

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION

ABDOU BOYE,

Plaintiff,

Case No. 12-CV-12108

v.

HON. MARK A. GOLDSMITH

CONNOR CORP.,

Defendant.

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**OPINION AND ORDER**  
**GRANTING IN PART AND DENYING IN PART PLAINTIFF'S MOTION TO**  
**EXCLUDE DEFENDANT'S EXPERT, GEORGE ORPHAN (Dkt. 57)**

**I. INTRODUCTION**

This is a products liability case brought by Plaintiff Abdou Boye against Defendant Connor Corporation. Plaintiff alleges that Defendant had used a rubber injection mold press from 1995-2007 and had modified it, so as to disable the press's safety systems, making the press defective. Plaintiff further alleges that Defendant sold the press in this defective condition to Plaintiff's employer, Fourstar Rubber, Inc. ("Fourstar") in 2007, and that, when Plaintiff used the press, he was injured. Specifically, Plaintiff alleges that on October 15, 2010, he suffered a severe injury when his left hand was caught in the press while he was operating the machine at Fourstar's facility in Commerce Township, Michigan. Plaintiff sustained injuries that led to the amputation of his left hand.

Now before the Court is Plaintiff's motion to exclude Defendant's expert, George Orphan (Dkt. 57). The matter was fully briefed and oral argument was heard on September 17, 2014. The Court has thoroughly reviewed the motion papers and the evidence attached thereto. For the reasons set forth below, the Court grants in part and denies in part Plaintiff's motion to exclude.

## II. BACKGROUND<sup>1</sup>

An entity named Klockner Desma Elastomertechnik, GmbH, manufactured the press, a rubber injection molding machine, in 1994. George J. Orphan Report at 2 (cm/ecf page) (Dkt. 57-1). The press had safety features designed to protect the operator. The safety features that related to the front doors, through which the molds were inserted and retrieved, were “pressure sensitive strips” and “limit switches.” John H. Hamilton Report at 2-3 (Dkt. 64-4). The pressure sensitive strips (also called “safety strips” or “impact bumpers”) were located on the outer edge of the doors and the strips contained an electronic sensor connected to the press’s computer. Id. at 3; Orphan Dep. at 57 (Dkt. 57-2); Richard Hooper Report at 3-4 (Dkt. 64-5). If the strips sensed an obstruction before the doors fully closed, the sensor would send a signal to the press’s computer, triggering retraction of the front doors and preventing the press from working any further. Hamilton Report at 3; Orphan Dep. at 59.

The press also had “limit switches” (alternatively referenced as “safety gates”), which sensed the position of the front doors. Hamilton Report at 2. Like the strips, the limit switches were connected to the press’s computer. Hooper Report at 3-4. When the front doors fully closed, the limit switches were triggered and permitted the press to operate. Hamilton Report at 2-3. If the front doors did not fully close, the limit switches were not triggered, causing the doors to re-open and the press to cease operation. Id.

The record in this case contains reports from the parties’ experts. The reports generally conclude that the strips’ failure and the re-wiring contributed to the accident, but the experts differ as to when these changes were made to the machine. After visual inspection of the

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<sup>1</sup> The Court addressed in greater detail the factual and procedural background of this case in an Opinion and Order denying Defendant’s motion for summary judgment. See 7/2/14 Opinion and Order (Dkt. 80). The Court will not repeat the factual and procedural background set forth in its earlier opinion.

machine, Defendant's expert, George Orphan, provided the following three opinions in his expert report:

1. **Impact Bumpers:** Based upon a reasonable degree of scientific certainty, it is this Engineer's opinion that physical electrical elements and wiring of the Impact Bumper safety system were changed on the subject press in order to deceive and defeat the safety programming designed into, and resident in, the machine's ladder logic software.
2. **Safety Gate Limit Switches:** Based upon visual inspection, it is the opinion of this Engineer that the wiring from the safety gate limit switches had been modified to deceive and defeat the safety features built into the machine's ladder logic software. Further, the replaced lower left limit switch was not equipped with a contact roller thus rendering it non-functional.
3. **Time Frame:** Based upon this Engineer's observation of the modifications made to the subject machine, as delineated herein, it is my opinion that these modifications to the subject safety systems were conducted recently.

Orphan Report at 4 (cm/ecf page).

### III. STANDARD OF REVIEW

The admissibility of expert witness testimony is governed by Federal Rule of Evidence 702. Under Rule 702, a "witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion" if the following criteria are met:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods;  
and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

Rule 702 places a special obligation on the trial court to be a gatekeeper, ensuring that “any and all scientific testimony or evidence admitted is not only relevant, but reliable.” Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 589 (1993). The “gatekeeping obligation” is not limited to “scientific” expert testimony, but applies to all expert testimony. Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137, 141 (1999). The proponent of the expert must establish admissibility by a preponderance of the evidence. Nelson v. Tenn. Gas Pipeline Co., 243 F.3d 244, 251 (6th Cir. 2001).

In Daubert, the Supreme Court provided a non-exclusive checklist for trial courts to consult in evaluating the reliability of expert testimony. Id. at 593. In this way, “Daubert attempts to strike a balance between a liberal admissibility standard for relevant evidence on the one hand and the need to exclude misleading ‘junk science’ on the other.” Best v. Lowe's Home Ctrs., Inc., 563 F.3d 171, 176–177 (6th Cir. 2009). The factors include: “testing, peer review, publication, error rates, the existence and maintenance of standards controlling the technique’s operation, and general acceptance in the relevant scientific community.” In re Scrap Metal Antitrust Litig., 527 F.3d 517, 529 (6th Cir. 2008); Daubert, 509 U.S. at 593-594.

The test for reliability is flexible, and the Daubert factors are neither definitive nor exhaustive. Nelson, 243 F.3d at 251 (citing Kumho, 526 U.S. at 141). Rather, the factors “may be tailored to the facts of a particular case,” and “should be applied only where they are reasonable measures of the reliability of expert testimony.” In re Scrap Metal, 527 F.3d at 529 (quotation marks and citations omitted).

### III. ANALYSIS

#### A. Orphan's First Two Opinions Regarding the Modifications to the Impact Bumpers and the Safety Gate Limit Switches

##### 1. Parties' Arguments

Plaintiff contends that Orphan is not qualified to render his first two opinions. Pl. Mot. at 5. Notably, Plaintiff acknowledges, as does Defendant, that all the experts in this case agree that modifications to the machine had been made to defeat various safety mechanisms, thereby rendering the machine unsafe. Id. at 1-2; see also Def. Resp. at 6, 9 (Dkt. 74). It is these modifications that comprise the subject matter of Orphan's first two opinions.

Concerning Orphan's qualifications, Plaintiff argues that Orphan is not a "machine safety" or "machine guarding" expert. Id. at 12. According to Plaintiff, Orphan is an electrical engineer whose background is "designing telecommunications systems." Id. Aside from one electrocution case, Plaintiff states that Orphan's prior cases on his testimony disclosure related to "whether or not there was an electrical cause of fire." Id. at 13. Plaintiff also claims that Orphan has no experience with either the particular machine at issue in this case or the rubber industry in general. Id. at 12. Therefore, Plaintiff contends that Orphan should not be permitted to testify regarding the machine guarding. Id. at 13.

In response, Defendant argues that Orphan is qualified to render his first two opinions. Defendant contends that Orphan is an expert on "machine electrical systems similar to those at issue" in this case. Def. Resp. at 11. Defendant claims that Orphan has been a mechanical and electrical engineer since 1962, a license professional engineer, an owner of an engineering business that provides an "extensive amount of forensic analysis of complex electrical systems," and has experience testifying about programmable logic controllers and designing ladder logic code. Id. at 10. Defendant further notes that Orphan's "scientific opinions are consistent with

those drawn by other experts in this case.” Id. at 11. According to Defendant, this consistency demonstrates that the opinions are “clearly generally accepted within the relevant scientific community.” Id. (quotation marks omitted). Therefore, Defendant contends that Orphan’s first and second opinions should not be excluded. Id.

## 2. Discussion

To qualify as an expert under Rule 702, a witness must establish his or her expertise by reference to “knowledge, skill, experience, training, or education.” Fed. R. Evid. 702. Although this requirement is typically treated liberally, it “does not mean that a witness is an expert simply because he claims to be.” Pride v. BIC Corp., 218 F.3d 566, 577 (6th Cir. 2000) (quotation marks omitted). “The issue with regard to expert testimony is not the qualifications of a witness in the abstract, but whether those qualifications provide a foundation for a witness to answer a specific question.” Berry v. City of Detroit, 25 F.3d 1342, 1351 (6th Cir. 1994). The “expert’s lack of experience in a particular subject matter does not render him unqualified so long as his general knowledge in the field can assist the trier of fact.” Dilts v. United Grp. Servs., LLC, 500 F. App’x 440, 446 (6th Cir. 2012), cert. denied, 133 S. Ct. 2022 (2013). A generally experienced expert’s “unfamiliarity with some specific aspects of the subject at hand merely affects the weight and credibility of the testimony, not its admissibility.” Surles ex rel. Johnson v. Greyhound Lines, Inc., 474 F.3d 288, 294 (6th Cir. 2007) (brackets, quotation marks, and citation omitted).

Here, Orphan received his bachelor’s degree in electrical engineering with a minor in mechanical engineering from the University of Michigan in 1962. Orphan Dep. at 8, 10; Orphan Report at 30 (cm/ecf page). Orphan has performed testing for electrical systems in both forensic and independent settings, including testing batteries, breakers, temperature of overloaded conductors, quality of installations of electrical systems, and light levels. Orphan Dep. at 21.

Orphan also has experience dealing with programmable logic controllers, including wastewater treatment plants, lift stations, water filtration plants, and water pumping stations. Id. at 48. And his 40-plus years of experience in electrical engineering has included work with the electrical systems in machinery. Id. at 48, 52-53.

Given his background experience and knowledge of electrical and mechanical engineering, the Court concludes that Orphan is qualified to assist the jury in understanding whether the modifications to the subject machine's impact bumper safety system or safety gate limit switches might have led to the accident at issue. His experience in electrical and mechanical systems, rather than with a particular type of machinery, is the qualifying credential for someone giving testimony about the failures of such systems. Therefore, the Court denies Plaintiff's motion to the extent that it seeks to exclude Orphan's first two opinions based on his qualifications.

## **B. Orphan's Third Opinion Regarding the Time Frame of the Modifications**

### **1. Parties' Arguments**

Plaintiff argues that Orphan's opinion that the modifications to the machine were "recent" is an "unscientific guess" that lacks foundation. Pl. Mot. at 5. Specifically, Plaintiff claims that Orphan's opinion about the diode's age is "based solely upon a visual inspection of the various components" and the "buildup of residue," which is "not scientific." Id. at 6. According to Plaintiff, Orphan's "eyeballing" method is unreliable because it is "neither testable, nor confirmable, and it is not supported by any literature." Id. at 7. Plaintiff also states that there are several factors that affect the rate of accumulation of debris on the internal components of a machine. Id. 7-8. These factors include the amount of time the machine is in use, the type of product injected, and the temperature of the product. Id. at 8. Because Orphan had no

knowledge of how those specific factors actually affected the residue accumulation on this machine, Plaintiff contends that the “recent” opinion is really a “wild guess.” Id. at 7-9.

Plaintiff further argues that, insofar as it posits a recent change to the diode, Orphan’s opinion that the wires were previously connected to the safety relay and “handled” based on the appearance of residue on the wires lacks foundation. Id. at 9, 11. Plaintiff claims that Orphan had “no way of knowing where the wires were originally connected” or whether they “related to a safety system on this machine” because he neither reviewed the machine diagrams nor traced the wires to determine their origin. Id. at 10. Without knowing where the wires were originally connected, Plaintiff contends that Orphan should be precluded from opining that, based on the appearance of the wires, the modifications to the diode were recent. Id. at 11.

Lastly, Plaintiff argues that Orphan’s observations of the condition of the wiring will not assist the jury. Id. at 11-12. According to Plaintiff, expert assistance is not needed because a “layperson can evaluate how clean or dirty a wire or machine component is.” Id. at 12. Because his opinion is a “simple observation,” Plaintiff contends that Orphan’s testimony would be unhelpful. Id.

In response, Defendant argues that Orphan’s testimony that the modifications were made “recently” was based on his “trained observation” of the safety equipment’s components and the “cleaner” appearance of the limiting switches and wiring. Def. Resp. at 11. According to Defendant, Orphan testified that he had physically “felt the wiring in several locations that had been modified or adjusted,” and concluded that the wires “had been handled recently” and the modifications were of “recent origin” because there was less residue on those components. Id. at 12.

Defendant acknowledges that expert testimony may not be required for the conclusion that cleaner parts could indicate that they are either newer or have been handled more recently than adjacent, dirtier parts. Id. However, Defendant states that expert testimony is required to explain to the jury the “function” of the cleaner parts, and whether those parts are “related to the claim at issue.” Id.

## **2. Discussion**

To the extent that Orphan is offering an opinion that the modifications to the machine were made “recently,” the Court finds that this imprecise and unspecific testimony should be excluded because it would not assist the jury in determining when the modifications were actually made. See Fed. R. Evid. 702(a) (expert witness may testify if the expert’s knowledge “will help the trier of fact to understand the evidence or to determine a fact in issue”); see also United States v. Frazier, 387 F.3d 1244, 1265-1266 (11th Cir. 2004) (finding no abuse of discretion when the district court concluded that an expert’s “imprecise and unspecific” opinion that certain types of evidence “would be expected” would not assist the jury, and observing that the “imprecise opinion easily could serve to confuse the jury, and might well have misled it”); United States v. Thanh Quoc Hoang, 891 F. Supp. 2d 1355, 1358 (M.D. Ga. 2012) (holding that “courts regularly exclude vague and imprecise opinions because they will not assist the trier of fact”).

The third opinion in Orphan’s report that the modifications were made “recently” is facially ambiguous; Orphan does not develop or explain the meaning of “recently,” as it is used in the opinion. A central question the jury will have to decide in this case is who made the modifications to the machine, which could arguably be based on when they were made. As such, this opinion would not assist the jury in determining the actual timing of the modifications

because the jury would be left guessing as to the meaning of “recently.” For this reason, the Court precludes Orphan from testifying that the modifications to the machine were recent.

At the hearing, defense counsel argued that Orphan made his opinion more precise during his deposition by testifying that “recently” meant within the past five years. 9/17/14 Hr’g Tr. at 38-39. Nevertheless, the Court finds that any opinion offered by Orphan that the “recent” modifications were made within five years is neither the “product of reliable principles and methods,” nor a reliable application of such principles to the facts of this case. See Fed. R. Evid. 702(c)-(d).

Although Rule 702 “does not require anything approaching absolute certainty[,]” Tamraz v. Lincoln Elec. Co., 620 F.3d 665, 671 (6th Cir. 2010), it does require that expert testimony must be grounded in “the methods and procedures of science,” and based on more than “subjective belief or unsupported speculation.” Daubert, 509 U.S. at 590. Thus, a district court’s determination of reliability “is not to determine whether [the expert opinion] is correct, but rather to determine whether it rests upon a reliable foundation, as opposed to, say, unsupported speculation.” In re Scrap Metal, 527 F.3d at 529-530. Expert testimony that is merely conjecture should be excluded. See Tamraz, 620 F.3d at 671 (“No matter how good experts’ credentials may be, they are not permitted to speculate.” (brackets, quotation marks, and citation omitted)); United States v. L.E. Cooke Co., Inc., 991 F.2d 336, 342 (6th Cir. 1993) (“Where an expert’s testimony amounts to [a] mere guess or speculation, the court should exclude his testimony, but where the opinion has a reasonable factual basis, it should not be excluded.” (quotation marks omitted)); see also Berry v. Crown Equip. Corp., 108 F. Supp. 2d 743,754 (E.D. Mich. 2000) (where “the proffered expert has performed no reliable testing of his theory, courts, including the Sixth Circuit, have routinely precluded the witness from offering

an expert opinion”). “The more subjective and controversial the expert’s inquiry, the more likely the testimony should be excluded as unreliable.” Fed. R. Evid. 702 advisory committee’s note (2000 amends.) (citations omitted).

Here, Orphan was asked during his deposition how long the diode had been on the machine based on his observations. Orphan Dep. at 79 (Dkt. 57-2). Orphan responded, “I can’t give you years in particular, exactly how many years, but I -- I can see that it’s a new -- newer installation than was original.” Id. And yet, when asked to quantify what he meant by “recent,” Orphan stated that “recent” meant “within the last five years.” Id. at 94. Orphan admits that this opinion is “generalized” and an “estimate.” Id. Orphan further admitted that this opinion is “not scientific” but based on his “experience” and “knowledge,” id. at 107, yet he never explained what method, factors, or analysis he utilized to arrive at his “generalized estimate” of five years. Equally troubling, Orphan acknowledged that he had never been asked to estimate the length of time a part was in use, and he never performed any analysis to determine the age of a component for this type of system prior to this case. Id. at 94, 106.

Notably, Orphan acknowledged that there are methods for determining the age of the diode that were not done in this case, including destructive testing. Id. at 91-93.<sup>2</sup> Orphan further admitted that several factors may impact the speed at which residue accumulates on a machine, including the amount of use, the type of product injected, and the temperature of the product. Id. at 104-105. However, Orphan admitted that he did not determine how any of those factors affected the residue on the subject machine. Id. at 105-106. Orphan also admitted that, aside

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<sup>2</sup> Defendant complains that it was not “allowed” to perform destructive testing of the equipment, an apparent reference to some alleged limitation imposed by Plaintiff. See 9/17/14 Hr’g Tr. at 32-33. However, nothing prevented Defendant from seeking an order from the Court so that its expert could perform destructive testing. Defendant cannot use the argument that it was thwarted in obtaining supportive evidence when it was less than diligent in gathering it.

from visual inspection, he did not perform any testing on the residue, and that he could not determine the age of the residue. Id. at 90.

In light of his deposition testimony, the opinion that the “recent” modifications were made within the past five years appears to be the result of Orphan’s subjective conjecture, unsupported by any reasonable application of a scientific principle or method.

Orphan’s five-year estimation is not inconsequential. As previously noted, a central question for the jury to decide is whether Defendant or Fourstar made the modifications. Defendant sold the subject machine to Fourstar on December 7, 2007. According to Orphan’s report, he investigated the machine on September 7, 2012 and January 18, 2013. Orphan Report at 1 (cm/ecf page). If Orphan believed that the modifications were made within the past five years, based on his initial observations, such modifications could have occurred around the date of the sale. Under these circumstances, the jury could be easily misled by this unsupported opinion regarding the critical fact of when the modifications were actually made.

Because Orphan’s five-year estimation is not the product of a scientific principle or method, the Court concludes that this opinion is unreliable. Therefore, the Court precludes Orphan from testifying that the “recent” modifications to the machine were made within the past five years.

## V. CONCLUSION

For the reasons stated above, the Court grants in part and denies in part Plaintiff’s motion to exclude Defendant’s expert, George Orphan (Dkt. 57). The Court shall permit Orphan to testify as an expert witness on the modifications made to the subject machine’s impact bumper safety system or safety gate limit switches. The Court, however, excludes Orphan’s opinion that the modifications were made “recently” or within the past five years.

SO ORDERED.

Dated: September 24, 2014  
Detroit, Michigan

s/Mark A. Goldsmith  
MARK A. GOLDSMITH  
UNITED STATES DISTRICT JUDGE

**CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing document was served upon counsel of record and any unrepresented parties via the Court's ECF System to their respective email or First Class U.S. mail addresses disclosed on the Notice of Electronic Filing on September 24, 2014.

s/Johnetta M. Curry-Williams  
JOHNETTA M. CURRY-WILLIAMS  
CASE MANAGER