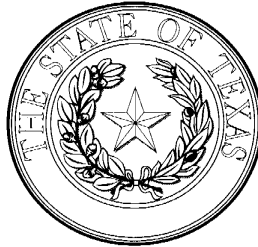


Opinion issued August 10, 2023



In The
Court of Appeals
For The
First District of Texas

NO. 01-21-00455-CV

FMC TECHNOLOGIES, INC., Appellant

V.

RICHARD MURPHY AND DRIL-QUIP, INC., Appellees

**On Appeal from the 127th District Court
Harris County, Texas
Trial Court Case No. 2020-63081**

OPINION

Appellant, FMC Technologies, Inc. (“FMC”), challenges the trial court’s judgment, entered after a jury trial, in its suit against appellees, Richard Murphy and Dril-Quip, Inc. (“Dril-Quip”) (collectively, “appellees”), for misappropriation of

trade secrets under the Texas Uniform Trade Secrets Act (“TUTSA”).¹ In three issues, FMC contends that the trial court erred in admitting certain expert testimony and in instructing the jury and the evidence is factually insufficient to support the jury’s findings as to trade secrets.

We affirm.

Background²

Parties’ Pleadings

In its first amended petition, FMC explained that its suit concerned technology involving subsea tree systems, which “are used on underwater oil wells to monitor and control production.” According to FMC, in an underwater oil field, “multiple wells are drilled in the seabed surrounding a central collection manifold.” Subsea tree systems are “mounted on top of each well and connected to the manifold” to

¹ See TEX. CIV. PRAC. & REM. CODE ANN. §§ 134A.001–.008.

² We note that portions of the appellate record were filed under seal pursuant to an order of the trial court. See TEX. R. CIV. P. 76a. Because of the sealing order, some of our references to the record are deliberately vague. See *TMX Fin. Holdings, Inc. v. Wellshire Fin. Servs., LLC*, 515 S.W.3d 1, 4 n.1 (Tex. App.—Houston [1st Dist.] 2016, pet. denied); *Kartsotis v. Bloch*, 503 S.W.3d 506, 510 (Tex. App.—Dallas 2016, pet. denied). Nonetheless, we have a responsibility to the public as an appellate court to resolve disputes through public opinions that explain our decisions based on the record. See TEX. R. APP. P. 47.3 (“All opinions of the courts of appeals are open to the public and must be made available”); *TMX Fin. Holdings*, 515 S.W.3d at 4 n.1. To the extent that we include any sensitive information in this memorandum opinion, we do so only to the degree necessary to strike a fair balance between the parties’ interest in keeping portions of the record confidential and our responsibilities to the public as an appellate court. See *TMX Fin. Holdings*, 515 S.W.3d at 4 n.1.

regulate the flow of oil from the well to the surface. A subsea tree system uses “electrical and hydraulic components” to monitor production. It is installed onto a wellhead by “lower[ing]” it onto a tubing hanger, which is “a structure locked inside the well” through which the electrical and hydraulic components are run.

Before the advent of the “orientation-free” subsea tree design at issue in this suit, the connection between the subsea tree system and the tubing hanger was achieved manually, by placing a “tubing spool” between the tree and the tubing hanger to orient the tree and hanger during their installation. That process, which required precise alignment, “[wa]s fraught with difficulty, time-intensive, and expensive.” With an “orientation-free” design, though, the subsea tree system could “properly align” and connect with the tubing hanger “without the cumbersome manual process.”

FMC alleged that it had “spent years developing” its design for an orientation-free subsea tree system (the “ITW system”). The design included a free orientation ring that rotated to align the electrical and hydraulic component connections at the bottom of the tubing hanger to the corresponding connections at the top. FMC’s design also “reroute[d] the fluid flow” away “from the . . . electrical and hydraulic component connections” to reduce the “risk of internal fluid exposure.”

According to FMC, it protected the “secrecy of its proprietary information” by using “common or industry standard” methods. And it “guard[ed] the confidentiality” of the “proprietary technical information, drawings, specifications, and designs” that it “included in its patent applications” while the patent applications were pending.

FMC further alleged that in 2016, Murphy was FMC’s chief product developer. He had been “intimately involved in FMC’s internal product research and development [(‘R&D’)] and had access to a wide array of FMC’s highly sensitive, confidential, and proprietary information and trade secrets, including the [ITW system].”

In May 2018, FMC demoted Murphy “based on his poor performance.” Earlier that year, Dril-Quip, a competitor, had hired a former FMC vice president, Chris Bartlett, to be its “Director of Technology.” Murphy and Bartlett “kept in touch” after Bartlett left “for Dril-Quip.”

According to FMC, Murphy, over the next year, transferred computer files containing “FMC’s trade secrets and confidential information” to his “personal devices and accounts” “to share with Dril-Quip.” Murphy “even secretly sent” Bartlett a copy of FMC’s “unpublished patent application” for its ITW system, which contained detailed drawings, schematics, diagrams, and instructions for its assembly. Yet “Dril-Quip did not alert FMC of the improper disclosure by Murphy.”

Instead, it arranged a “meeting with Murphy and extended him an offer of employment” on May 20, 2019.

Murphy accepted Dril-Quip’s offer and gave notice to FMC. On May 28, 2019, FMC held an exit interview with Murphy, at which “Murphy signed an acknowledgement of his continuing obligation to preserve the confidentiality of FMC’s proprietary information and trade secrets” and “attested that he had returned all work-related materials to FMC.”

According to FMC, at Dril-Quip, Murphy was assigned “to lead an engineering team tasked with developing a virtually identical competing product.” Murphy then used FMC’s proprietary, confidential, and “trade secret information” at Dril-Quip to develop and implement “numerous features” of the ITW system “that FMC had spent numerous years and millions of dollars to research, design, and develop.” Dril-Quip “transform[ed]” its “planned next-generation subsea tree- [system] into a copycat” of FMC’s ITW system.

FMC alleged that it first learned about Murphy and Dril-Quip’s “trade secret misappropriation” at the May 2020 Offshore Technology Conference (“OTC”), where “Dril-Quip presented a white paper” in which it “previewed a subsea tree system” that it called the “VXTe Subsea Tree” (the “VXTe system”). FMC described “the diagram of Dril-Quip’s VXTe system” contained in Dril-Quip’s white

paper as “virtually identical to FMC’s [ITW system]” contained in the unpublished patent application that Murphy had shared with Bartlett.

After the May 2020 OTC, FMC “conducted a forensic investigation” and found emails that Murphy had sent to Bartlett in which Murphy had “disclos[ed]” FMC’s “proprietary information and trade secrets.” In the meantime, Dril Quip had begun “marketing [its] VXTe system for imminent sale at trade shows, on its website, and on various social media outlets.”

FMC alleged that because of Dril-Quip and Murphy’s “willful and malicious theft of FMC’s trade secrets,” Dril-Quip was able to make its “copycat VXTe system” available for purchase before FMC could produce its ITW system, which gave Dril-Quip a significant “market advantage.” FMC argued that it was entitled to an injunction to “prevent Dril-Quip from irrevocably flooding the market with its illegally developed VXTe system” because without injunctive relief, Dril-Quip would “steal market share, customer goodwill, and positive reputation” and thus cause FMC irreparable harm.

FMC brought claims against Murphy and Dril-Quip under the TUTSA for misappropriation of trade secrets. It also sought relief from “the unjust enrichment gained by Murphy and Dril-Quip” allegedly from their misappropriation, including “disgorgement of Murphy’s compensation paid,” “Dril-Quip’s profits received,” and its “[R&D] saved.” FMC also sought actual and exemplary damages, attorneys’

fees, pre- and post-judgment interest, and court costs.³ And FMC requested temporary and permanent injunctive relief to stop “Murphy and Dril-Quip from further violating [the TUTSA].”

In his first amended answer, Murphy generally denied FMC’s allegations against him and specifically pleaded various affirmative defenses, including waiver, estoppel, quasi-estoppel, and laches. Murphy also argued that FMC’s claims against him were “barred, in whole or in part, because the alleged trade secrets identified by FMC” were “independently developed by others,” including Dril-Quip, and FMC had not protected them “through reasonable efforts designed to prevent their disclosure.” Further, Murphy asserted that FMC had “abandoned any attempt to develop or use the alleged trade secrets” and “failed to exercise reasonable care to minimize and mitigate its alleged damages, if any.” And he “was legally entitled to use at Dril-Quip any technical knowledge, skill, and experience he acquired during his employment at FMC” and “was entitled to the ownership of any improvements or technical innovations that he himself devised.”

In its second amended answer, Dril-Quip generally denied FMC’s allegations against it and asserted that FMC’s claims were “barred, in whole or in part, by the doctrines of waiver, estoppel, and quasi-estoppel.” Dril-Quip also argued that

³ See *id.* §§ 134A.004–.005.

FMC's alleged trade secrets were not trade secrets because they were "generally known by others," "were known in the art," "were intentionally published by [FMC]," "were readily ascertainable through other proper means," had been "independently developed by others, including but not limited to Dril-Quip," and had not been "protected through reasonable efforts designed to prevent their disclosure." And Dril-Quip argued that FMC's claims were barred because Dril-Quip had "an express or implied license to one or more of the alleged trade secrets," "the alleged trade secrets" that FMC had identified "were not acquired by Dril-Quip," and Dril-Quip "did not know and had no reason to know that any such trade secrets were acquired through improper means, if at all."

Trial Evidence

Orientation-free subsea tree system design and development

At trial, Murphy testified that he began working at FMC in August 1996 as a design engineer. He "progressed up through the ranks rather quickly" and eventually became chief engineer. In that role, he had "global technical responsibility over the subsea tree product line, as well as standardization efforts for that product line."

Murphy's "entire career" at FMC was "within the [subsea] tree product line." He was listed as the inventor in about "ten patents or patent applications" for FMC's subsea tree equipment, and his development work led to all of FMC's "major" subsea tree equipment.

Murphy first “came up with th[e] concept” of an orientation-free subsea tree design at FMC in mid to late 2016. Murphy had FMC’s engineering team “d[o] a couple of alpha tests,” and in 2017, they “made a pitch to [FMC’s] executive management team” with their “concept model.” But the executive management team thought that the concept “was too radical.” They “didn’t think clients would accept it and they instructed” Murphy’s team “to shelve it.” Paolo Cuoto, FMC’s vice president of engineering and the “top manager” for FMC’s “Subsea 2.0” committee, wrote a summary of the meeting that stated that the “[c]oncept being developed was not robust enough and w[as] put on hold in order to free up resources to focus on the horizontal tree design.” The engineers who had created the concept model issued a report stating that the Subsea 2.0 committee had decided “to deselect this concept from further development due to reliability concerns and operational risk concerns.” (Internal quotations omitted). For the rest of 2017 and through at least June 2018, “no work was done” at FMC on the orientation-free subsea tree concept.

Sometime in June 2018, Chris Felt, who was Murphy’s supervisor at the time, called Murphy “on [his] day off to explain” that FMC “was going to replace [him] immediately” on the project that Murphy had been working on. Felt did not tell Murphy “what was next” for him and left Murphy “in limbo” for about three weeks. During that time, Murphy began “exploring” to find out “what opportunities were

out there in case [he] did get let go.” Murphy met with people at Dril-Quip, including Bartlett, his former FMC colleague, to investigate “whether [Dril-Quip] was a good fit for [him] and vice versa.” But Dril-Quip “had no opportunities” at that time.

FMC eventually moved Murphy into a “technical advisory” role. From fall 2018 until May 2019, Murphy was a chief product developer focused on developing the ITW system. After having tried “two or three” times to convince FMC to file a patent application, he “finally just dug [his] heels in” and “was able to submit” a patent application for the ITW system in December 2018. He was listed as the ITW system’s inventor on FMC’s patent application.

On May 13, 2019, Murphy learned from Bartlett that Dril-Quip had independently developed and patented its own orientation-free subsea tree system. Murphy was incensed. He told Bartlett that Dril-Quip’s patent had “nullifie[d] the work” that Murphy had been doing for “over three years at FMC.” And in an email to FMC’s in-house attorney, Murphy stated that he was “pissed at [him]self for not pushing hard enough on legal” to file the ITW system patent application sooner. (Internal quotations omitted.)

Murphy forwarded to Bartlett a copy of the email that he had sent to FMC’s attorney. Murphy also sent Bartlett a copy of the ITW system patent application, which he “mistakenly thought” had already been published. Murphy explained that

he was confused because he had several patent applications in various stages of the patenting process at the time. But once Murphy realized that the ITW system patent application had not been published, he immediately called Bartlett and “told him to delete it and not to give the contents of it to anybody.”

Murphy then evaluated the prospects for his future at FMC. He considered that FMC had not supported his work developing an orientation-free subsea tree system and, now that Dril-Quip had the patent for one, “[t]here was not a next project” at FMC for him and he was “not going to have a job.” So, he reapproached Bartlett about the possibility of being hired by Dril-Quip.

After some negotiations, Murphy accepted a job offer from Dril-Quip to “oversee[] the Trident project,” which included the VXTe system. Murphy had his exit interview with FMC in late May 2019, and following that interview, he “deleted all the files” on his personal external hard drive. On that drive, he had stored “personal files,” “things related to [his] patent applications,” “customer information,” “industry standards,” his “templates for all [his] Mathcad files,” and other “engineering calculation template[s]” that he had made while at FMC. Murphy started work at Dril-Quip on June 10, 2019.

FMC’s technical expert, Gary Wooley, a petroleum and mechanical engineering consultant, testified that as of May 2019, FMC’s ITW system illustration included “[t]he combination of . . . features” that, according to FMC, was

a trade secret. Those features included “the flow path of annulus fluid in the production stab as well as the flat-to-flat lock ring and the automatic space-out mechanism in the tubing hanger.” According to Wooley, those three features were not in the design of Dril-Quip’s VXTe system “before Dril-Quip hired Murphy.”

Wooley noted that when Murphy left FMC, he took “quite a few files” that showed the features of FMC’s ITW system. And by September 2019, “Dril-Quip had modified its [VXTe system] design to have the fluid flowing through the production stab, flat to flat lock rings, and a space out mechanism.” Dril-Quip filed an update of its VXTe system patent application with those features on December 4, 2020.

Wooley observed that the use of a flat-to-flat lock ring, standing alone, was not an FMC trade secret. It was “a separate feature” that, he acknowledged, was “well known” to skilled engineers in the field and was one of two types of lock rings that could be used to lock the tubing hanger to the wellhead. Wooley noted that “[d]epending on the specific application and need,” a skilled engineer with his level of skill and experience would know when to use each type of lock ring.

Wooley also acknowledged that placing the annulus in the production stab was “something that’s been known as a separate feature for some time” for subsea as well as “other applications.” He agreed that there were three basic solutions to routing the annulus, and he stated that “most engineers would know” those options.

And, according to Wooley, space-out mechanisms had “been known in the industry” as a separate feature “for a while” as well. Using a space-out mechanism to “solve th[e] vertical distance” problem caused by “remov[ing] the lead impression trip” on a subsea tree was “a natural solution.”

Wooley stated that an engineer with his level of skill and experience could, by looking at the orientation-free subsea tree design, be able to determine that a flat-to-flat lock ring, placing an annulus through the production stab, and an automatic space-out mechanism would improve the design. Wooley acknowledged that Murphy, whose level of skill and experience was like his own, would also have been able to do so.

Blake DeBerry testified that he became Dril-Quip’s chief executive officer in 2011. At the time, he considered that Dril-Quip, a smaller company in the subsea tree market, could not increase its market share without changing course from selling its existing subsea tree system components to its customers. Dril-Quip’s “subsea tree technology was not really differentiated” and did not offer any features that were not otherwise “available in the market.” So, in 2012, DeBerry “reinvigorate[d]” Dril-Quip’s R&D efforts by challenging its engineers “to design products that structurally change[d] how [its] customers drill[ed] wells in order to provide them permanent cost savings.”

“As part of the R&D effort, [DeBerry] met biweekly with specific R&D project teams.” And in March 2017, he met with the subsea tree project team. They had a brief discussion about feedback Dril-Quip had received from a customer that wanted a subsea tree system that could “land the tubing hanger in the wellhead without regard to its orientation and then land the tree at any orientation that [it] desired.” DeBerry went to the white board in the conference room and “just started sketching.” The concept he sketched, if realized, would eliminate the need to install a tubing spool “to orient the tubing hanger” and land it on top of the wellhead. Under the existing design, the cost per wellhead to orient a tubing hanger was about \$2 million for the tubing spool and \$1.5 to \$2 million for installation, so eliminating the need for a tubing spool would result in substantial savings for subsea oil and gas producers.

After sketching his orientation-free concept on the whiteboard, DeBerry “charged all the engineers to take th[at] idea and . . . come up with as many” ways to use it as they could. The concept was developed into the VXTe system, which “change[d] the way that [Dril-Quip’s] customers drill[ed] wells.”

Jim Kaculi testified that he became Dril-Quip’s vice president of engineering in 2015. He attended the meeting where DeBerry had sketched the orientation-free concept. He took a photograph of DeBerry’s sketch and assembled a team of about ten Dril-Quip designers and engineers to work on the project.

In April 2019, Dril-Quip finished its “final prototype” of the VXTe system and showed the prototype to its customers. Kaculi got the design patented for Dril-Quip. According to Kaculi, Dril-Quip hired Murphy “to finalize the tools that were related to the VXTe [system]” so that it could be delivered to Dril-Quip’s customers.

Greg Norwood testified that he was the director of technology and R&D at Dril-Quip. Norwood was involved with the development of the VXTe system “from the very beginning in 2017.” According to Norwood, Dril-Quip had independently developed the VXTe system and had not used any FMC technology.

Norwood explained that he had also attended the 2017 meeting where DeBerry sketched his orientation-free subsea tree system concept. “Right after that meeting,” about eight attendees formed three smaller design teams. Norwood led one of those teams. They worked on the concept and filed a patent application for it in October 2017.

The components of FMC’s alleged combination trade secret—placing the annulus through the production stab and using a flat-to-flat lock ring and an automatic space-out mechanism on an orientation-free subsea tree system—were all “outlined” in Dril-Quip’s VXTe system design before Murphy arrived at Dril-Quip in 2019. The VXTe patent application listed multiple ways of achieving self-orientation functionality. One of those ways described placement of the annulus

through the production stab, a method that Dril-Quip had used in several earlier subsea tree systems.

After the VXTe patent application was filed, the Dril-Quip design teams “started working on the critical new stuff” for the VXTe system, i.e., “the twisting” of the coil “tubing and relying on the top and bottom to rotate independently to achieve the alignment.” That testing, which occurred in early 2018, was successful.

Dril-Quip then spent “four to six months” building “a full[-]sized prototype” of the VXTe system. By August 2018, Dril-Quip had considered a concept using a “flat-to-flat lock” ring with an automatic space-out mechanism.

Dril-Quip completed and successfully tested the prototype of its VXTe system on December 21, 2018. At that point, the VXTe system was ready for full implementation and installation. Dril-Quip went on, though, to develop another prototype based on one of its alternate designs.

In March 2019, Dril-Quip began to perform demonstrations of the VXTe system for its customers. Customer feedback led Dril-Quip to make some modifications to its design. For example, one customer “voiced concern” about “the flow of the annular path across the tubing,” so Dril-Quip “started working on making an annular flow path through the production stab.” It completed models of the VXTe system in early April 2019, the same month that the VXTe patent was published.

Dril-Quip sold its first VXTe system to a customer before Murphy joined Dril-Quip. After Murphy was hired, Dril-Quip had “started scaling up” production “to work on that order to make the delivery.”

Lawrence Brun Hilbert, Jr. testified for Dril-Quip as an expert in the field of oil and gas subsea technology. Hilbert stated that he had a Ph.D. in material science and mineral engineering and was employed by Exponent Incorporated in Menlo Park, California, as a principal engineer in its mechanical engineering group. He had forty years of experience working in the oil and gas industry. He was a licensed mechanical engineer in California, Texas, and New Mexico and was also licensed in Texas as a petroleum engineer.

Hilbert opined that “Dril-Quip did not misappropriate trade secrets from FMC.” Based on his “knowledge and expertise,” information “available in the public domain,” the documentation and depositions he had reviewed, and the testimony he heard at trial, Hilbert concluded that Dril-Quip had independently “developed and engineered a number of the[] solutions” for the “in-the-wellhead type of completions” and had all four concepts—the orientation-free design, the annulus through the body of the production stab, the automatic space-out mechanism, and the flat-to-flat lock ring—before Murphy arrived at Dril-Quip in June 2019.

Hilbert reviewed “about forty design drawings and equipment” that Dril-Quip had assembled before May 2019. He also “looked in the public domain into the developments of some of these mechanisms to see” whether they would be “readily ascertainable to engineers” with sufficient skill and experience in subsea engineering to develop them.

Hilbert opined that Dril-Quip had completed the working prototypes of its orientation-free subsea tree system design on or about December 21, 2018. Dril-Quip “had a complete device model” in computer-aided design (“CAD”) that had about one hundred parts. “It had all the couplers. It had all the rings. It had seal rings. It was a full[,] assembled model.”

Hilbert explained that after building a prototype, there was a “normal evolution of a design over time.” Some features “m[ight] work well,” while others “m[ight] need improvements,” especially with “a big, huge piece of equipment with thousands of parts.”

Hilbert confirmed that there were various ways to isolate fluids in the annulus path. He had examined Dril-Quip’s CAD drawing of the annulus through the body of the production stab for the VXTe system, which had been created in early 2019. “[T]he dates on some of [the VXTe system design] drawings” he had reviewed were from 2018 as well. Dril-Quip also had earlier designs of other equipment that had the same feature. The feature was used in those designs not “for the annulus fluid,”

but “for instruments” that went on or in “the production tubing, like the subsurface safety valve,” or for routing chemicals to inhibit corrosion. But according to Hilbert, those earlier designs were relevant because they showed “that the concept of putting holes in the production stab to convey or flow various fluids [wa]s not a novel idea and pre-existed any of th[e] development” of the orientation-free subsea tree system.

Hilbert concluded that Dril-Quip had independently developed an orientation-free system with the annulus going through the production stab before it hired Murphy. Further, he noted that the concept was already “in the public domain,” so it was “certainly ascertainable” by “engineers with expertise and skills in the art of subsea engineering.”

As to the use of an automatic space-out mechanism in the VXTe system, Hilbert understood that Dril-Quip already “had a concept” for using it. He noted that Dril-Quip had previously used “a space-out mechanism for casing hangers” and had patented that technology in January 2019. Hilbert also reviewed documents drawn by Bartlett during an August 22, 2018 “group discussion, sort of a brainstorming group discussion on ideas for eliminating the lead impression trip” in which they had “independently developed” implementation of the space-out mechanism for the VXTe system.

Hilbert also found that the space-out mechanism used in FMC’s ITW system and the space-out mechanism used in Dril-Quip’s VXTe system were “clearly

different”; they did not “look alike and were engineered differently.” To Hilbert, the differences showed that Dril-Quip had “independently developed” the VXTe system.

As to Dril-Quip’s use of a flat-to-flat lock ring in the VXTe system design, Hilbert explained that lock rings were “used in virtually all . . . applications for various components in subsea equipment and at the surface in onshore equipment.” A tapered lock ring was “simple to design, simple to use.” But it required “frictional force” “to keep it in place,” as it could become loose during drilling, when “the whole system vibrate[d].” With a flat-to-flat lock ring, there was “no real friction[al] force applied” to it, so it stayed “locked in place.” The option of using either a tapered lock ring or a flat-to-flat lock ring for locking a tubing hanger to a wellhead was known by Dril-Quip and “by virtually” every other “skilled designer in the field” of subsea tree development, and Dril-Quip would have been “able to come up with these concepts easily.”

The notion of using a flat-to-flat lock ring in a tree system of any kind, according to Hilbert, “[w]ould be public” knowledge and “it would not be a trade secret.” Patent information disclosing the use of flat-to-flat lock rings had been available for several years before Dril-Quip designed the VXTe system.

As to the concept of including an automatic space-out mechanism on a tubing hanger, Hilbert likewise opined that it was generally known to the industry. And as

to placing the annulus through the body of the production stab as a way to isolate fluids, Hilbert had seen other publicly available information that disclosed that concept, including a 2008 patent.

Hilbert opined that the notion of putting the space-out mechanism, the annulus routing through the body of the production stab, and the flat-to-flat lock rings together would have been readily ascertainable to engineers working at Dril-Quip or another company in the industry. According to Hilbert, “an engineer with general skill[] and experience in subsea engineering would come upon” those components “quickly, know that they exist, and then consider their alternatives.” Further, Hilbert believed that the separate components could “be used or not used.” They did not necessarily “all fit together” and could be “used independently.”

FMC’s measures to protect sensitive information

Daniel Roffman, an expert for FMC, testified about “FMC’s measures to protect the trade secrets at issue in th[e] case” and whether he believed that they were “reasonable under the circumstances.” Roffman explained that as a cybersecurity specialist with FTI Consulting, a global business advisory firm, he assisted and advised companies on data protection issues. He had about seventeen years of experience focusing on data protection, cyber security, forensics, working primarily with “larger businesses, like Fortune 500 entities,” and “across a spectrum of different types of manufacturers and engineering firms.”

Roffman described the methodology that he used as taking “into account” his experience “dealing with a lot of other big manufacturing-type companies and what they d[id] in terms of their [R&D] and how they protect[ed] it.” He opined that the “physical security measures” that FMC used were “in line with” other R&D organizations that Roffman had worked with.

FMC, like those other businesses, provided each employee with a work-issued computer that had “software to protect against malware or viruses.” FMC’s “servers ha[d] encryption on them” and “tools in place” to detect “large transfers of data.” FMC also had “tools to make sure that employees [were] trained and protected against phishing attacks.” And FMC used “two-factor authentication” for connecting to its virtual private network. Those features showed Roffman that “FMC [had] thought through where” it kept “some of [its] most valuable information” and how to manage that information “across a large team of engineers who were working on it, but also to balance the security of that information.”

Roffman considered FMC’s security measures for protecting digital and electronic information on TeamCenter⁴ as “in line or better than many other clients” that he had consulted with. He thought TeamCenter was “one of the better solutions that [he had] seen” for information security. “[I]t was an isolated system” that

⁴ TeamCenter is a product data management software used to store and organize CAD drawings and other information. See *In re Mud King Prods., Inc.*, 514 B.R. 496, 507 (Bankr. S.D. Tex. 2014) (mem. op. and order).

required employees “to meet certain training requirements” and receive prior approval from a manager or supervisor to access. And once accessed, TeamCenter “had a whole bunch of logging features to see who was signing in and out.” Roffman also noted that TeamCenter “had features to allow cooperation” but “to protect the data” at the same time. According to Roffman, FMC’s use of TeamCenter showed that FMC had “thought through where some of [its] most valuable information was being kept,” “how to leverage that information, how to work across a large team of engineers who were working on it, but also to balance the security of that information.”

Roffman concluded that, compared to how other “large global companies in the R&D and engineering space treat their documents once they have been published,” FMC’s use of an intranet “str[uck] a real good middle ground between giving the people that need that data the access that they need and security.” FMC “did not place CAD files” on its intranet, only renderings. And Roffman thought that FMC took reasonable measures to protect those documents under the circumstances because its “publishing process involved a review by FMC approvers, essentially like more senior-level engineers” who “would go through a number of steps to vet the document or vet the drawing,” including “ensur[ing] that there were confidentiality markings on the document using a template that FMC had

developed.” Further, FMC published documents on the intranet only “to employees or to suppliers who had signed [a non-disclosure agreement].”

According to Roffman, FMC’s “approach” to labeling confidential information “was reasonable.” It was not typical for companies like FMC to stamp documents “trade secret” because they were not necessarily “thinking about” whether the documents qualified as trade secrets, so “typically, . . . they [would] mark things confidential.”

Further, Roffman observed that FMC had an “[information technology (‘IT’)] security group” that “ensure[d] that the servers and the laptops [were] all secure” as well as a “separate group within the engineering team that focuse[d] on ensuring that the engineering documents [were] both safe and utilized appropriately.” The “engineering IT folks designed” TeamCenter. He found that FMC’s division of IT responsibilities “was a reasonable system” and was “something that” he had seen “quite regularly in large organizations like FMC.”

Roffman opined that FMC also had a “reasonable approach” to the use of external devices by its employees. He noted that “some companies choose to block all USB devices and some companies choose to allow everything.” But it was apparent to him that FMC had “thought through” the challenges that its employees might have and recognized that its engineers were “going to need to be able to take documents on long international flights,” “onto a rig,” or to another “remote

location.” Those needs led FMC to “c[o]me up with policies” to require that those USB devices be encrypted, and it “followed that up by giving the employees the encrypted devices.”

According to Roffman, FMC did not need to provide mandatory security training to its employees. He had “seen companies do a lot of different things,” and he thought “that the combination” of FMC’s efforts “got the message across to their employees” about the “confidentiality of their documents.” In addition to formal security training, companies also used emails and “instant messages,” among other things, to help an employee remember what the employee “should be doing” to secure confidential information. FMC had a mandatory code of business conduct training, specialized training for its engineers, and policies for managers to guide employee behavior. FMC also performed audits to determine whether their efforts were working. Based on his experience with similarly situated companies, Roffman considered FMC’s approach to be “[v]ery reasonable” compared to his clients in similar circumstances.

James Pooley, Dril-Quip’s expert, testified about whether FMC took reasonable measures to protect its confidential information. In reaching his opinion, Pooley explained that he “look[ed] at all of the information” available that was relevant to whether “FMC or a company in FMC’s position, with the kind of information that FMC [was] claiming . . . as a trade secret” and “with the value that

[FMC was] claiming that it ha[d]” behaved reasonably “in trying to protect the secrecy of that information.”

Pooley testified that he “first became interested in trade secrets” through his law practice. He graduated from law school and went to practice law in Silicon Valley in 1973, where he “ended up doing a lot of” trade-secret cases. And after Pooley wrote “a book about [trade secrets],” and he “was brought on to patent cases” as a “trade secret specialist.”

From 2000–2004, Pooley participated “as a member of the National Academies of Science Committee,” which produced a report on “the impact of intellectual property in the information-based economy.” Around 2007, Pooley became “involved in some national organizations” and “spent a lot of time on policy matters” relating to intellectual property. In 2009, Pooley was “appointed by the White House to be senior American diplomat for intellectual property matters” at the United Nations (“U.N.”), serving as the deputy director general of the World Intellectual Property Organization (“WIPO”), a U.N. agency. There, he spent five years running “the international patent system.”

According to Pooley, WIPO “received about 200,000 patent applications every year and the job of the agency was to check th[o]se out, translate some things and make sure that they were processed properly for the [eighteen] months until they were published.” Pooley managed about 400 employees. In processing the patent

applications, he and his staff “focused a lot on information security.” They “worked on basically what amounted to a number of risk management processes” to ensure that the information security was “all it needed to be.” The rest of his job was helping WIPO member countries “to engage with each other about developments in intellectual property treaties” and “help[ing] small and medium enterprises with using intellectual property in their business, including trade secrets.”

After his experience with WIPO, Pooley updated a book he had written for businesses in 1982 to account for developments in the internet and the digital environment. The book informed businesses about how to manage their intellectual property in a way that would “preserve [its] value.”

Most recently, Pooley spent three years as co-chair of the International Chamber of Commerce Trade Secrets Task Force. He also was a consultant to businesses and worked with Aon, “a giant consulting company,” to advise “large companies about how to manage their information security programs.”

Pooley explained that he applied a “risk management” approach to protecting trade secrets. The same risk management approach was used in various industries, including “financial services, software,” “heavy equipment, general manufacturing, and services.”

In determining whether FMC’s efforts to protect its sensitive information were reasonable, Pooley identified three factors as the “primary” information

security issues for companies to consider in preserving trade secrets: (1) the value of the information, (2) the risk of loss, and (3) the cost of protection. This “common sense” approach, according to Pooley, was “just an application of the normal business process called risk analysis.”

Pooley further noted that whether to patent an innovation or preserve it as a trade secret was a strategic decision for a company. The advantage of a “patent [would be] that [the company] g[ot] to exclude the rest of the world” from using it. In procuring a patent, a company would be “telegraph[ing] to the world what [the company was] doing and tell[ing] [its] competitors to stay out of that space.” Trade secrets, on the other hand, were “very helpful for protecting information” that did not “have to be shared outside the company” because the company “c[ould] keep [the trade secret] for an indefinite period.”

Pooley found that FMC “had a strategy for using patents” and had “some infrastructure in place” for securing patent protection. But FMC did not have any “apparent strategy” for protecting trade secrets. FMC was “engaged mainly in selling large pieces of equipment that [went] out to the market where they c[ould] be viewed and examined.” Once new equipment was on the market, its competitors could “see what” the equipment’s “design features [were].” Given those circumstances, Pooley explained that “using trade secret protection would not make

sense for most of [FMC's] information.” In contrast, by using patent protection, FMC could “recoup [its] investment over a long period of time.”

According to Pooley, for companies that relied on “keeping information confidential” as part of their “business model, having a strategy” for doing so would be the “starting place” because it would be important to understand “how trade secrets fit into” what the company did, and “how important” it would be in order for the company to decide “what sort of investment” it should make “around secrecy or not given the kind of business” that it had and who it had “to share the information with.”

In assessing whether a company reasonably protected its trade secrets, Pooley considered “[t]he value of the information, the risk of loss, and [the] cost of protection.” He noted that those were “the primary issues in questions that companies who [were] looking at information security these days consider[ed].” The investment in protection should be measured against the risk of disclosure of the specific information that the company was trying to protect. It was “critical” that a company clearly identify trade secret information to determine the risks that would result from disclosure of the information and decide “how much” the company should “invest in trying to protect it.” Each company “follow[ed] the same method of figuring it out, and they appl[ied] it to their information and their circumstances.”

While the measures a company took might be “[v]ery different depending on the circumstances,” “the approach [wa]s always the same.”

“[T]he single biggest category of risk for companies,” according to Pooley, came from their own employees, not necessarily because of any malicious intent, but “because they make mistakes or there [were] misunderstandings” and “the employees tend[ed] to treat things in a way that after the fact the business wishe[d] they hadn’t.” If a company had “enough concern about information” that it did not want “to be compromised,” the company needed “to communicate this to the employees in a meaningful way” by “mak[ing] whatever training” it had “mandatory.”

Pooley explained that the deposition testimony of Mark Alan Freed, the chief information security officer for FMC globally, “reflect[ed] the fact that [FMC] didn’t really have any strategy, any coherent approach to handling trade secrets.” Pooley also found it “remarkable” that Cuoto, FMC’s vice president of engineering, who had all of FMC’s approximately 2,500 engineers reporting to him, could not answer a question about how FMC determined whether any aspects of its designs were trade secrets, given his role in a “company that[] [was] trying to claim ownership of what it” said was “very, very highly valuable information.” On the other hand, Pooley found Cuoto’s lack of response “consistent with” a strategy of FMC “to rely mainly on patenting” to protect its proprietary information.

Pooley noted that FMC had a code of business conduct that directed its employees not to disclose an innovation that FMC had decided to protect as a trade secret. Pooley understood the code to mean that the company would “decide what trade secrets” it had, which implied that it would “let [the employees] know” when it had “made that decision.” But Pooley noted that Freed had acknowledged in his deposition testimony that he “wasn’t aware of any process within FMC” to decide whether something was a trade secret.

The lack of guidance, according to Pooley, was also evident in the deposition testimony of Paul Riley, an FMC employee who had “apparently [been] working on the same kind of information” as Murphy. When asked about designating documents as “highly confidential,” Riley “said he had never heard of that and certainly hadn’t used that designation in any documents that he had created, even though he was working with . . . information that [was] being claimed as secret[.]” (Internal quotations omitted.) Further, as to the “high level concepts” that “FMC [was] claiming . . . as a trade secret” in the case, Pooley noted that “there was never any indication in the documents that FMC had identified [them] as a trade secret” and “communicate[d] that to people who might have [had] access to the information.”

Pooley observed that FMC did not make information security training or awareness training mandatory for its employees and had “virtually no training” for

its employees about how to handle the information that FMC asserted was “a trade secret.” The training that FMC did provide did not inform its employees about what a trade secret was, what FMC considered to be a trade secret, “who decide[d]” whether information was a trade secret, or “how to find out” about that decision. Further, the training provided by FMC did not instruct its employees “what specifically they ought to be doing to protect the information that [FMC claimed] as a trade secret” or whether FMC imposed “any particular restrictions on how [its employees] were supposed to behave,” “work with,” or label such information. Pooley thus viewed Murphy’s failure to designate the ITW system documents as “highly confidential” to be the “result of inadequate training” by FMC.

Pooley next considered the extent to which FMC restricted its employees’ access to its sensitive information. He observed that at FMC, all engineers had remote access to TeamCenter, where “a lot” of the documents that Murphy was working on were stored. Also, neither FMC’s code of business conduct nor anything else at the company prohibited FMC’s employees from copying confidential company documents onto an external drive. Pooley concluded that generally, “access to the information” at FMC “was not well controlled,” and FMC’s employees with access “were able to use [the information] outside the facility and in other ways that created risks” for FMC.

In Pooley's experience as a consultant, it was not a common practice for large companies to make engineering documents containing trade secrets available to every engineer in the company. Companies that protected their trade secrets generally controlled information on a "need to know" basis, giving certain people, such as "overall managers," "access to everything" and controlled other access according to changing circumstances. But Pooley noted that FMC's strategy of allowing all its engineers to have access to its internal engineering documents was "consistent with a strategy" of information security "that relies mostly on patenting." Allowing such access "necessarily raise[d] the risk" of disclosure, but the company could "choose to take the risk that some documents might travel farther" than it would like because allowing greater access promoted collaboration.

Pooley observed that about a month after Murphy left FMC, FMC adopted a policy requiring that "all confidential and highly confidential information" "be labeled and handled" according to a particular standard. Trade secrets were to be labeled "highly confidential," the "highest level of sensitivity." And remote access to highly confidential information, such as access "from a home or from a hotel," was "prohibited." Pooley pointed out that the policy, which FMC "could have instituted before [Murphy] left," was a "reasonable way to try to protect" the confidentiality of information that the company "really care[d] about."

Documents retained by Murphy

Murphy testified that after starting work at Dril-Quip, he realized that when he deleted the contents of his external hard drive, “a lot” of the files that he had “accumulated, that [were] not confidential” had been “wiped out too.” Murphy “need[ed] to get . . . all that information back,” so he used “advanced disc recovery” software to retrieve it. He did not intend to recover the FMC files but the “advanced disc recovery pulled everything back.”

Some of the documents that Murphy recovered were created using Mathcad software. Murphy explained that Mathcad was a calculation software used by engineers. Both FMC and Dril-Quip used Mathcad. While at FMC, Murphy had designed his own “template programs” on Mathcad to assist him in “doing engineering work.” Before leaving FMC, he emailed himself a “bunch of Mathcad files” containing the “templates” that he had developed during the time he worked for FMC.

Hilbert testified that he had examined the Mathcad files that Murphy took with him from FMC. Hilbert explained that Mathcad was a software program used by engineers and scientists. It was a tool used “to program equations” that [were] used “over and over and over again, much like an Excel spreadsheet.” Mathcad could display “the actual differential equations, interval equations” needed in making reports.

Hilbert agreed with Murphy that the files he retained were templates. Hilbert explained that they were “[s]imilar to, say, a spreadsheet or a template for a report or a memo.” The creator could use the files “over and over again” by “chang[ing] the input data” to “get new data out of it.”

As to “[t]he equations” that Murphy had retained from Mathcad, Hilbert noted that they were “in the public domain.” “The only proprietary information” they could have had would have been “input data and output data,” but Hilbert did not see any “input data and output data” in them. He did not find that any of the files had “confidential” data or contained any “FMC trade secrets.” Based on his analysis and work in the case, Hilbert concluded that neither Dril-Quip nor Murphy had used or disclosed any FMC trade secrets.⁵

Jury Charge and Verdict

At the charge conference, the trial court ruled that it would submit FMC’s proposed charge, which included the following instructions on trade secrets:

“Trade secret” means all forms and types of information, including business, scientific, technical, or engineering information,

⁵ We note that additional witnesses testified at trial. The Court has reviewed the complete record in this appeal, including all testimony and evidence presented to the trial court. *See* TEX. R. APP. P. 47.1; *Obernhoff v. Nelson*, No. 01-17-00816-CV, 2019 WL 4065017, at *18 n.19 (Tex. App.—Houston [1st Dist.] Aug. 29, 2019, no pet.) (mem. op.); *Sullivan v. Arguello Hope & Assocs., PLLC*, No. 03-18-00144-CV, 2018 WL 6424200, at *1 n.2 (Tex. App.—Austin Dec. 7, 2018, no pet.) (mem. op.) (“Because the parties are familiar with the facts of the case and its procedural history, we do not recite them in this opinion except as necessary to advise the parties of the Court’s decision and the basic reasons for it.”).

and any formula, design, prototype, pattern, plan, compilation, program device, program, device, method, technique, process, procedure, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing that:

- (1) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable, by proper means by other persons who can obtain economic value from its disclosure or use; and
- (2) is the subject of reasonable measures by the owner under the circumstances to maintain its secrecy.

“Proper means” are discovery by independent development, reverse engineering, public disclosure, or the voluntary disclosure of the information to others who are under no obligation to protect the confidentiality of the information.

Trade-secret status is not destroyed by limited communications of the information in further[ance] of the owner’s economic interests. For example, a trade-secret owner may communicate his or her trade secret to employees, joint venturers, or agents who are involved in its use without losing the legal protection for the secret. A trade-secret owner may also disclose his or her secret to do business with others in potential transactions involving the trade secret without losing the legal protection for the secret. Confidential disclosures to employees, licensees, or others will not destroy the information’s status as a trade secret, and even limited, non-confidential disclosure will not necessarily terminate protection if the recipients of the disclosure maintain the secrecy of the information.

“Improper means” include the theft, misrepresentation, breach of a duty to maintain secrecy or inducement of a breach to maintain secrecy, to limit use, or to prohibit discovery of a trade secret.

....

“Independent development” means that defendant derived the trade secret information before the alleged act of misappropriation, or

the defendant derived the trade secret information independent of the alleged act of misappropriation. Independent development includes the conception of the trade secret information before the alleged act of misappropriation, even if implementation does not occur until after the alleged act of misappropriation.

“Voluntary disclosure” includes, but is not limited to, publication, disclosure of the information at issue to others who are under no obligation to protect the confidentiality of the information, or any other action that destroys the information’s prior secrecy. Once information is voluntarily disclosed to others who are under no obligation to protect the confidentiality of the information or is otherwise publicly disclosed, the proprietary rights to the information are extinguished.

“Reverse engineering” means the process of studying, analyzing, or disassembling a product or device to discover its design, structure, construction, or source code provided that the product or device was acquired lawfully or from a person having the legal right to convey it.

“Own” means to have rightful, legal, or equitable title to, or the right to enforce rights in, a trade secret. For an employer to own a trade secret developed by an employee, the employee must have been hired to invent or devise the trade secret. If the employee was not hired to invent or devise the trade secret, the employee is entitled to ownership of the trade secret.

“Readily ascertainable” information may not be protected as a trade secret. Information is readily ascertainable if the information is available in published articles, published patents or patent applications, [i]nternet web pages, reference books, or other published materials, or through reverse engineering of a publicly marketed product. Information is also readily ascertainable if the information is obvious or readily apparent from any of the same sources, or is generally known or publicly available.

To qualify as a trade secret, the information must in fact be secret. A substantial element of secrecy must exist with respect to the information at issue, so that, except by the use of improper means, it would be difficult, or costly to acquire the information. Thus,

information that is readily ascertainable, because it is easily available in trade journals, reference books, or other published materials, or from a brief and inexpensive examination of a publicly marketed product, cannot be a trade secret.

Over FMC's objection, the trial court also added the following instruction proposed by appellees:

A trade secret can exist in a combination of characteristics and components each of which, by itself, is in the public domain, but the unified process, design and operation of which in unique combination meets the definition of a trade secret. The combination itself must add value to the product, beyond simply the sum of its components.

The trial court overruled all of appellees' objections to FMC's requested instructions and jury charge and ruled on all proposed questions and instructions in writing. At the end of the charge conference, the trial court stated that it would incorporate the individual instructions and questions into a final jury charge and circulate it to the parties. That evening, the trial court emailed a version of the jury charge to the parties.

The next day, before the parties began their closing arguments, the trial court began reading to the jury the version of the charge that it had emailed the evening before. After reading through much of the document, the trial court stopped and summoned counsel for the parties to the bench. Part of the bench conference was not recorded, but what emerged was that the trial court had stopped reading to the jury when it realized that the document it was reading was not the same version of the jury charge that it had approved at the charge conference. FMC's counsel noted

that one question on the emailed charge document was missing a blank, and Murphy's counsel remarked that he thought the document was the version of the jury charge that the trial court had sent but he had not noticed on first review that "some of the changes" approved during the charge conference "did not get in." Dril-Quip's counsel specified that the combination trade secret instruction that the trial court had approved was missing.

After the trial court verified that it had read the "wrong version" of the charge to the jury, it informed the jury of that fact and told the jury that it would provide "an updated version" and "have the presiding juror read" the court's charge "out loud" when they went "back into the jury room." The trial court then finished reading the remaining portion of the wrong version of the charge, which was identical to the corresponding portion of the "updated version."

The trial court then held another bench conference outside the jury's presence. It took the blame for having emailed the wrong version of the jury charge and identified some of the portions that had changed in the updated version. The trial court also clarified that the updated version was "really not the amended Charge of the Court" and the wrong version was "not applicable to th[e] case."

When the jury returned to the courtroom, the trial court apologized and told them that it had emailed the "wrong version of the charge to everybody" the evening before but had since made the necessary corrections. The trial court then reiterated

that after the jury foreperson's selection, the foreperson was "to read the charge out loud to the jury" before the jury began its deliberations. It also informed the jury that when they returned to the jury room, they would find a copy of the correct version of the charge in each seat and that the copies of the previously distributed version had been collected and destroyed. Following those instructions, FMC began its closing argument.

After the parties' closing arguments, the jury began deliberations. The jury answered Question No. 1 as follows:

Did FMC own a trade secret in the business, technical, economic, financial, or engineering information listed below?

Answer "Yes" or "No" as to each:

- A. FMC's design drawings and technical information related to the combination of the following features for its ITW subsea tree-and-hanger system: (a) an orientation-free mechanism, (b) a flat-to-flat lock ring, (c) an annulus fluid path through the production stab, and (d) an automatic space out mechanism?

Answer: No[.]

- B. FMC-created internal technical and business files retained by Murphy after his employment with FMC other than those relating to FMC's design of its ITW System.

Answer: No[.]

(Emphasis omitted.)

Based on the jury's verdict, the trial court rendered judgment for appellees and ordered that FMC take nothing on its claims against appellees.

Expert Testimony

In its first issue, FMC argues that the trial court erred in admitting Pooley's testimony because "experts cannot testify on the applicable law," Pooley's "opinions were improper and . . . wholly unreliable," and Pooley's testimony harmed FMC.

"Generally, rulings on objections as to admissibility of evidence, including whether expert testimony is reliable, are reviewed for abuse of discretion." *Whirlpool Corp. v. Camacho*, 298 S.W.3d 631, 638 (Tex. 2009). A qualified expert witness "may testify in the form of an opinion or otherwise if 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." TEX. R. EVID. 702; *see also Glasscock v. Income Prop. Servs., Inc.*, 888 S.W.2d 176, 180 (Tex. App.—Houston [1st Dist.] 1994, writ dismissed).

Non-scientific testimony is admissible if it is offered by a qualified expert and the testimony is relevant and based on a reliable foundation. *KMG Kanal-Muller-Gruppe Deutschland GMBH & Co. v. Davis*, 175 S.W.3d 379, 390 (Tex. App.—Houston [1st Dist.] 2005, no petition.); *see also Gammill v. Jack Williams Chevrolet, Inc.*, 972 S.W.2d 713, 723 (Tex. 1998). If the party opposing the proffered expert testimony objects, the proponent of the expert testimony bears the burden of proving that the evidence is admissible. *E.I. du Pont de Nemours & Co. v. Robinson*, 923 S.W.2d 549, 557 (Tex. 1995).

The expert’s opinion must have a “demonstrable and reasoned basis on which to evaluate the opinion.” *Rogers v. Zanetti*, 518 S.W.3d 394, 405 (Tex. 2017) (internal quotations omitted). In determining whether the expert testimony is admissible, the court’s task is “not to determine whether the expert’s conclusions are correct, but rather whether the analysis the expert used to reach those conclusions is reliable.” *TXI Transp. Co. v. Hughes*, 306 S.W.3d 230, 239 (Tex. 2010).

In *Robinson*, the Texas Supreme Court set out the following list of nonexclusive factors to evaluate whether an expert’s testimony is reliable: (1) the extent to which the theory has been or can be tested, (2) the extent to which the technique relies upon the subjective interpretation of the expert, (3) whether the theory has been subjected to peer review and/or publication, (4) the technique’s potential rate of error, (5) whether the theory or technique has been generally accepted as valid by the relevant scientific community, and (6) the non-judicial uses which have been made of the theory or technique. 923 S.W.2d at 557. In cases like this one, involving specialized but non-scientific expert testimony, courts are not required to analyze all the *Robinson* factors. *Taylor v. Am. Fabritech, Inc.*, 132 S.W.3d 613, 619 (Tex. App.—Houston [14th Dist.] 2004, pet. denied); *see also Ford Motor Co. v. Ledesma*, 242 S.W.3d 32, 39 (Tex. 2007); *Cooper Tire & Rubber Co. v. Mendez*, 204 S.W.3d 797, 802 (Tex. 2006); *Gammill*, 972 S.W.2d at 727. But to be competent evidence, an expert’s opinion must offer a factual basis that actually

supports the opinion. *See Houston Unltd., Inc. Metal Processing v. Mel Acres Ranch*, 443 S.W.3d 820, 829 (Tex. 2014).

Like the testimony of Roffman, FMC’s own “reasonable measures” expert, Pooley’s testimony addressed whether FMC “took reasonable measures under the circumstances” to keep secret the information that it claimed to be a trade secret, which is an element required by the TUTSA to prove the existence of a trade secret. *See* TEX. CIV. PRAC. & REM. CODE ANN. § 134A.002(6)(A). The Legislature enacted the TUTSA in 2013 “to make uniform the law with respect to the subject of this chapter among states enacting it.” *Id.* § 134A.008.

To prove a claim for violation of the TUTSA, a plaintiff must prove (1) ownership of a trade secret; (2) misappropriation of the trade secret; and (3) an injury to the plaintiff or unjust enrichment to the defendant. *See id.* §§ 134A.002–.004; *Morrison v. Profanchik*, No. 05-17-01281-CV, 2019 WL 3798182, at *5 (Tex. App.—Dallas Aug. 13, 2019, no pet.) (mem. op.); *see also Univ. Plant Servs., Inc. v. Dresser-Rand Grp., Inc.*, 571 S.W.3d 346, 360 (Tex. App.—Houston [1st Dist.] 2018, no pet.). The TUTSA defines “[t]rade secret” as

all forms and types of information, including business, scientific, technical, economic, or engineering information, and any formula, design, prototype, pattern, plan, compilation, program device, program, code, device, method, technique, process, procedure, financial data, or list of actual or potential customers or suppliers, whether tangible or intangible and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if:

- (A) the owner of the trade secret has taken reasonable measures under the circumstances to keep the information secret; and
- (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information.

TEX. CIV. PRAC. & REM. CODE ANN. § 134A.002(6) (internal quotations omitted).

This standard requires that the owner of the trade secret take reasonable measures to preserve its secrecy but does not require proof that the alleged trade secrets had been held in absolute secrecy in order to establish the existence of a trade secret. *See HouseCanary, Inc. v. Title Source, Inc.*, 622 S.W.3d 254, 266 (Tex. 2021).

FMC asserts that Pooley’s testimony on reasonable measures constituted an impermissible legal conclusion. In its appellant’s brief, FMC attempts to support its assertion by quoting several statements from the reporter’s record, including (1) Pooley’s responses to questions posed by FMC’s trial counsel about Pooley’s legal treatise, which was not discussed in his direct testimony, (2) a quotation attributable not to Pooley, but to FMC’s own trial counsel, and (3) portions of Pooley’s responses on redirect that arguably were “necessary to explain or allow” the jury “to fully understand” testimony elicited by FMC’s trial counsel. *See* TEX. R. EVID. 107.

We reject FMC’s assertion that Pooley’s opinion on reasonable measures constituted an impermissible legal conclusion. Having designated its own expert on the same topic, FMC is foreclosed from claiming error on that basis. Dril-Quip was entitled to elicit opinion testimony on that ultimate issue of fact, particularly after FMC presented an expert who testified on the same subject matter in its case in chief. *See Transcont’l Gas Pipeline Corp. v. Texaco, Inc.*, 35 S.W.3d 658, 670 (Tex. App.—Houston [1st Dist.] 2000, pet. denied) (appellant may not complain of admission of improper evidence offered by opponent where appellant first introduced same evidence or evidence of similar character). In any event, “[t]he question of whether, in a specific case, a party has made reasonable efforts to maintain the secrecy of a purported trade secret is by nature a highly fact-specific inquiry.” *Elm City Cheese Co. v. Federico*, 752 A.2d 1037, 1050 (Conn. 1999); *see Camp Creek Hosp. Inns, Inc. v. Sheraton Franchise Corp.*, 139 F.3d 1396, 1411 (11th Cir. 1998) (“Whether Camp Creek’s efforts to keep the information secret in this case were ‘reasonable under the circumstances’ presents a question for the trier of fact.”); *see also 1776 Energy Partners, LLC v. Freeport McMoRan Oil & Gas LLC*, No. 04-20-00468-CV, 2021 WL 6127930, at *4 (Tex. App.—San Antonio Dec. 29, 2021, pet. denied) (mem. op.) (“Determining whether something is reasonable is often an issue of fact that should be adjudicated by the factfinder because it requires a comparison to surrounding circumstances.”); *Nissan N. Am.*,

Inc. v. Tex. Dep't of Motor Vehicles, 592 S.W.3d 480, 493–94 (Tex. App.—Texarkana 2019, no pet.) (“The definition of the word reasonable suggests that this provision creates a fact question because it requires a comparison to surrounding circumstances.”).

We also note that FMC did not contemporaneously object to the purportedly objectionable testimony that it quotes in its brief. *See* TEX. R. APP. P. 33.1(a). Because FMC either invited or made most of the quoted statements, did not object to any of them, and does not raise an issue in its appellant’s brief challenging the admission of those statements, we do not consider them as grounds for reversal. *See In re Tex. Farm Bur. Mut. Ins. Co.*, No. 01-19-00742-CV, 2020 WL 573249, at *5 (Tex. App.—Houston [1st Dist.] Feb. 6, 2020, orig. proceeding) (mem. op.) (discussing invited error doctrine); *cf. Anderson v. State*, Nos. 05-18-01303-CR, 05-18-01304-CR, 2020 WL 219310, at *4 (Tex. App.—Dallas Jan. 15, 2020, no pet.) (mem. op., not designated for publication) (appellant unable to complain on appeal about evidence he elicited at trial).

FMC also asserts that Pooley’s testimony was inadmissible because he is an attorney and did not have a “degree in any technical or scientific field, such as computer science.” But whether someone has a law degree is not a per se bar to testifying as an expert on other subjects. And Texas Rule of Evidence Rule 702 does not require an expert to have a college degree. *Glasscock*, 888 S.W.2d at 180.

“Experience alone may provide a sufficient basis for an expert opinion.” *Windrum v. Kareh*, 581 S.W.3d 761, 769 (Tex. 2019). “The usefulness of the expert’s opinion in assisting the trier-of-fact rests not on the type of license the expert holds but on the expert’s knowledge, training, and experience” in the subject matter of the opinion. *In re Commitment of Bohannon*, 388 S.W.3d 296, 306 (Tex. 2012).

Pertinent here, courts applying the Uniform Trade Secrets Act (“UTSA”) in other jurisdictions have allowed experts with law degrees and without technical degrees to opine on reasonable measures because of their experience in consulting with businesses about the measures they used in protecting their trade secrets. *See Neural Magic, Inc. v. Meta Platforms, Inc.*, No. 20-cv-10444-DJC, 2023 WL 2383172, at *19 (D. Mass Jan. 17, 2023) (mem. and order) (even without technical degree, attorney’s academic and consulting work provided sufficient basis for her testimony about “what level of measures similar organizations, companies, and the broader industry take to protect their trade secrets”); *Proofpoint, Inc. v. Vade Secure, Inc.*, No. 19-cv-04238-MMC, 2021 WL 2588974, at *1 (N.D. Cal. June 24, 2021) (order) (concluding Pooley was qualified to testify on reasonable measures based on experience practicing law, advising clients on design or improvement of trade secret management, and serving as deputy director general of WIPO).

Pooley testified to his work with WIPO and his extensive experience consulting with businesses about trade secret protection. Pooley also testified that

he had published books for a business audience that explain his risk-management approach to protecting trade secrets. And he explained how other businesses have handled the protection of their trade secrets. What other businesses do is some evidence of what a reasonable business would do to protect its trade secrets. *See Glasscock*, 888 S.W.2d at 180 (involving evidence of businesses' security measures). The trial court did not err in concluding that Pooley's experience qualified him to testify to the reasonableness of FMC's information security practices.

FMC also asserts that Pooley's testimony was unreliable because his opinion about whether FMC took "reasonable measures under the circumstances" to secure its confidential information was subjective and based on an "untested methodology." The record does not support FMC's characterization of Pooley's testimony.

Pooley described his approach as being grounded in "risk management," which, he explained, was a widely recognized approach used in many industries, including "financial services, software," "heavy equipment, general manufacturing, and services." The "standard applie[d] for each company in the context of its own specific information," "the risks that exist[ed] for that information," and the security measures that the company was "prepared to do to reduce those risks." In determining whether a company had taken reasonable measures under the circumstances, Pooley considered the value of the information to be protected

against the risk of disclosure. He also explained why certain businesses chose to use patents instead of other security measures to protect their valuable sensitive information.

As for FMC's assertion that Pooley's testimony imposed an overly stringent "best practices" model on FMC, we note that Pooley never mentioned "best practices" in his trial testimony. Pooley explained what he considered to be the weaknesses in FMC's information security practices compared to the practices used at other businesses and the consequences that could result from the failure to use stronger measures to protect what FMC had valued as a multimillion-dollar innovation. Pooley's testimony was not inadmissible simply because he came to a different conclusion than Roffman. *See TXI Transp. Co.*, 306 S.W.3d at 239 (explaining court's task is "not to determine whether the expert's conclusions are correct, but rather whether the analysis the expert used to reach those conclusions is reliable").

FMC also faults Pooley's testimony for his failure to consider Murphy's subjective knowledge and the actions Murphy took in leaving FMC for Dril-Quip. But Murphy's intent is relevant only to whether Murphy misappropriated trade secrets, not to whether FMC took reasonable measures under the circumstances to protect its alleged trade secrets. *See TEX. CIV. PRAC. & REM. CODE ANN.* §134A.002(3)(A)–(B) ("misappropriation" requires showing defendant knew or had

reason to know that trade secret was acquired by improper means). Pooley's testimony addressed only the latter.

We conclude that the trial court did not err in admitting Pooley's testimony on reasonable measures.

We overrule FMC's first issue.

Jury Charge Error

In its third issue, FMC argues that the trial court erred in charging the jury because it included in its charge an "erroneous instruction for trade secrets that rel[ied] on a combination of characteristics."⁶

We review de novo whether an instruction or definition in a jury charge is legally correct. *Transcont'l Ins. Co. v. Crump*, 330 S.W.3d 211, 221 (Tex. 2010). If a charge is legally correct, then the trial court has considerable discretion in submitting questions, instructions, and definitions. *Thota v. Young*, 366 S.W.3d 678, 687 (Tex. 2012). We thus review the trial court's decision to submit or refuse an instruction for an abuse of discretion. *Thota*, 366 S.W.3d at 687.

⁶ We consider this issue before we address FMC's second issue, which challenges the factual sufficiency of the evidence, because if we conclude that the trial court submitted an erroneous definition over FMC's objection, we must measure the sufficiency of the evidence under the definition that the trial court should have submitted to the jury. *See St. Joseph Hosp. v. Wolff*, 94 S.W.3d 513, 530 (Tex. 2002); *Sacks v. Hall*, 481 S.W.3d 238, 247 (Tex. App.—Houston [1st Dist.] 2015, pet. denied).

An instruction is proper if it assists the jury, accurately states the law, and finds support in the pleadings and evidence. *Id.*; *Cont'l Cas. Co. v. Baker*, 355 S.W.3d 375, 382 (Tex. App.—Houston [1st Dist.] 2011, no pet.); *see also* TEX. R. CIV. P. 278; *Gunn v. McCoy*, 554 S.W.3d 645, 675 (Tex. 2018). We will reverse a judgment for charge error only if the error was harmful, meaning the error probably caused the rendition of an improper judgment or prevented a party from properly presenting the case on appeal. *Gunn*, 554 S.W.3d at 675; *Thota*, 366 S.W.3d at 687; *see* TEX. R. APP. P. 61.1. “Charge error is generally considered harmful if it relates to a contested, critical issue.” *Columbia Rio Grande Healthcare, L.P. v. Hawley*, 284 S.W.3d 851, 856 (Tex. 2009). We examine the entire record in assessing whether harmful error occurred. *Crump*, 330 S.W.3d at 225.

The TUTSA defines “[t]rade secret” as

all forms and types of information, including business, scientific, technical, economic, or engineering information, and any formula, design, prototype, pattern, plan, compilation, program device, program, code, device, method, technique, process, procedure, financial data, or list of actual or potential customers or suppliers, whether tangible or intangible and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if:

- (A) the owner of the trade secret has taken reasonable measures under the circumstances to keep the information secret; and
- (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by,

another person who can obtain economic value from the disclosure or use of the information.

TEX. CIV. PRAC. & REM. CODE ANN. § 134A.002(6) (internal quotations omitted).

This definition of trade secret was included in the trial court’s charge. And this definition expressly includes a “compilation” of information and requires that it “derive independent economic value” from “not being generally known to, and not being readily ascertainable through proper means by, another person.” *Id.*

Here, FMC alleged that the trade secret misappropriated from its ITW system consisted of the combination of information from three publicly disclosed patents—the flat-to-flat lock ring, the automatic space-out mechanism, and the annulus flow path. Over FMC’s objection, the trial court included in the trade secret question the following instruction:

A trade secret can exist in a combination of characteristics and components each of which, by itself, is in the public domain, but the unified process, design and operation of which in unique combination meets the definition of a trade secret. The combination itself must add value to the product, beyond simply the sum of its components.

FMC criticizes the instruction’s requirement that the combination “itself must add value to the product, beyond the sum of its components,” but the requirement that a combination have independent economic value is consistent with the TUTSA and case law. *See id.*; *see also Eagle Oil & Gas Co. v. Shale Exploration*, 549 S.W.3d 256, 270 (Tex. App.—Houston [1st Dist.] 2018, pet. dism’d) (“A compilation of business information that provides a competitive advantage over

those who lack the compilation may constitute a trade secret.”). Other UTSA jurisdictions agree that to constitute a trade secret, a combination of publicly available information should have value independent of its component parts.⁷ *See Penalty Kick Mgmt. Ltd. v. Coca-Cola Co.*, 318 F.3d 1284, 1291 (11th Cir. 2003) (applying Georgia version of UTSA in observing “even if all of the information is publicly available, a unique combination of that information, which adds value to the information, also may qualify as a trade secret”); *Catalyst & Chem. Servs., Inc. v. Global Ground Support*, 350 F. Supp. 2d 1, 10 (D.D.C. 2004) (applying District of Columbia version of UTSA in concluding that where each parameter was publicly known, “the value of the specific combination of parameters must exceed the mere sum of the value of each individual parameter”).

FMC relies on *Metallurgical Industries, Inc. v. Fourtek, Inc.*, but that case, which predates the TUTSA, does not support a different conclusion. 790 F.2d 1195 (5th Cir. 1986). Consistent with the TUTSA, the Fifth Circuit recognized that publicly available information, combined in a unique way, may constitute a trade secret. *See id.* at 1202. Without more, though, a combination does not qualify as a trade secret; it must also provide “a competitive advantage.” *See id.* In other words,

⁷ *See* TEX. CIV. PRAC. & REM. CODE ANN. § 134A.008 (TUTSA “shall be applied and construed to effectuate its general purpose to make uniform the law with respect to the subject of this chapter among states enacting it”)

the combination must have some value independent of the component parts themselves.

We thus conclude that the instruction given by the trial court was legally correct.

FMC also asserts that the trial court procedurally erred by “amend[ing] the charge” after reading it to the jury. FMC’s description of the trial court as having “amended” the jury charge is not consistent with the record. As the trial court explained, the version of the charge that it had emailed to the parties and read to the jury was “wrong” because it was not the version that the trial court had approved at the charge conference. Further, there is only one signed copy of the trial court’s charge in the record, and it is consistent with the trial court’s rulings at the charge conference.

According to FMC, the trial court’s submission of the jury charge violated Texas Rule of Civil Procedure 272.⁸ But rule 272 prohibits objections to the charge after it is read to the jury. *See* TEX. R. CIV. P. 272; *King Fisher Marine Serv. v. Tamez*, 443 S.W.3d 838, 843 (Tex. 2014). Rule 272 does not apply here because FMC had the opportunity to object before the trial court ruled on the “correct

⁸ FMC also cites to Texas Rule of Civil Procedure 286 but does not present any argument or authorities to explain how that rule was violated, so we consider that argument waived due to inadequate briefing. *See* TEX. R. CIV. P. 38.1(i).

version” of the jury charge and obtain rulings on its objections at the charge conference.

FMC also asserts that when a trial court “modifies a jury charge during jury argument, it is per se prejudicial.” But FMC does not identify any harm, much less any “per se” harm, that resulted from the trial court’s actions to correct its error. And even if FMC had, it failed to preserve any claim of harm by failing to timely object to those actions. *See* TEX. R. APP. P. 33.1(a). Further, to the extent that FMC complains here about any reference in the appellees’ closing arguments to the instruction that FMC objected to during the charge conference, FMC did not timely object during appellees’ closing arguments, so that complaint is also not preserved. *See id.*

We hold that the trial court did not err in instructing the jury that “the combination [of information] itself must add value to the product, beyond the sum of its components.”

We overrule FMC’s third issue.

Factual Sufficiency

In its second issue, FMC argues that the evidence supporting the jury’s findings that FMC did not “own[] any trade secrets” is factually insufficient because “FMC only had to prove the existence of one of its asserted trade secrets to prevail”

and “[i]ts protected design drawings, unpublished patent application, and other business and technical information clearly met th[at] standard.”

To successfully challenge the factual sufficiency of the evidence to support an adverse jury finding on an issue on which it bore the burden of proof at trial, the appellant must demonstrate that the finding is against the great weight and preponderance of the evidence. *Dow Chem. Co. v. Francis*, 46 S.W.3d 237, 242 (Tex. 2001); *Pool v. Ford Motor Co.*, 715 S.W.2d 629, 635 (Tex. 1986). When reviewing the evidence for factual sufficiency, we consider all the relevant evidence in the record. *See In re S.M.R.*, 434 S.W.3d 576, 586 (Tex. 2014). We will set aside a verdict only if it is so contrary to the overwhelming weight of the evidence that it is clearly wrong and unjust. *Dow Chem.*, 46 S.W.3d at 242; *Cain v. Bain*, 709 S.W.2d 175, 176 (Tex. 1986). We examine both the proof supporting and contradicting the findings in a neutral light. *Dow Chem.*, 46 S.W.3d at 242.

The jury, as fact finder, is the sole judge of witnesses’ credibility and the weight to be given their testimony. *Golden Eagle Archery, Inc. v. Jackson*, 116 S.W.3d 757, 761 (Tex.2003); *see also Zenner v. Lone Star Striping & Paving L.L.C.*, 371 S.W.3d 311, 314 (Tex. App.—Houston [1st Dist.] 2012, pet. denied). We assume that the jury resolved all conflicts in the evidence in accordance with its decision if a reasonable factfinder could have done so. *City of Keller v. Wilson*, 168 S.W.3d 802, 820 (Tex. 2005). A reviewing court may not “impose [its] own

opinions to the contrary” or substitute its judgment for that of the jury. *Id.* at 819, 822; *Golden Eagle Archery*, 116 S.W.3d at 761.

If the evidence supports a finding that the alleged trade secret is “readily ascertainable through proper means by another person who can obtain economic value from the disclosure or use of the information,” it does not qualify for protection as a trade secret. *See* TEX. CIV. PRAC. & REM. CODE ANN. § 134.002(6)(B). The TUTSA defines “[p]roper means” as “discovery by independent development, reverse engineering unless prohibited, or any other means that is not improper means.” *Id.* § 134A.002(4) (internal quotations omitted). This definition was included in the trial court’s instructions to the jury. The instructions also defined “independent development” as meaning “that [the] defendant derived the trade secret information before the alleged act of misappropriation” or “independent of the alleged act of misappropriation.”

Question No. 1A asked the jury whether “FMC’s design drawings and technical information related to the combination of . . . (a) an orientation-free mechanism, (b) a flat-to-flat lock ring, (c) an annulus fluid path through the production stab, and (d) an automatic space out mechanism” in its ITW system constituted a trade secret. In asserting that the jury’s “[n]o” finding in response to Question No. 1A was against the great weight and preponderance of the evidence, FMC states that its ITW system design drawings and patent application were “per

se” trade secrets. But Texas case law does not support that assertion, and it is inconsistent with the definition of “[t]rade secret” set forth in the TUTSA. *See* TEX. CIV. PRAC. & REM. CODE ANN. § 134A.002(6) (internal quotations omitted).

Here, the undisputed evidence shows that Dril-Quip filed a patent application on its VXTe system design before FMC filed one for its ITW system; FMC filed its application only a few months before Dril-Quip’s VXTe system patent was issued. Murphy and Dril-Quip’s technical expert, Hilbert, testified that using a flat-to-flat lock ring, an annulus fluid path through the production stab, and an automatic space out mechanism, as well as their combination, were readily ascertainable by proper means.

Further, the testimony of FMC’s own technical expert, Wooley, supports the jury’s “[n]o” finding in response to Question No. 1A. Wooley testified that placing the annulus in a production stab was one of three basic solutions to routing the annulus, would have been known to most engineers, and was “something that’s been known as a separate feature for some time,” for subsea as well as “other applications.” Wooley also acknowledged that space-out mechanisms had “been known in the industry” as a separate feature “for a while,” and using one to “solve th[e] vertical distance” problem caused by “remov[ing] the lead impression trip” on a subsea tree was “a natural solution.” Further, Wooley stated that an engineer with his level of skill and experience, including Murphy, could have independently

determined that a flat-to-flat lock ring, placing the annulus through the production stab, and an automatic space-out mechanism would improve an orientation-free subsea tree design.

Because the relevant evidence supports a finding that the combination of features listed in Question No. 1A was “readily ascertainable by proper means,” we conclude that the jury’s “[n]o” finding in response to that question was not against the great weight and preponderance of the evidence. *See* TEX. CIV. PRAC. & REM. CODE ANN. §134A.002(6)(B); *Dow Chem. Co.*, 46 S.W.3d at 242; *Pool*, 715 S.W.2d at 635.

Question No. 1B asked the jury whether the “FMC-created internal technical and business files retained by Murphy after his employment with FMC” unrelated to the ITW system constituted a trade secret. According to FMC, that definition included documents relating to FMC’s use of nitronic couplers. FMC relies on Murphy’s testimony about an internal Dril-Quip email authored by Murphy in which he disclosed “FMC’s history of field success” with nitronic couplers. Murphy testified, though, that Dril-Quip had been using nitronic couplers before he began working there. FMC does not identify any evidence in the record in support of its burden to show that the use of nitronic couplers was not generally known to its competitors.

FMC also asserts that the jury should have found that the Mathcad files retained by Murphy constituted trade secrets. But Murphy described the files he retained as “templates,” and Hilbert agreed with that description. Hilbert noted that the formulas in the Mathcad files retained by Murphy were “in the public domain,” and that they did not contain any proprietary “input data and output data.” FMC has not identified any evidence to counter Murphy’s and Hilbert’s testimony on this issue. Because this evidence supports a finding that the information about using nitronic couplers and the Mathcad files retained by Murphy was readily ascertainable through proper means, we conclude that the jury’s “[n]o” finding in response to Question No. 1B was not against the great weight and preponderance of the evidence. Thus, we hold that factually sufficient evidence supports the jury’s findings in response to Question No. 1.

We overrule FMC’s second issue.

Conclusion

We affirm the judgment of the trial court. All pending motions are dismissed as moot.

Julie Countiss
Justice

Panel consists of Justices Landau, Countiss, and Guerra.