to Def.'s Mot. to Exclude Expert Test. of Dr. Myron Kayton and Objection to Mot. for Hrg. 2 [hereinafter Dodson's Objection re: Kayton].) According to Dodson, Kayton is also of the opinion that electrical arcing within the ignition switch causes copper to erode off the battery terminal and build up in the undersized gap between the battery and ground terminals, that electrical arcing causes erosion of the wall between the battery terminal

and the ground terminal, and that, in concert, these events produce an unintended circuit, which causes heating, and, eventually, a fire. (Id.)

In its motion to preclude Kayton's testimony, Ford argues that Kayton's testimony is unreliable under Daubert, that it will not assist the trier of fact, and that Kayton is not qualified to offer "many of the opinions he intends to offer on the issues of ignition switch design as well as the cause and origin of the fire in the 1982 Crown Victoria." (Ford's Mot. to Preclude the Test. of Pl.'s Expert, Myron Kayton 1.)

Ford's first argument in support of its motion is that Kayton "has no experience that would qualify him to render any opinions in this case." (Id. at 20.) Ford argues that Kayton "does not possess any special knowledge, skill or information about ignition switches or electrical fires in automobiles that would permit him to offer an opinion as to the cause and origin of the fire" and that he "has never designed an ignition switch and has no experience with respect to the design of an ignition switch." (Id.)

Kayton earned a B.S. in mechanical engineering from The Cooper Union, an M.S. in electrical engineering from Harvard University, and a Ph.D. in instrumentation from the Massachusetts Institute of Technology. (Kayton C.V.) He is a licensed electrical and mechanical engineer. (Id.) Since 1981, he has worked as a consulting engineer. Accordingly, this Court is satisfied that, without question, Kayton is an expert engineer.

This Court finds, furthermore, that notwithstanding his lack of experience with ignition switches and their design, Kayton's expertise in the field of electrical engineering is sufficiently broad to enable him to proffer a scientifically valid opinion in this case. Over the course of his career, Kayton has amassed considerable knowledge with respect to electrical switches and their design. Kayton has submitted an affidavit in

which he states that he has, in fact, tested and evaluated "switches of many kinds" and that he has "personally wired scores of switches into circuits, by soldering or crimping." (Kayton Aff. 1.) While employed at NASA's Johnson Space Center, Kayton worked extensively with electrical switches, identifying and resolving hundreds of design related problems. (Id.)

Ford's argument that Kayton does not possess any special knowledge, skill or information about ignition switches or electrical fires in automobiles that would permit him to offer an opinion as to the cause and origin of the fire is based on the erroneous conclusion that only a fire investigator can offer an opinion as to the cause and origin of a fire. Here, Kayton has relied on the testimony of Dodson's expert, Wilson, who located the fire's origin at the ignition switch. Kayton's identification of the fire's cause is based on this premise, but is obtained through Kayton's engineering expertise, which Wilson lacked. The testimony of both experts, therefore, is necessary for Dodson to attempt to establish the cause and origin of the fire in the Dodson vehicle.

In its motion, Ford argues that Kayton's testimony is inadmissible insofar as it relies on Wilson's inadmissible testimony. This Court has already determined that Wilson's testimony regarding the area and point of origin of the fire in the Dodson vehicle is admissible. Because Kayton's reliance on Wilson is limited to Wilson's conclusion that the fire in the Dodson vehicle started at and within the ignition switch, this Court finds that Kayton's reliance on Wilson's testimony is proper. On the other hand, because Kayton has relied on Wilson's opinion on the area and point of origin of the fire, Kayton is precluded from offering his opinion that the fire originated in the

ignition switch. Kayton's testimony must be limited to the conclusion that the ignition switch was defective and caused the fire.

Ford, in its remaining arguments, contends that Kayton's methodology lacks any indicia of reliability and is, therefore, inadmissible under Rules 702 and 703 of the Rhode Island Rules of Evidence. Ford argues, in so many words, that the bases of Kayton's testimony, because they lack any indicia of reliability, are not of a type "reasonably and customarily relied upon by experts in the particular field in forming opinions on the subject" and that, accordingly, Kayton's opinion is not predicated upon facts legally sufficient to form a basis for his conclusion. See DeChristofaro v. Machala, 685 A.2d 258, 267 (R.I. 1996).

Ford enumerates alleged faults in Kayton's methodology, complaining that Kayton concluded that the ignition switch had caused the fire even though he had not inspected the physical evidence, that he "assumed" that phenolic-based ignition switches would perform in the same manner as Minlon-based ignition switches, that he never investigated the repair history of the Dodson vehicle, that he "never performed any testing to support his theory," and that he admits that the physical evidence "does not suggest an ignition switch defect." (Ford's Mot. to Preclude the Test. of Pl.'s Expert, Myron Kayton 14, 16.)

The problem with Ford's argument is that Ford fails to view Kayton's methodology holistically, emphasizing certain investigative methodologies Kayton did not employ while disregarding other investigative methodologies he did employ. Ford's claim that Kayton "assumed" that phenolic-based ignition switches would perform in the same manner as Minlon-based ignition switches is not supported by the evidence.

Kayton, like Ford's expert, John Loud, see infra, relies on the report published by Failure Analysis Associates ("FAA") following its investigation into the cause of failures in Minlon-based ignition switches for its explanation of the sequence of steps and processes necessary to produce ignition switch fires. (Kayton Dep. 187:10-189:7, July 29, 2003.) Kayton bases his opinion that the phenolic-based ignition switches would perform in the same manner as Minlon-based ignition switches on his comparison of the two switches, guided, in particular, by the design specifications for the switches and his considerable engineering expertise. Kayton's examination allows him to conclude to a reasonable degree of engineering certainty that the subtle differences between the two switches would not affect the fire producing "mechanism" identified in the Minlon-based switches. (Id. at 106:22-106:25.) The logical inference Kayton makes is that if the Minlon-based switches can produce fires, then the functionally identical phenolic-based switches must, likewise, be susceptible to fire, though not to the same degree, perhaps.[7] (See Kayton Dep. 318:9-318:17, July 30, 2003.) That Kayton reached this conclusion prior to investigating the physical evidence does not render his opinion invalid because his

---

[7] Kayton refers to a document produced by Ford in discovery, titled "Known Failure Modes Effects Analysis" ("KFMEA"), to confirm his conclusion that phenolic-based switches are prone to fire. (See Kayton Dep. 106:22-107:12 ("the mechanism is exactly the same for Minlon as for phenolic;" "we have Ford reports that talk about phenolic fires. We have the [K]FMEA that talks about phenolic fires").) In a separate decision, this Court has ruled that the KFMEA is inadmissible hearsay. That the KFMEA is inadmissible hearsay, however, does not mean that Kayton cannot rely on it. Rule 703 of the Rhode Island Rules of Evidence provides that

> an expert's opinion may be based on a hypothetical question, facts or data perceived by the expert at or before the hearing, or facts or data in evidence. If of a type reasonably and customarily relied upon by experts in the particular field in forming opinions upon the subject, the underlying facts or data shall be admissible without testimony from the primary source.

Thus, whether Kayton can rely on the KFMEA depends on whether the KFMEA amounts to facts or data "of a type reasonably and customarily relied upon by experts in" Kayton's field. This Court need not resolve this issue at this time because this Court is satisfied that, based on his comparison of phenolic-based switches with Minlon-based switches, Kayton could conclude that phenolic-based switches are so similar to Minlon-based switches that the switches must have in common the mechanism that leads to fires, if not the same propensity for fires.

opinion is not dependent upon his investigation of the physical evidence. Likewise, Kayton's opinion is not dependent upon the repair history of the vehicle. This Court finds that Kayton's methodology, here, is in accord with basic scientific principles.

Kayton's conclusion that phenolic-based switches are functionally identical to Minlon-based switches is the crucial foundation for the rest of Kayton's testimony because it allows him to apply the FAA findings to the phenolic-based switches. (Id. at 106:23-106:25.) Even so, Kayton does not blindly accept the FAA findings. Rather, applying his education, training, and experience, Kayton critically analyzed the FAA findings, even concluding that degradation of the Minlon/phenolic wall—one of the seven steps and processes necessary to produce ignition switch fires—is not, in fact, necessary. (See Kayton Dep. 188:22-189:12, July 29, 2003.) Relying on the FAA findings, as well as his examination of numerous materials, records, depositions, photographs, engineering specifications, and exemplar ignition switches, Kayton is able to opine that although arcing is inevitable in the ignition switch, evidence of arcing on the B+ terminal is indicative of a flaw in the ignition switch that leads to fires. (See Kayton Dep. 150:3-150:10, July 29, 2003.) Accordingly, this Court is satisfied that Kayton's reasoning and methodology are consistent with basic scientific principles. This Court, furthermore, is satisfied that Kayton's methodology is sufficiently reliable to pass muster under Daubert. The strength of his analysis, the materials he relies upon, and the conclusions he draws all can be explored through thorough cross-examination.

Turning to its relevance, Kayton's testimony fits the facts of this case and will assist the trier of fact. Kayton's opinions critique the originally issued ignition switch in the Dodson vehicle. Based on his education, experience, and work on this case, Kayton

draws conclusions regarding the design configuration of the ignition switch and the results of that design configuration. These expert opinions will assist the jury in its determination of the efficacy of the ignition switch. Therefore, Ford's motion in limine regarding Kayton is denied.

**E. John Loud**

Dodson moves to exclude several opinions offered by Ford's "purported expert," John Loud, in his written report and at his deposition "pursuant to Rules 401, 403, 702, 703, and 704" of the Rhode Island Rules of Evidence. (Pl.'s Mot. to Exclude Op. Offered by Def.'s Expert John Loud 1.) Specifically, Dodson moves for the exclusion of Loud's opinions (1) based upon the report published by FAA following its investigation into the cause of failures in Minlon-based ignition switches; (2) based upon "facts" obtained only through Ford's counsel, namely the number of cars with phenolic-based switches that experienced fires caused by the ignition switch; (3) based upon a comparison of the remains of the ignition switch from the Dodson vehicle to other switches provided by Ford; and (4) regarding the flammability of phenolic and regarding other "possible causes" of the fire in the Dodson vehicle. (Id. at 14-15.)

Dodson argues, first, for the exclusion of Loud's opinions based upon the FAA report. Quoting from DeChristofaro, Dodson asserts that, "[u]nquestionably, an expert's opinion must be predicated upon facts legally sufficient to form a basis for his conclusion." 685 A.2d at 267. Dodson juxtaposes this quotation against our Supreme Court's holding in Nasco, Inc. v. Dir. of Pub. Works, 116 R.I. 712, 721, 360 A.2d 871, 876 (1976): "An expert may not give an opinion without describing the foundation on which his opinion rests." On the basis of these two quotations, Dodson argues for the exclusion of Loud's opinions based upon the FAA report because "Loud cannot testify to the factual bases for the conclusions in the FAA report, rendering the opinions based upon that report inadmissible pursuant to Rhode Island Rules of Evidence 104(b), 402,

702, 703, 705 and 801." (Pl.'s Mot. to Exclude Op. Offered by Def.'s Expert John Loud 5.)

Dodson's argument, however, relies on a misinterpretation of Nasco. In Nasco, the Rhode Island Supreme Court reaffirmed its holding that "an expert's opinion based solely on the witness' 'experience' in evaluating property, without detailing any specific reasons or factors, [is] entitled to no weight." 116 R.I. at 721, 360 A.2d at 876. Stated simply, Nasco stands for the proposition that an expert must be able to testify to the basis of his opinion, not to the basis of the basis of his opinion. Here, Nasco does not apply because the foundation on which Loud's opinion rests is the FAA report, not, as Dodson claims, "the factual bases for the conclusions in the FAA report." (Pl.'s Mot. to Exclude Op. Offered by Def.'s Expert John Loud 5.) That Nasco does not apply does not mean, however, that Loud's expert opinion is, per se, predicated upon facts legally sufficient to form a basis for his conclusion. Loud's expert opinion is predicated upon facts legally sufficient to form a basis for his conclusion only if Loud is permitted to base his conclusions on the findings of the FAA.

By relying on the findings of the FAA, Loud has relied on the judgment of other experts, some of whom are experts in fields wholly different from his own. (See Loud Aff. (re: Mot. to Exclude Loud) ("engineers and scientists from a multitude of disciplines contributed to the preparation of the [FAA] report").) Whether an expert can be permitted to rely on the judgment of experts in another area is a thorny issue. According to one commentator,

> [a]t some extreme, permitting an expert to testify to conclusions built upon the expertise of other experts in a different area should indeed be prohibited, either because the reliance by the testifying expert is

> unreasonable under Rule 703 or because the testifying expert is unqualified to give an opinion on the matter under Rule 702.[8]

See David H. Kaye, et al., The New Wigmore: A Treatise on Evidence § 3.6.1(c) (2004) [hereinafter Wigmore]. The question, therefore, is at what point does such reliance become unreasonable.

Wigmore acknowledges that experts frequently use data, methods, and materials that they may lack the ability to evaluate and that to require complete understanding of all matters on which experts rely would be inefficient and impossible "in our era of specialization." Id. As Ford points out, and as Dodson does not dispute, Loud, an FAA employee, played a significant role in the preparation of the report upon which Loud bases his opinion. (See Loud Aff. (re: Mot. to Exclude Loud) 6-8.) In an affidavit submitted in response to Dodson's motion, Loud asserts that his education, training, and experience are in the "electrical disciplines," but he, nevertheless, needs to know and has learned material information in other disciplines that is necessary to perform his work. "Having an expert in another discipline independently evaluate and provide an understanding that is within his particular expertise," he states, "provides an increase in the reliability of an opinion, rather than diminishing it." (Id. at 7.) Loud adds that he routinely relies on individuals in numerous scientific disciplines in his consulting work "to assess the failure mechanisms that occur in electrical devices since many failures

---

[8] Rule 703 of the Rhode Island Rules of Evidence, entitled "Bases of Opinion Testimony by Experts," provides that:

> [a]n expert's opinion may be based on a hypothetical question, facts or data perceived by the expert at or before the hearing, or facts or data in evidence. If of a type reasonably and customarily relied upon by experts in the particular field in forming opinions upon the subject, the underlying facts or data shall be admissible without testimony from the primary source.

involve knowledge across several disciplines." (Id.) Accordingly, this Court is persuaded that Loud's reliance on the FAA's findings passes muster under Rule 703.

In addition, this Court finds that the FAA findings meet the reliability requirements of Rule 702. Amongst other indicia of its reliability are the fact that the report was peer reviewed prior to its release (see id. at 3), that Dodson's experts rely on the FAA findings, praising the quality of the report (see id. at 4-5 (citing Jarrell Dep., May 22, 2003; Kayton Dep., July 29, 2003), and that in a separate suit, a federal judge refused to exclude expert testimony based on the FAA findings and then, himself, cited to the report in his decision. See In re Ford Motor Co., No. 96-3125 (Aug. 27, 1997).

Accordingly, because this Court finds that Loud's reliance on the FAA findings is proper under both Rule 702 and Rule 703 of the Rhode Island Rules of Evidence, this Court finds that Loud's opinion is predicated upon facts legally sufficient to form a basis for his conclusion. This Court, therefore, declines to exclude the challenged opinion.

Dodson argues, second, for the exclusion of Loud's opinions based upon "facts" obtained only through Ford's counsel. Dodson specifically challenges "Conclusion Number 9" from Loud's written report, in which Loud states that "[t]he field performance of the 10,949,976 phenolic switches indicate that this switch was not defective and that it performed well in service." Dodson quotes passages from Loud's deposition testimony to show that "Loud confirms that he received the 'fact' of no confirmed incidents of fires in phenolic switches from Brian Voke, counsel for Ford Motor Company."[9]

[9] It bears noting that the phrase "no confirmed incidents of fires in phenolic switches" is problematic. In his deposition, Loud states that Ford "had no record of a problem with the phenolic switch." (Loud Dep. 148:24-148:25, Dec. 9, 2003.) At oral argument, Dodson noted that Ford had been notified of the fire in the Dodson vehicle before the 1996 recall, yet Ford maintains it "had no record of a problem with the phenolic switch." (See Tr. Various Pretrial Mots. 126:14-127:20.)

Rule 703 of the Rhode Island Rules of Evidence, entitled "Bases of Opinion Testimony by Experts," provides that

> [a]n expert's opinion may be based on a hypothetical question, facts or data perceived by the expert at or before the hearing, or facts or data in evidence. If of a type reasonably and customarily relied upon by experts in the particular field in forming opinions upon the subject, the underlying facts or data shall be admissible without testimony from the primary source.

Thus, Rule 703 permits experts to rely on hearsay. In re "Agent Orange" Prod. Liab. Litig., 611 F. Supp. 1223, 1245 (E.D.N.Y. 1985). That is not to say, however, that this Court may "abdicate its independent responsibilities to decide if the bases meet minimum standards of reliability as a condition of admissibility." Id.; see also R.I. R. Evid. 104(a). Moreover, "Rule 703 does not authorize admitting hearsay on the pretense that it is the basis for expert opinion when, in fact, the expert adds nothing to the out-of-court statements other than transmitting them to the jury." Plourde v. Gladstone, 190 F. Supp. 2d 708, 720 (D. Vt. 2002) (citations omitted).

Loud, in his affidavit regarding the motion to exclude his testimony, states that he wanted to know whether Ford had any confirmed phenolic ignition switch incidents. He asked this question of Brian Voke, Ford's attorney, and "Bill Peffer, a retired Ford employee, who was knowledgeable about the Minlon recall and the history of the Fox ignition switch," and he received the same answer both times. (Loud's Aff. (re: Mot. to Exclude Loud) 8.) Loud avers: "It is normal and customary for me to make requests of my clients for information through their attorney." (Id.)

Whether Loud based "Conclusion Number 9" on "facts" obtained from Brian Voke or from Bill Peffer is of no consequence, because the "facts," regardless of who provided them to Loud, are hearsay statements of dubious reliability. This Court finds

that Loud's "Conclusion Number 9," which Loud bases on the hearsay statements of Brian Voke or Bill Peffer, is hearsay evidence that Ford, through Loud, seeks to pass off as expert opinion testimony. This Court will not permit Loud to circumvent the rules of evidence, acting as a conduit for the transmission of hearsay evidence to the jury, adding nothing in the process. See Plourde, 190 F. Supp. 2d at 720; Gong v. Hirsch, 913 F.2d 1269, 1272-73 (7th Cir. 1990). Thus, Dodson's "Conclusion Number 9," is excluded unless and until the "facts" upon which Loud bases his opinion are properly placed into evidence.

Dodson argues, third, for the exclusion of Loud's opinions based upon a comparison of the remains of the ignition switch from the Dodson vehicle to other switches provided by Ford. Dodson challenges, specifically, the conclusions that Loud reaches based on his comparison of the remains of the ignition switch from the Dodson's 1982 Ford Crown Victoria with nine of twelve Minlon-based switches that had been provided to Loud by Ford and were alleged to have caused fires. Dodson argues that "[w]here an expert chooses to base his opinions on a comparison with a number or volume of other instances, the numbers on which that comparison is based must meet accepted standards of reliability," and then cites three extraterritorial decisions—U.S. Info. Sys. v. Int'l Brotherhood of Elect. Workers, 313 F. Supp. 2d 213 (S.D.N.Y. 2004), Rowe Entm't, Inc. v. William Morris Agency, Inc., 2003 U.S. Dist. LEXIS 15976 (S.D.N.Y. 2003), and State v. Streich, 658 A.2d 38 (Vt. 1995)—as support for his claim that the numbers on which Loud's comparison is based do not meet accepted standards of reliability.

In U.S. Info., the court held that "[a]s long as a sample is representative—that is, it was not selected in a biased manner—sample size will not skew the results of the analysis." "Accordingly," the court held, "small sample size goes to the weight rather than to the reliability (and admissibility) of a study." 313 F. Supp. 2d at 232. "The reliability of any analysis," the court continued, "depends upon an unbiased selection of sample data." And, in Streich, the court excluded unproven calculations as unreliable under Daubert. Therefore, reading U.S. Info and Streich in conjunction, Dodson's argument can succeed only if the basis of Loud's comparison is biased or the statistical analysis is unreliable.

This Court is persuaded that, unlike the unproven calculations that were excluded for lack of reliability in Streich, Loud's statistical analysis satisfies the requirements of Rule 702 under Daubert. See Streich, 658 A.2d at 345. There is evidence adduced by Ford, and not refuted by Dodson, that the method is well known and widely used in the engineering community. (See Loud Aff. (re: Mot. to Exclude Loud) 17 ("The methods used to perform the statistical analysis described above are well known, widely used, and appropriate statistical methods.").)

On the other hand, this Court is not satisfied that the pool of twelve switches was an unbiased sample. In Rowe, the court excluded statistical analysis based on a sample pool that had been handpicked by the proponent of the analysis. 2003 U.S. Dist. LEXIS 15976, *3. The court noted that "any expert should be aware that a party and counsel in a litigation have an interest in the outcome and that an expert study should not be dependent on the information they supply." Id. Here, as in Rowe, the sample pool was provided to the defendant's expert by the defendant, which, by itself, suggests that the

sample was not unbiased. Before this Court is the affidavit of William Peffer, a retired Ford employee, who was "familiar with the Parts Analysis Group of the Design Analysis Department [at Ford] where parts, not returned to customers who have made complaints on those parts, are stored."[10] (Peffer Aff. 1, Sept. 10, 2003.) In the affidavit, Peffer states that in response to Loud's request for "as many examples of minlon [sic] ignition switches that allegedly caused fires and were available," he "assembled and sent to John Loud all of the minlon [sic] ignition switches stored at Ford's Parts Analysis Group for the calendar years 1996, 1997 and 1998." (Id. at 2.) These ten switches, Peffer states, were received from claimants who alleged that the switches had ignited in their vehicles. Peffer provided Loud with two additional switches: one from the design analysis engineers and one from "a box of switches returned to Ford from the Canadian recall." (Id.)

Perhaps even more important in this Court's analysis than the fact that the switches were provided to Loud by Ford is the fact that the sample was neither a census of all Minlon-based FOX-type ignition switches alleged to have caused fires nor a random sample of such switches. Ten of the twelve switches were from only three calendar years, and Peffer sent only one switch "from a box of switches returned to Ford from the Canadian recall." Also, considering the fact that Loud used the statistical analysis of the switches to determine the minimum amount of wear necessary for a fire to propagate in a phenolic switch, this Court notes that phenolic switches are conspicuously absent from Loud's sample. This Court finds, therefore, that Ford has not established

[10] To this Court's knowledge, Peffer has not been deposed in the underlying products liability action, and Dodson has not had an opportunity to cross-examine him on the substance of his affidavit.

that Loud's statistical analysis was not based on a biased sample. Accordingly, on the state of the current record, Loud's statistical analysis is excluded.

Finally, Dodson argues for the exclusion of Loud's opinions regarding the flammability of phenolic and regarding other "possible causes" of the fire in the Dodson vehicle because these opinions "are so lacking in the requisite degree of certainty they are inadmissible." (Pl.'s Mot. to Exclude Op. Offered by Def.'s Expert John Loud 9.) In particular, Dodson challenges Loud's opinions that phenolic will not burn, that the most likely cause of the fire could not be determined, and that he could not rule out other specifically referenced possible causes. (Id.) In support of her position, Dodson relies on our Supreme Court's jurisprudence on the degree of certainty required of expert opinions, namely that expert testimony "must speak in terms of 'probabilities' rather than 'possibilities.'" Parillo v. F.W. Woolworth Co., 518 A.2d 354, 355 (R.I. 1986).

This Court finds that Loud's opinions regarding the flammability of phenolic conform to the "probabilities" rather than "possibilities" requirement. Loud's opinion that the fire in the Dodson vehicle was not caused by the phenolic-based ignition switch originally installed in the vehicle is based on his observations of the switch remains, his comparison of the B+ terminal of the switch remains to other B+ terminals from phenolic-based switches and failed Minlon-based switches, the FAA report, NFPA 921, and published scientific literature illustrating the difference between phenolic and Minlon. According to NFPA 921, "[p]henolic plastics are used for certain parts that must have resistance to heat, such as coffee pot handles and circuit breaker cases. Phenolics do not melt and will not burn by themselves. They can be consumed to a grey ash in a sustained fire." § 21.5.1.4. Loud personally observed that Minlon, by comparison, melts,

drips, and burns in fire. (John Loud Aff. (re: Wilson).) Accordingly, this Court finds that Loud's opinion regarding the flammability of phenolic is sufficiently certain and will not be excluded.

On the other hand, this Court finds that Loud's opinion regarding other "possible causes" of the fire lacks sufficient certainty to be of assistance to the jury. At oral argument, Ford argued, relying on NFPA 921, that in order for Loud to arrive at a definitive conclusion as to the cause of the fire in the Dodson vehicle, he had to rule out other potential causes. (Tr. Various Pretrial Mots. 173.) Ford argued that "[y]ou cannot come to a conclusion unless you do that." (Id.) Ford stated, therefore, that Loud would

> testify to a certainty that the cause could not be determined because these other electrical components could not be ruled out including the after-market radio, the after-market wiring, after market connections. So, he has an opinion to a reasonable degree of certainty they cannot be ruled out because the scientific work was not performed by the plaintiffs' experts.

(Id.) This Court is not persuaded by Ford's argument.

Loud is not a fire investigator and was not retained by Ford to determine the cause or origin of the fire in the Dodson vehicle. Rather, Loud was hired by Ford to refute Dodson's argument that the ignition switch in the Dodson vehicle was the cause and origin of the fire. Loud is not qualified to offer an opinion on the cause and origin of the fire except insofar as he determines that the ignition switch was not the cause or origin of the fire or that, based on the available evidence, he could not conclude that the ignition switch was the cause or origin of the fire. That Loud did not "have an opinion to a reasonable degree of engineering certainty as to what the cause and the origin of the fire was in the Dodson vehicle" is to be expected because such an opinion would be beyond the scope of his expertise. (Loud Dep. 113:4-113:10, Dec. 9, 2003.) Accordingly, this

Court finds that Loud cannot offer an opinion regarding other "possible causes" of the fire to explain his inability to offer an opinion to a reasonable degree of engineering certainty as to what the cause and origin of the fire was in the Dodson vehicle. Such an opinion is beyond Loud's expertise and, moreover, lacks sufficient certainty to be of assistance to the jury. Loud is permitted to testify to his conclusion that the ignition switch was not the cause of the fire. Dodson's motion, therefore, is granted in part and denied in part.