

**UNITED STATES DISTRICT COURT****MIDDLE DISTRICT OF LOUISIANA****LEROY SEXTON****CIVIL ACTION****VERSUS****NO. 17-482-JWD-RLB****EXXON MOBIL CORPORATION,  
ET AL****RULING ON DEFENDANT FLOWSERVE US INC.'S DAUBERT MOTION  
AND/OR MOTION IN LIMINE TO EXCLUDE TESTIMONY OF  
PLAINTIFF'S EXPERT, ROBERT M. ENICK, PH.D.**

Before the Court is the Daubert Motion and/or Motion in Limine to Exclude Testimony of Plaintiff's Expert, Robert M. Enick (Doc. 239) brought by defendant Flowserve US Inc. ("Defendant" or "Flowserve"). It is opposed by plaintiff Leroy Sexton ("Plaintiff" or "Sexton"). (Doc. 259.) Flowserve filed a reply brief. (Doc. 274.) The Court has carefully reviewed the motion and associated memoranda, and, for the following reasons, the motion is denied.

**I. BACKGROUND**

The case arises out of a fire and explosion which occurred at the Exxon Mobil Corporation refinery in Baton Rouge, Louisiana on November 22, 2016. (Doc. 239 at 1.) Plaintiff was among those injured and sues Flowserve as the manufacturer of a plug valve<sup>1</sup> involved in the explosion. Sexton was one of four individuals injured. An L-shaped bracket (also manufactured by Flowserve)<sup>2</sup> was used to mount an actuator/gearbox on top of the plug,

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<sup>1</sup> The valve in question was a series G411 plug valve manufactured by Flowserve's predecessor, The Duriron Company, Inc. (Doc. 239 at 1.) The plug is referred to by Flowserve as "the Flowserve plug valve." (Id. at 3 n.1.) It is also sometimes referred to as the Durco plug valve. (See, e.g., Doc. 259 at 1.)

<sup>2</sup> Doc. 239 at 3 n.1.

along with a handwheel used to manually operate the actuator/gearbox. (Id. at 2.) The plug valve was located in an active pressurized isobutane line. (Id.)

An Exxon worker, Jonathan Zachary (“Zachary”), attempted to open the valve by using the handwheel but found that it was inoperable. (Id. at 1–2.) While the isobutane line was still under pressure, Zachary then began to remove the actuator gearbox in order to gain access to the valve stem which he intended to then open with a wrench. (Id. at 2.) Four vertical bolts secured the L-shaped bracket to the plug but also secured the pressure plate on the plug valve. (Id.)

As described in Flowserve’s motion,

After removing the actuator/gearbox, Zachary used a wrench to turn the now exposed valve stem of the plug valve. Upon doing so, because Zachary had removed the four vertical bolts securing the pressure plate while the isobutane line was still pressurized, pressurized isobutane entered the plug valve causing the plug to be partially and or totally ejected at which point the pressurized isobutane was released into the atmosphere. The isobutane reached an ignition source . . . and a fire and explosion occurred injuring plaintiff.

(Id. at 2-3.) As described in Plaintiff’s opposition,

Unbeknownst to Zachary, the four bolts that connected the bracket to the valve were also the pressure-containing bolts that held the top cap of the valve in place. Although removing the bottom four bolts could result in catastrophic valve failure, with the plug being ejected by the pressure, resulting in the release of whatever potentially toxic or flammable liquid was in the line, there was no warning or instruction on the valve or the actuator to alert Zachary of that danger. Of the 500 block valves with gearboxes in the Alky unit where Zachary worked, only about 3% had this particular design characteristic. On the other 97%, there were no “wrong bolts” associated with the actuator that, if removed, could result in a catastrophic explosion.

(Doc. 259 at 2.)

Plaintiff sues Flowserve under the Louisiana Products Liability Act (“LPLA”), La. R.S. 9:2800.51 et seq., alleging, in part, that Flowserve’s product was unreasonably dangerous in design pursuant to La. R.S. 9:2800.56. (Doc. 239 at 3.) In support of his contentions, Plaintiff

offers expert witness Robert M. Enick, Ph.D. (“Enick”). (Doc. 239 at 4.) Flowserve moves to exclude Enick’s testimony on three grounds. First, Flowserve argues that Enick’s opinion that Flowserve’s design is defective is fatally flawed because he “has not performed the required feasibility analysis” embedded in 9:2800.56. (Id. at 4.) Therefore, “the fact that alternative designs may have existed at the time the Flowserve plug left its control in the 1970s is irrelevant.” (Id.) Second, Flowserve maintains that Enick “is not qualified to provide opinions in this case about alternative designs,” and third, his opinions regarding safer alternative designs “are not based on any methodology or reasoning that is scientifically valid or has been tested.” (Id. at 5.)

## **II. ROBERT M. ENICK, PH.D.**

Robert Enick’s curriculum vitae is found at Doc. 239-14 at 2–50 and Doc. 259-1 at 376–429. His qualifications are summarized at Doc. 239-6 at 3–7 and 259-1 at 3–7. Briefly, he is a professor of Chemical Engineering at the University of Pittsburgh. He has a Ph.D. in Chemical Engineering. He is the former Chairman of the Department of Chemical and Petroleum Engineering at the University of Pittsburgh and is the current Vice-Chair of Research in the same Department. He has training and experience in chemical plant design, including teaching a six-credit senior level course which provides “training on valves, which includes the different types of valves (including plug valves) and actuators, the determination of metal thickness for the valve given its pressure rating, the determination of the number of bolts required to safely retain the pressure boundary, and the selection of appropriate materials of construction for the valve and the seals.” (Doc. 239-6 at 3; 259-1 at 3.)

He provided an extensive report of some 245 pages along nearly 200 pages of appendices. (Docs. 239-2 through 239-5; Doc. 259-1 at 1–429.) In his report, Dr. Enick explains

the operation of the plug valve at issue; explains why it failed; analyzes its probable date of manufacture; recounts prior incidents of catastrophic failures involving plug valves similarly configured to the one at issue here; compares those valves and associated brackets with the one at issue here; discusses 10 alternative designs that existed before the manufacture of the subject valve/bracket and why these designs eliminate the risk that gave rise to the subject accident; and analyzes the cause of the subject explosion/fire. He also provided a two-page affidavit.<sup>3</sup> (Doc. 259-2.)

### **III. ARGUMENTS OF THE PARTIES**

#### **A. Flowserve's Arguments**

##### **1. *Enick's* Failure to Perform Feasibility Analysis**

Flowserve argues that, while Enick provides 10 allegedly safer alternative designs for a plug, these alternative designs are irrelevant because they are not accompanied by a feasibility analysis which is required by La. R.S. 9:2800.56. (Doc. 239 at 4; Doc. 239-1 at 8–12.) La. R.S. 9:2800.56 states:

Unreasonably dangerous in design

A product is unreasonably dangerous in design if, at the time the product left its manufacturer's control:

- (1) There existed an alternative design that was capable of preventing the claimant's damage; and
- (2) The likelihood that the product's design would cause the claimant's damage and the gravity of that damage outweighed the burden on the manufacturer of adopting such alternative design and the adverse effect, if any, of such alternative design on the utility of the product. An adequate warning about a product shall be considered in evaluating the likelihood of

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<sup>3</sup> Because this affidavit is the subject of a motion to strike (Doc. 278), which is opposed (Doc. 288), the Court has not considered it for purposes of the present motion.

damage when the manufacturer has used reasonable care to provide the adequate warning to users and handlers of the product.

The plaintiff must therefore produce evidence showing that “the risk avoided by the alternative design outweigh[s] the burden of its adoption.” (Doc. 239-1 at 8 (citing *Glascovk v. Medical Depot, Inc.*, No. 11-305, 2013 WL 361002, at \*3 (M.D. La. Jan. 29, 2013) (citing *Seither v. Winnebago Indus., Inc.*, 02-2091, p. 4 (La. App. 4th Cir. 7/2/03), 853 So .2d 37, 40; *Krummel v. Bombardier Corp.*, 206 F.3d 548, 552–53 (5th Cir. 2000); *Jones v. Flowserve FCD Corp.*, 73 F. App’x 706 (5th Cir. 2003)). Flowserve argues the following:

[A] plaintiff must produce evidence regarding the frequency of accidents like his own, the economic costs entailed by those accidents, or the extent of the reduction in frequency of those accidents that would have followed on the use of his proposed design . . . [or] the loss of product utility that the use of the alternative design would have occasioned.

(Doc. 239-1 at 9 (quoting *Jones*, 73 F. Appx. at 708-10).)

Flowserve insists that Enick has performed no studies, analysis or research of any of these factors, including the likelihood of incidents like this occurring (Id. at 10), “the frequency with which plant operators come into contact with plug valve with actuator mounting configurations” like the one in question, the costs associated with the alternative design, or the effect on the utility of the product of such alternative designs (Id. at 10–11).

## ***2. Enick’s Qualifications***

Flowserve complains that is “not qualified to render . . . opinions about the existence of alternative designs in the 1970s much less that any such alternative designs were ‘safer’ designs.” (Doc. 239-1 at 13.) Enick’s degree is in the unrelated fields of chemical or petroleum engineering, he is not a professional engineer, never performed outside consulting work involving valve design or manufacturing, and never designed a valve of the kind involved here.

(Id. at 13–15.) He has not published articles on valve design and never had previous experience with a Durco plug valve. (Id. at 15.) He has never had experience with evaluating gearbox bracket configurations and has received no specialized training in this area. (Id. at 15–16.) He has never submitted peer reviewed research or articles on his alternative designs. (Id. at 17.) Therefore, Flowserve maintains he does not have the requisite expertise to render an opinion on these matters.

### **3. Methodology**

Flowserve charges that Enick’s conclusions were reached without the use of “scientific methodology” and, in fact, he applied no “methodology standards.” (Doc. 239-1 at 18.) His “opinions . . . that his proposed alternative designs are ‘safer’ have absolutely no indicia of reliability under Daubert” and should not be allowed. (Id.)

#### **B. Plaintiff’s Arguments**

Plaintiff responds generally that a formal feasibility analysis is not required under the facts of this case but, in any event, one is embedded in his report. Further, Enick’s opinions, set out in an exquisitely detailed opinion of over 200 pages and supported by another 200 pages of appendices, more than meets the Daubert standard of reliability and Enick is well qualified by education, training and experience to render his opinions.

#### **1. Feasibility Study**

Plaintiff begins by emphasizing that, while alternative designs is “one important aspect” of Enick’s testimony, “it is hardly the totality” of same. (Doc. 259 at 6.) Enick also testifies regarding 1) the operation of the plug valve at issue; 2) why it failed; 3) its probable date of manufacture; 4) prior incidents of catastrophic failures involving plug valves similarly configured to the one at issue here; 5) a comparison those valves and associated brackets with

the one at issue here; and 6) the cause of the subject explosion/fire. (Id. at 5.) Regardless of how the Court rules on the challenged part of Enick's opinions (alternative designs), there is no possible basis to exclude these unchallenged parts of his testimony. (Id. at 5–6.)

As to the obligation to perform a feasibility analysis of the alternative designs, Plaintiff argues that an expert is not required to perform that function. Rather, this is a burden placed “on the Plaintiff, not the Plaintiff's expert.” (Id. at 10.) “The plaintiff has to come forward with sufficient evidence for the factfinder to make a finding on each factor, but there is no requirement that each element be proved by expert testimony, much less testimony by the same expert.” (Id.) Plaintiff points the Court to *Lavespere v. Niagra Machine & Tool Works, Inc.*, where the Court said:

As courts in other jurisdictions that have placed on plaintiffs the burden of proof on the risk-utility issue have suggested, there may be cases in which the judge or jury, by relying on background knowledge and “common sense,” can “fill in the gaps” in the plaintiff's case, estimating the extent of the risk avoided, the costs of implementing the proposed change, or the adverse effects of the design modification on the utility of the machine. For this to be possible, however, the product itself, or at least the design feature in question, must be relatively uncomplicated, and the implications of the change in design must be such that a layman could readily grasp them.

910 F.2d 167, 184 (5th Cir. 1990).

Plaintiff also points to similar language in *Krummel v. Bombardier Corp.*, 206 F.3d 548, 552 n.4 (5th Cir. 2000): “A plaintiff may not need to detail and to quantify the risk and utility of a product where the product or the design feature in question is relatively uncomplicated and must be such that a layman could readily grasp them.” (Doc. 259 at 11.) Such, argues Plaintiff, is the case here since each alternative design merely attaches the actuator to the valve in a manner “that does not use all of the pressure-containing bolts to hold the actuator in place.” (Id.)

Furthermore, insists Plaintiff, Enick's report does contain a risk-utility analysis. Each of the ten proposed alternative designs "was marketed and in use by 1971". (Id.) Each of the alternative designs "completely eliminates the risk." (Id. at 11 (citing Ex. 1, Enick Report, Doc. 259-1 at 105–145).) Because the alternative designs involve placing the fasteners in a different location, the redesign can be accomplished inexpensively. Referring specifically to "Safer valve alternative # 5", Enick wrote:

The double nuts with studs variants could have been used with the 1970s Durco FIG.G411 valve that was involved in the accident. This would have been a simple, inexpensive way to make the removal of the operator and wheel and adapter much safer than the bracket associated with the Exxon refinery fire. The double nuts with studs strategy would have required no modification of the Durco FIG.G411 valve body, bonnet, plug or flanges. It would have required the replacement of the bolts with the proper length studs and the purchase of 8 nuts.

(Doc. 259 at 12 (quoting Ex. 1, Enick Report, Doc. 239-1 at 144).)

Indeed, argues Plaintiff, "Flowserve adopted the flange mount system illustrated in 'Safer design alternative # 5' in the early 1980s." (Doc. 259 at 13.) Further, "the evidence shows that someone modified one of the Durco plug valves at Exxon to use the 'studs and two sets of nuts' design in 'Safer valve design # 5' to eliminate the danger from Flowserve's original design, all for the cost of maybe a couple dollars." (Id. at 13-14 (citing Ex. 1, Enick Report, Doc. 259-1 at 140; Ex. 2, Enick Affidavit, Doc. 259-2).)

Insofar as the risk of the design in the accident valve, Plaintiff maintains that both of its experts, Sawyer and Enick, independently "presented ample evidence of the risks associated with Flowserve's design and the risk of serious injury or death demonstrated by similar incidents." (Id. at 13.) Thus, all of the elements of the risk-utility evaluation have been amply presented by this expert and Plaintiff.

## **2. Qualifications**



Plaintiff calls Flowserve’s objection to Enick’s qualifications “patently frivolous.” (Doc. 259 at 14.) Plaintiff points to his “considerable expertise in valves and refineries” (Id. at 14–15 (citing Doc. 259-1 at 3–7, 377–424)), and points to his extensive experience in in-depth research on various topics. (Id. at 15 (citing Doc. 259-1 at 7).) Plaintiff argues that despite the fact that his background is in chemical engineering rather than mechanical engineering, multiple disciplines are allowed to opine on a given subject as long as their training and experience qualify them to do so. (Id. at 16 (citing *Wheeler v. John Deere Co.*, 935 F.2d 1090, 1100 (10th Cir. 1991) (collecting cases); *St. Martin v. Mobil Expl. & Producing U.S.*, 224 F.3d 402, 405-06 (5th Cir. 2000).) Nor is it required that Enick test the alternative designs since “the alternative designs . . . were on the market half a century ago, one of which Flowserve adopted four decades ago.” (Id.) It is not required that an expert personally observe the device in question but can base his opinions on data provided by others. (Id. at 16–17.)

### **3. Methodology**

Plaintiff argues that the methodology utilized by Enick—to research, discover and explain practical and inexpensive alternative designs to the Flowserve product which could totally eliminate the risk without sacrificing utility or increasing cost—was sufficient, and “a quite simple and straightforward methodology that even Flowserve should be able to understand.” (Id. at 15.)

#### **C. Flowserve’s Reply**

Flowserve reiterates its earlier arguments. It concedes that an expert is not required to perform the risk-utility analysis as long as the “product itself, or at least the design feature in question [is] relatively uncomplicated . . . such that a layman could readily grasp” the implications of the design changes. (Doc. 274 at 3 (quoting *Lavespere*, 910 F.2d at 184).) But

Flowserve disagrees with Plaintiff that the product here, and the suggested design changes, are uncomplicated. (Id. at 3–4.) “The Flowserve plug valve is sophisticated mechanical industrial equipment used in advanced technical industrial applications not readily encountered or familiar to any layperson.” (Id. at 3.)

Further, Flowserve disputes Plaintiff’s assertion that his other expert, Sawyer, adds any useful information to the risk-utility issue. (Id. at 4.) Flowserve reiterates its challenge to Enick’s qualifications and, indeed, labels him “uniquely unqualified” and “remarkably unqualified” to render the opinions he has given. (Id. at 6, 10.)

#### **IV. STANDARD**

Flowserve’s motion is a Daubert challenge. See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993). When Daubert is invoked, a district court may, but is not required to, hold a hearing at which the proffered opinion may be challenged. *Carlson v. Bioremedi Therapeutic Sys., Inc.*, 822 F.3d 194, 201 (5th Cir. 2016). However, when no hearing is held, “a district court must still perform its gatekeeping function by performing some type of Daubert inquiry.” *Id.* “At a minimum, a district court must create a record of its Daubert inquiry and ‘articulate its basis for admitting expert testimony.’” *Id.* (quoting *Rodriguez v. Riddell Sports, Inc.*, 242 F.3d 567, 581 (5th Cir. 2001)).

Pursuant to Federal Rule of Evidence 702, “a witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise” if the rule’s preconditions are met. The role of the trial court is to serve as the gatekeeper for expert testimony by making the determination of whether the expert opinion is sufficiently reliable. As the Fifth Circuit has held:

[W]hen expert testimony is offered, the trial judge must perform a screening function to ensure that the expert’s opinion is reliable and relevant to the facts at

issue in the case. Daubert went on to make “general observations” intended to guide a district court’s evaluation of scientific evidence. The nonexclusive list includes “whether [a theory or technique] can be (and has been) tested,” whether it “has been subjected to peer review and publication,” the “known or potential rate of error,” and the “existence and maintenance of standards controlling the technique’s operation,” as well as “general acceptance.” The [Supreme] Court summarized:

The inquiry envisioned by Rule 702 is, we emphasize, a flexible one. Its overarching subject is the scientific validity and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.

Watkins v. Telsmith, Inc., 121 F.3d 984, 988-89 (5th Cir. 1997) (internal citations omitted).

Cases following Daubert have expanded upon these factors and explained that Daubert’s listing is neither all-encompassing nor is every factor required in every case. See, e.g., Gen. Elec. Co. v. Joiner, 522 U.S. 136, 142 (1997); Guy v. Crown Equip. Corp., 394 F.3d 320, 325 (5th Cir. 2004). Indeed, courts may look to other factors. Joiner, 522 U.S. at 146.

As this Court has explained:

The admissibility of expert testimony is governed by Federal Rule of Evidence 702 and Daubert v. Merrell Dow Pharmaceuticals, Inc., which provide that the court serves as a gatekeeper, ensuring all scientific testimony is relevant and reliable. This gatekeeping role extends to all expert testimony, whether scientific or not. Under Rule 702, the court must consider three primary requirements in determining the admissibility of expert testimony: 1) qualifications of the expert witness; 2) relevance of the testimony; and 3) reliability of the principles and methodology upon which the testimony is based.

Fayard v. Tire Kingdom, Inc., No. 09-171, 2010 WL 3999011, at \*1 (M.D. La. Oct. 12, 2010) (internal citations omitted) (citing Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137, 147 (1999)).

This Court has broad discretion in deciding whether to admit expert opinion testimony. See, e.g., Joiner, 522 U.S. at 138-39 (holding that appellate courts review a trial court’s decision

to admit or exclude expert testimony under Daubert under the abuse of discretion standard); Watkins, 121 F.3d at 988 (“District courts enjoy wide latitude in determining the admissibility of expert testimony.”); Hidden Oaks Ltd. v. City of Austin, 138 F.3d 1036, 1050 (5th Cir. 1998) (“Trial courts have ‘wide discretion’ in deciding whether or not a particular witness qualifies as an expert under the Federal Rules of Evidence.”).

“Notwithstanding Daubert, the Court remains cognizant that ‘the rejection of expert testimony is the exception and not the rule.’” Johnson v. Samsung Elecs. Am., Inc., 277 F.R.D. 161, 165 (E.D. La. 2011) (citing Fed. R. Evid. 702 Advisory Committee Note to 2000 amendment.) Further, as explained in Scordill v. Louisville Ladder Group, L.L.C.:

The Court notes that its role as a gatekeeper does not replace the traditional adversary system and the place of the jury within the system. As the Daubert Court noted, “[v]igorous 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.” The Fifth Circuit has added that, in determining the admissibility of expert testimony, a district court must defer to “‘the jury’s role as the proper arbiter of disputes between conflicting opinions. As a general rule, questions relating to the bases and sources of an expert’s opinion affect the weight to be assigned that opinion rather than its admissibility and should be left for the jury’s consideration.’”

No. 02-2565, 2003 WL 22427981, at \*3 (E.D. La. Oct. 24, 2003) (Vance, J.) (internal citations omitted) (relying on, among others, Rock v. Arkansas, 483 U.S. 44, 61 (1987), and United States v. 14.38 Acres of Land, More or Less Sit. In Leflore Cty., 80 F.3d 1074, 1077 (5th Cir. 1996)).

The Supreme Court has recognized that not all expert opinion testimony can be measured by the same exact standard. Rather, the Daubert analysis is a “flexible” one, and “the factors identified in Daubert may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert’s particular expertise, and the subject of his testimony.”

Kumho, 526 U.S. at 150 (cited with approval in *Pipitone v. Biomatrix, Inc.*, 288 F.3d 239, 244 (5th Cir. 2002)).

“As a general rule, questions relating to the bases and sources of an expert’s opinion affect the weight to be assigned that opinion rather than its admissibility and should be left for the jury’s consideration.” *United States v. 14.38 Acres of Land More Or Less Situated in Lefore Cty.*, 80 F.3d at 1077 (quoting *Viterbo v. Dow Chemical Co.*, 826 F.2d 420, 422 (5th Cir. 1987)); see also *Imperial Trading Co. v. Travelers Property Cas. Co. of America*, No. 06-4262, 2009 WL 2356292, at \*3 (E.D. La. July 28, 2009). Furthermore, “[m]atters left for the jury’s consideration include the alleged miscalculations, erroneous assumptions, and inconsistencies that plaintiffs object to.” *Imperial Trading*, 2009 WL 2356292, at \*3 (citing *Southwire Co. v. J.P. Morgan Chase & Co.*, 258 F. Supp. 2d 908, 935 (W.D. Wis. 2007)).

## **V. DISCUSSION**

### **A. Qualifications**

Federal Rule of Evidence 702 requires that an expert be properly qualified. Generally, if there is some reasonable indication of qualifications, the court may admit the expert’s testimony and then leave to the jury the extent of those qualifications. *Rushing v. Kansas City S. Ry. Co.*, 185 F.3d 496, 506 (5th Cir. 1999), superseded by statute on other grounds. Furthermore, “Rule 702 does not mandate that an expert be highly qualified in order to testify about a given issue. Differences in expertise bear chiefly on the weight to be assigned to the testimony by the trier of fact, not its admissibility.” *Carlson*, 822 F.3d at 199 (quoting *Huss v. Gayden*, 571 F.3d 442, 452 (5th Cir. 2009)). The Supreme Court in *Kumho Tire*, 526 U.S. at 148-149, 156, and

Daubert, 509 U.S. at 592, endorsed expert testimony based on personal observation and experience.<sup>4</sup>

Here, Enick more than meets the Rule 702 and Daubert threshold for expertise in the areas where he has rendered his opinions. He has a Ph.D. in Chemical Engineering. He is the former Chairman of the Department of Chemical and Petroleum Engineering at the University of Pittsburgh and is the current Vice-Chair of Research in the same Department. His curriculum vitae runs over 50 pages (Doc. 259-1 at 376–427) and, while it is true that the majority of his training and experience seems to be in chemical engineering, he also has training and experience in chemical plant design and touts specific training and experience with valves, including plug valves. This includes teaching a six-credit senior level course which provides:

[T]raining on valves, which includes the different types of valves (including plug valves) and actuators, the determination of metal thickness, given its pressure rating, the determination of the number of bolts required to safely retain the pressure boundary, and the selection of appropriate materials of construction for the valve and the seals.

(Doc. 239-6 at 3; 259-1 at 3.) He “developed the entire chemical engineering unit operations (i.e. equipment) laboratory” which incorporated six plug valves of various kinds. (Id.) He built and maintains for his own research and that of graduate students a research laboratory which includes valves. (Id. at 4.) He worked with another professor and \$7,000,000 of funding to develop a laboratory which includes a “continuous flow-plug reactor.” (Id.)

Flowserve insists, however, that Enick’s degree is in the unrelated field of chemical engineering, he is not a professional engineer, never performed outside consulting work involving valve design or manufacturing, and never designed a valve of the kind involved here (Id. at 14-15), and is therefore “uniquely unqualified” and “remarkably unqualified.” (Doc. 274

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<sup>4</sup> See also *LeBlanc v. Chevron USA, Inc.*, 396 F. App’x. 94, 100 (5th Cir. 2010) (per curiam) (unpublished).

at 6-7.) The Court disagrees. The fact that another discipline, mechanical engineering for example, may also provide training that would qualify an expert in this area, doesn't disqualify those outside the field of mechanical engineering. It is not uncommon for multiple disciplines to have overlapping areas of expertise. And, as long as the expert is sufficiently trained, educated or knowledgeable about a given subject matter, he may opine in that area even if other disciplines also exercise expertise on the matter. So, for instance, "[a] medical degree is not a prerequisite for expert testimony relating to medicine . . . [W]e have held that scientists with PhDs were qualified to testify about fields of medicine ancillary to their field of research." Carlson, 822 F.3d at 200. See also *St. Martin v. Mobil Offshore & Expl. & Producing, U.S.*, 224 F.3d 402, 405–06, (5th Cir. 2000) (explaining that witness' expertise in marshland ecology along with personal observation of property in question sufficiently qualified him as an expert on servitude owner's damage to marshland, even though not trained as a hydrologist). "In a products liability action, an expert witness is not strictly confined to his area of practice, but may testify concerning related applications; a lack of specialization does not affect the admissibility of the opinion, but only its weight." *Wheeler*, 935 F.2d at 1100 (collecting cases).

Courts have rejected the notion that the Federal Rules of Evidence require an expert to have previously opined on a specific issue to be qualified as an expert on that issue. See, e.g., *BP Expl. & Prod., Inc. v. Callidus Techs., L.L.C.*, No. 02-2318, 2003 WL 26118097, at \*1–2 (E.D. La. Apr. 8, 2003) (rejecting argument that expert was not qualified to opine on specific field of "flare tip design" where the expert had a general knowledge of engineering and combustion systems); *Watson v. Snap-On Tools, Inc.*, No. 04-1313-A, 2006 WL 2114558, at \*6 (W.D. La. Jul. 26, 2006) (holding that an expert qualified in failure analysis but not in general manufacturing, did have sufficient understanding of manufacturing processes to explain how

such processes affect failure analysis and could offer reliable opinions). See also *Tingle v. Hebert*, No. 15-626, 2018 WL 2287028, at \*4 (M.D. La. Apr. 23, 2018).

The Court also notes that, with respect to the level of expertise required, the alternate designs which form the basis for Enick's opinions are not ones that he has created in the abstract or that he has created at all. They are not ones that are untested and in fact have been put into general use. They are designs which in some cases are decades old and in some cases have been in use at the Exxon refinery where the accident took place. Indeed, **"Durco actually manufactured 4 of these 10 designs in the 1960s, including 3 safer plug valves and a safer butterfly valve (also a block valve like a plug valve.)"** (Doc. 259-1 at 146 (emphasis in original).) And the concept involved in the allegedly safer designs is not highly sophisticated but starts with the simple premise that when one removes bolts to access a valve, the bolts should not, when loosened, allow pressurized and flammable gas to escape where they can ignite and explode.

In summary, the Court finds that Enick is well qualified to testify in the areas outlined in his report, and the Court denies Flowserve's motion in this regard.

### **B. Methodology**

Flowserve charges that Enick's conclusions were reached without the use of "scientific methodology" and, in fact, he applied no "methodology standards." (Doc. 239-1 at 18.) His "opinions . . . that his proposed alternative designs are 'safer' designs have absolutely no indicia of reliability under Daubert" (id.), and should not be allowed. The Court disagrees. As stated earlier in this ruling, the Daubert analysis is a "flexible" one, and "the factors identified in Daubert may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert's particular expertise, and the subject of his testimony." *Kumho*, 526 U.S. at 150 (cited



with approval in *Pipitone v. Biomatrix, Inc.*, 288 F.3d 239, 244 (5th Cir. 2002)). Cases following *Daubert* have expanded upon these factors and explained that *Daubert*'s listing is neither all-encompassing nor is every factor required in every case. See, e.g., *Joiner*, 522 U.S. at 142; *Guy*, 394 F.3d at 325. Rather, courts may look to other factors. *Joiner*, 522 U.S. at 146.

Here, Enick provided an extensive report of some 245 pages supported by nearly 200 pages of appendices. (Docs. 239-2 through 239-5; Doc. 259-1 at 1–429.) In his report, Enick evaluates the plug valve at issue; explains why it failed; analyzes its probable date of manufacture; recounts prior incidents of catastrophic failures involving plug valves similarly configured to the one at issue here; compares those valves and associated brackets with the one at issue here; discusses at length the 10 alternative designs that existed before the manufacture of the subject valve/bracket and explains how and why these designs eliminate the risk that gave rise to the subject accident; and, finally, analyzes the cause of the subject explosion/fire. The Court finds that Enick's methodology passes *Daubert* muster.

### **C. Feasibility Analysis**

Both Plaintiff and Defendant agree that in a products liability action based on design, the plaintiff must produce evidence not just of alternative designs but that “[t]he likelihood that the product’s design would cause the claimant’s damage and the gravity of that damage outweighed the burden on the manufacturer of adopting such alternative design and the adverse effect, if any, of such alternative design on the utility of the product.” La. R.S. 9:2800.56(2). Both parties agree that this feasibility or risk-utility evidence need not be by way of expert testimony as long as “the product itself, or at least the design feature in question, [is] relatively uncomplicated, and the implications of the change in design must be such that a layman could readily grasp them.” (Doc. 274 at 3(emphasis omitted); Doc. 259 at 11 (both quoting *Lavespere*, 910 F.2d at

184.). Plaintiff also points to similar language in Krummel, 206 F.3d at 552, n. 4: “A plaintiff may not need to detail and to quantify the risk and utility of a product where the product or the design feature in question is relatively uncomplicated and must be such that a layman could readily grasp them.” (Doc. 259 at 11.) Where the parties disagree is whether the “design feature in question” is “relatively uncomplicated . . . such that a layman could readily grasp them.”

It may be true, as Flowserve suggests, that “[t]he Flowserve plug valve is sophisticated mechanical industrial equipment used in advanced technical industrial applications not readily encountered or familiar to a layperson.” (Doc. 274 at 3.) But Enick’s opinions do not concern the operation of the valve and that is not the “design feature in question.” Rather, the “design feature in question” is the manner in which the actuator and gear housing were fastened to the valve. As Flowserve explains in its motion:

While in the process of removing the actuator gear housing, instead of removing the two horizontal bolts that attached [the] gearbox to the L-shaped bracket, Zachary removed the four [bolts] that secured the L-shaped bracket to the plug valve and which also secured the pressure plate on the plug valve. . . . [B]ecause Zachary had removed the four vertical bolts securing the pressure plate while the isobutane line was still pressurized, pressurized isobutane entered the plug valve causing the plug to be partially and or totally ejected at which point the pressurized isobutane was released into the atmosphere. The isobutane reached an ignition source . . . and a fire and explosion occurred injuring plaintiff.

(Doc. 239 at 2-3.) As described in Plaintiff’s opposition,

Unbeknownst to Zachary, the four bolts that connected the bracket to the valve were also pressure-containing bolts that held the top cap of the valve in place. Although removing the bottom four bolts could result in a catastrophic valve failure, with the plug being ejected by the pressure, resulting in the release of whatever potentially toxic or flammable liquid was in the line, there was no warning or instruction on the valve or the actuator to alert Zachary of that danger. Of the 500 block valves with gearboxes in the Alky unit where Zachary worked, only about 3% had this particular design characteristic. On the other 97%, there were no “wrong bolts” associated with the actuator that, if removed, could result in a catastrophic explosion.

(Doc. 259 at 2.)

The heart of Enick's report states:

Unlike the valves involved in the Exxon/Mobil (and Primex and Amoco) fire, none of the 10 safe alternative valves could have a plug ejection due to operator error related to the removal of the bracket and/or actuator. All 10 alternative safer designs were available before the valve involved in the ExxonMobil refinery incident left Durco's control. **There was simply no need for Durco to manufacture a valve where 2/3 of the bolts associated with the bracket were so dangerous to incorrectly remove that the plug could be ejected from the valve body and a massive, rapid release of flammable fluids would have prevented plug ejection. There were 10 safer preexisting alternatives that would have prevented plug ejection; 7 of these options had no "incorrect-to-remove" bolts at all, and the other 3 bolts did have "incorrect-to-remove" bolts but also had extra bonnet bolts that would have prevented plug ejection even if the incorrect bolts were removed. Durco actually manufactured 4 of these 10 designs in the 1960s, including 3 safer plug valves and a safer butterfly valve (also a block valve like a plug valve.) Therefore, the valve involved in the 2016 Baton Rouge fire was not only dangerous, but unreasonably dangerous because there were so many other safer options available before 1971.**

(Doc. 259-1 at 146 (emphasis in original).)

The Court therefore feels that placement of bolts for the removal of the actuator/gear housing in such a way such that they could not be confused with bolts holding the pressure plate of the valve is the kind of design feature that is "relatively uncomplicated" such that "a layman could readily grasp them" without expert testimony. *Krummel*, 206 F.3d at 552 n. 4. See also *McDaniel v. Terex USA, L.L.C.*, 466 F. App'x 365, 377 (5th Cir. 2012) ("This case does not demand a complex, statistical risk-utility analysis" where "a jury could reasonably find that covering or moving the [inner Kelly float] pedal [of a drill bit] would enhance safety without incurring prohibitive cost or sacrificing utility."); *Thibodeaux v. Wellmate*, No. 12-1375, 2016 WL 3144374, at \*2 (E.D. La. June 6, 2016) (noting that the proposed alternative design to the bladder of a water pressure tank was "in wide use" and concluding that "[t]his is the kind of case in which the design feature in question, attachment of the bladder to the bottom of the tank,

is relatively uncomplicated and the implications of the change in design is such that a layman could readily grasp them. Therefore, this is a case in which expert testimony on the alternative design is not necessary.”)

But even if this were not so and the risk utility evidence would need to come in by way of expert testimony, such evidence is contained and discussed in Enick’s report. For instance, at Doc. 259-1, at pages 16–40 and 184–229, Enick discusses and supports in graphic detail the massive monetary damages, multiple deaths and serious injuries associated with similar incidents at a Primex PVC plant in Puebla, Mexico in 1977 and at an Amoco plant in New Castle, Delaware in 1980. As to cost and utility, he also shows discusses that there were “simple, inexpensive” alternative designs that would have eliminated the risk entirely and “required no modification of the Durco FIG.G411 valve body, bonnet, plug or flanges. It would have required the replacement of the bolts with the proper length studs and the purchase of 8 nuts” and possibly a “slight elongation of the slots of the L-bracket.” (Doc. 259-1 at 144.) Enick also writes that “the evidence shows that someone modified one of the Durco plug valves at Exxon to use the ‘studs and two sets of nuts’ design in ‘Safer valve design # 5’ to eliminate the danger from Flowserve’s original design, all for the cost of maybe a couple of dollars.” (Doc. 259 at 13-14.)

In summary, the Court reject’s Flowserve’s challenge to Enick’s testimony based on his alleged failure to do a risk-utility analysis. None of this is to say that Enick’s opinions are correct. That is for the jury to decide. But the opinions meet the reliability standard set by Daubert and therefore Flowserve’s motion is denied.

## **VI. CONCLUSION**

For the foregoing reasons, Flowserve's Daubert Motion and/or Motion in Limine to Exclude Testimony of Plaintiff's Expert, Robert M. Enick (Doc. 239) is **DENIED**.

Signed in Baton Rouge, Louisiana, on September 4, 2020.



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**JUDGE JOHN W. deGRAVELLES  
UNITED STATES DISTRICT COURT  
MIDDLE DISTRICT OF LOUISIANA**