

FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

JOHN HENDRIX, Relator; ex rel.
United States of America,

Plaintiff-Appellant,

STATE OF NEVADA,

Plaintiff-Appellant,

THE COMMONWEALTH OF
VIRGINIA,

Plaintiff-Appellant,

CALLEGUAS MUNICIPAL WATER
DISTRICT; PALMDALE WATER
DISTRICT; SOUTH TAHOE
PUBLIC UTILITY DISTRICT,

*Intervenor-Plaintiffs-
Appellants,*

and

UNITED STATES OF AMERICA,

Plaintiff,

No. 21-56276

D.C. No.
5:06-cv-00055-
GW-PJW

OPINION

STATE OF CALIFORNIA,

Plaintiff,

STATE OF DELAWARE; STATE OF
FLORIDA; STATE OF TENNESSEE;
COMMONWEALTH OF
MASSACHUSETTS,

Plaintiffs,

v.

J-M MANUFACTURING
COMPANY, INC., DBA JM Eagle,

Defendant-Appellee,

and

FORMOSA PLASTICS
CORPORATION, U.S.A., a Delaware
corporation,

Defendant.

JOHN HENDRIX, Relator; ex rel.
United States of America; THE
COMMONWEALTH OF VIRGINIA;
STATE OF NEVADA,

No. 21-56288

D.C. No.
5:06-cv-00055-
GW-PJW

Plaintiffs-Appellees,

CALLEGUAS MUNICIPAL WATER
DISTRICT; PALMDALE WATER
DISTRICT; SOUTH TAHOE
PUBLIC UTILITY DISTRICT,

*Intervenor-Plaintiffs-
Appellees,*

and

UNITED STATES OF AMERICA;
STATE OF CALIFORNIA; STATE
OF DELAWARE; STATE OF
FLORIDA; STATE OF TENNESSEE;
COMMONWEALTH OF
MASSACHUSETTS,

Plaintiffs,

v.

J-M MANUFACTURING
COMPANY, INC., DBA JM Eagle,

Defendant-Appellant,

and

FORMOSA PLASTICS
CORPORATION, U.S.A., a Delaware
corporation,

Defendant.

Appeal from the United States District Court
for the Central District of California
George H. Wu, District Judge, Presiding

Argued and Submitted June 20, 2023
Seattle, Washington

Filed August 8, 2023

Before: Diarmuid F. O'Scannlain, Andrew D. Hurwitz,
and Bridget S. Bade, Circuit Judges.

Opinion by Judge Hurwitz

SUMMARY*

False Claims Act

The panel affirmed the district court's judgment after a bifurcated jury trial in a *qui tam* action brought under the federal False Claims Act and various state False Claims Acts by relator John Hendrix and five public-agency exemplar plaintiffs against J-M Manufacturing Co.

Relator and plaintiffs alleged that J-M violated the False Claims Acts by representing that its polyvinyl chloride pipes were compliant with industry standards. In Phase One of the bifurcated trial, the jury found that J-M knowingly made

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

false claims that were material to the public agencies' decisions to purchase J-M pipe for use in water and sewer systems, and thus violated the False Claims Acts. After the jury was unable to reach a verdict in Phase Two, the district court granted J-M judgment as a matter of law on actual damages and awarded one statutory penalty for each of the twenty-six projects at issue.

The panel held that sufficient evidence of falsity, materiality, and scienter supported the Phase One verdict. A reasonable jury could conclude that plaintiffs received some pipe not meeting industry standards. Further, the jury reasonably found that plaintiffs would not have purchased or installed J-M pipe had they been told the truth that J-M knew it had stopped producing pipes through processes materially similar to those used at the time of compliance testing and also knew that a significant amount of the pipe later produced did not meet industry standards. Plaintiffs' failure to prove that any individual stick of pipe that they received was non-compliant did not mean that they failed to establish scienter.

As to statutory penalties, plaintiffs conceded that the California False Claims Act allows only one penalty per project. The panel held that the district court also properly awarded only one penalty per project under the Nevada and Virginia

False Claims Acts, which, like the federal Act, impose a penalty for each *act* in violation of the statute. The panel concluded that the Phase One jury's finding of falsity and materiality did not mean that every stick of pipe was non-compliant, and plaintiffs therefore did not establish that the stamp on each piece of pipe indicating compliance should give rise to a separate penalty.

The panel held that the district court properly awarded J-M judgment as a matter of law on actual damages under the federal False Claims Act. Plaintiffs did not establish actual damages by showing that they would not have bought the pipe had they known the truth. Further, plaintiffs' pipe had not failed to operate as promised, and there was no evidence that an actual failure was imminent or even likely. Even if the testimony of plaintiffs' experts were credited, the experts did not provide evidence from which a jury could reasonably determine the value of the pipe they received. And there was no evidence that noncompliance with industry standards calculably correlated to a loss of longevity.

COUNSEL

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Bird Marella Boxer Wolpert Nessim Dooks Lincenberg & Rhow PC, Los Angeles, California; for Defendant-Appellee J-M Manufacturing Company Inc.

David Barrett, Assistant United States Attorney, United States Department of Justice, Los Angeles, California, for Plaintiff United States of America.

OPINION

HURWITZ, Circuit Judge:

In this *qui tam* action, relator John Hendrix and five public-agency exemplar plaintiffs claim that J-M Manufacturing Co. (“J-M”) violated the federal and various state False Claims Acts (“FCAs”) by representing that its polyvinyl chloride (“PVC”) pipes were compliant with industry standards. In Phase One of a bifurcated trial, a jury found that J-M knowingly made false claims that were material to the public agencies’ decisions to purchase J-M pipe. After the jury was unable to reach a verdict in Phase Two, the district court granted J-M judgment as a matter of law (“JMOL”) on actual damages and awarded one statutory penalty for each project involved in plaintiffs’ claims. Both sides now appeal, and we affirm.

BACKGROUND

J-M manufactures and sells PVC pipes used in water and sewer systems. The plaintiffs bought and installed J-M PVC pipe between 1996 and 2006.

Three industry standards for PVC pipe are central to this case: American Water Work Association (“AWWA”) C900

and C905 and Underwriters Laboratories (“UL”) 1285. The bid specifications issued by the plaintiffs for their water and sewer projects required use of PVC pipe compliant with AWWA C900, AWWA C905, or UL 1285.¹ The successful bids indicated that J-M pipe complying with those standards would be used.

J-M’s brochures during the relevant period, some of which were attached to the successful bids, claimed that its PVC pipe “MEETS AWWA C900; UNDERWRITERS LABORATORIES” and “MEETS ACCEPTED STANDARDS: AWWA C905; Underwriters Laboratories.” J-M placed a stamp with an industry standard on each stick of its pipe (e.g., “C900”). The exemplar plaintiffs presented testimony that their representatives checked each stick of pipe before installation and would have rejected any pipe without such a stamp.

The AWWA and UL standards allow a manufacturer to test its PVC pipe to determine compliance. If the pipe meets the standards, the manufacturer can assert compliance and can continue to do so for pipe later produced through materially unchanged processes without further testing.

AWWA C900 and C905 require hydrostatic design basis (“HDB”) testing on pipe compound samples to measure performance under high pressure for 10,000 hours; the results are used to extrapolate the compound’s long-term hydrostatic strength at 100,000 hours. The HDB test result provides “the *estimated* long-term strength of a plastic pipe *material*” based on a linear regression using individual data points from another test. That result is multiplied by one of

¹ A City of Calleguas project required either UL 1285–compliant or “Factory Mutual Approved” pipe.

two design factors “so that the hydrostatic design stress obtained provides a service of life for an indefinite period beyond the actual test period.” AWWA C900 and C905 also require that samples undergo quick burst (“QB”) testing to determine whether they can sustain a pressure of 6,400 psi before bursting. UL 1285 requires a longitudinal tensile strength (“LTS”) test, which involves pulling on the ends of a pipe specimen until failure.

At trial, plaintiffs provided evidence that J-M (1) continued to assert compliance for its PVC pipe after changing its manufacturing process and (2) knew that its pipe no longer satisfied the three standards. For example, J-M’s research and development chief, William Fassler, had reported in 2006 that “[i]n recent years, the HDB test success rate is below 50%” for J-M pipe. Fassler also noted in a 2003 internal email that the processing of the pipe “has changed dramatically” since it passed UL certification in 1992. J-M’s former head of quality assurance, K.C. Yang, had informed management since 1998 that much of the PVC pipe produced by J-M was not capable of passing the UL 1285 test. He was told, “[D]on’t worry about it, and don’t tell UL.” J-M conducted UL 1285 testing at all its PVC plants in 2006 and found that “pipe at all facilities is [now] below the desired level” necessary to pass UL requirements.

PROCEDURAL HISTORY

I. Pre-Trial Proceedings and Trial Bifurcation

Relator John Hendrix filed this action in 2006, alleging violations of the federal FCA, 31 U.S.C. § 3729, and multiple state FCAs. Numerous states and municipalities subsequently intervened as plaintiffs.

The federal FCA provides the government a right of action against anyone who “knowingly presents, or causes to be presented, a false or fraudulent claim for payment or approval” to the government. 31 U.S.C. § 3729(a)(1)(A). The statute allows a civil penalty up to \$10,000 for each violation and an award of “3 times the amount of damages which the Government sustains because of the” false claim. *Id.* § 3729(a)(1). “A claim under the FCA requires a showing of: (1) a false statement or fraudulent course of conduct, (2) made with scienter, (3) that was material, causing (4) the government to pay out money or forfeit moneys due.” *Godecke v. Kinetic Concepts, Inc.*, 937 F.3d 1201, 1208 (9th Cir. 2019) (cleaned up).

Plaintiffs designated the State of Nevada by the City of Reno, the commonwealth of Virginia by the City of Norfolk, the Calleguas Municipal Water District, the City of Palmdale, and South Tahoe Public Utility District as exemplar plaintiffs. Their claims arise under the Nevada False Claims Act, Nev. Rev. Stat. § 357.040 (2007); the Virginia Fraud Against Taxpayers Act, Va. Code Ann. § 8.01-216.3 (2007); and the California False Claims Act, Cal. Gov’t Code § 12651 (West 2007). The courts in those states treat federal FCA cases as precedential because their statutes are modeled after the federal law. *See, e.g., Simonian v. Univ. & Cmty. College Sys. of Nev.*, 128 P.3d 1057, 1060 (Nev. 2006); *Lewis v. City of Alexandria*, 756 S.E.2d 465, 479 n.4 (Va. 2014); *City of Pomona v. Superior Court*, 107 Cal. Rptr. 2d 710, 716 (Ct. App. 2001). We do the same.

The district court bifurcated the trial, with the first phase addressing falsity, materiality, and scienter—in short, whether J-M violated the FCAs—and the second addressing whether the plaintiffs suffered any damages as a result. In

describing the Phase One issues, the bifurcation order stated that plaintiffs had alleged that J-M had represented that “*all* (not just some) J-M pipe satisfied . . . the various standards” and that “*all* (not just some) of the pipe was manufactured in a substantially identical manner to the pipe that was originally determined to comply with the standards,” but that J-M “manufactured or tested its pipe in a manner that did not comply with the foregoing industry standards,” resulting in plaintiffs having “no assurance that the pipe was made and tested in the manner represented.”

J-M moved for summary judgment before Phase One, arguing that plaintiffs had no evidence that any individual stick of pipe they received did not comply with industry standards. The district court denied the motion because plaintiffs “adduced evidence that, if believed, a rational trier of fact could take to indicate that J-M’s practices essentially systematically ran afoul of manufacturing and testing requirements.”

II. Phase One

After a seven-week Phase One trial, the jury returned a unanimous verdict against J-M. For each of the twenty-six projects at issue, the jury was asked: (1) whether J-M presented or caused to be presented “a claim for payment or approval that was false or fraudulent”; (2) whether J-M “made or used a false record or statement in order to get a false or fraudulent claim paid or approved by” the plaintiff; (3) whether J-M acted “‘knowingly’ in regards to the false or fraudulent claim”; (4) whether “the false or fraudulent aspect of the claim” was “material to [the plaintiff’s] decision-making”; and (5) to “identify/describe why the claim was false and/or fraudulent.” The jury answered “yes” to the first four questions for each project and described each

claim as false because “JM falsely represented uniform compliance with AWWA [C900 and C905] and UL 1285.”

J-M moved for JMOL, again arguing that there was no evidence that any plaintiff “actually received pipe that violated any of [the] standards.”² The district court denied the motion.

III. Phase Two Trial

Before the Phase Two trial, the district court clarified that “the Phase One jury found a lack of a compliance based on manufacturing and testing shortcomings. The Phase Two jury will be charged with determining what effect, if any, this lack of compliance had on Plaintiffs apart from influencing their decision to buy the pipe in the first place.” The court stated that (1) “the Phase One jury determined that [J-M’s] piping did not uniformly comply with certain industry standards,” (2) J-M’s “representations to that effect were false,” and (3) its “misrepresenting compliance with the standards was material.” The court stressed, however, that “the Phase One jury did not make factual findings as to the physical state of the pipe purchased by Plaintiffs, such as reduced life span.”

During the Phase Two trial, plaintiffs “attempted to establish that the value of the pipe they received from J-M during the 1996-2006 period was worth less than what they

² Although plaintiffs proffered evidence about various J-M pipe failures during Phase One, the district court only allowed evidence of a single incident in Reno, and plaintiffs do not challenge the court’s exclusion of evidence about other failures on appeal. The Reno failure occurred immediately after installation during a pressure test of the line. J-M offered evidence that the contractor improperly performed post-installation testing. J-M replaced the entire line of pipe at no cost to Reno, and there have been no failures since.

paid for it because it would not last as long as pipe that was compliant with the three standards litigated in the Phase One trial.” Because the Phase One jury found “that Plaintiffs would not have bought pipe from J-M had they known that statements of compliance were false,” plaintiffs also argued that they were entitled to recover either the entire “contract price” or the “total cost of replacing the offending pipe with compliant pipe.” Plaintiffs also sought statutory penalties for the stamps on each individual stick of pipe.

To show actual damages, plaintiffs offered expert testimony attempting to connect the industry standards with expected longevity of PVC pipe. Although plaintiffs’ experts opined generally that the relevant test results “bear a relationship to long-term strength and durability,” and that any “sort of significant change in the . . . short-term mechanical and strength properties is typically going to also result in a change in the long-term strength,” none could opine about “specific longevity in terms of years of a particular pipe,” present a mathematical correlation between these tests and longevity, or estimate a failure date for non-compliant pipe.

After the close of evidence, the district court found that plaintiffs were not entitled to recover the costs of removing and replacing the installed J-M pipes. The court also held that the “stamping of each pipe with a C900/C905 mark cannot serve as a basis to impose [] civil penalties” for each stick of pipe under Nevada and Virginia law. The jury was unable to reach a verdict on damages, and a mistrial was declared.

IV. Judgment as a Matter of Law

After the mistrial, the district court granted J-M JMOL on actual damages. It also granted J-M's renewed *Daubert* motions to strike the opinions of plaintiffs' experts.³

The JMOL order rejected plaintiffs' contention that they were entitled to the full purchase price of the pipe because that would "impose a strict liability standard for FCA actual damages which would mean that, in every case, the losing defendant would always be obligated to refund the contract price regardless of any evidence of actual damages." Rather, quoting *United States v. Science Applications International Corp.*, 626 F.3d 1257, 1279 (D.C. Cir. 2010), the court said that the full purchase price is the measure of damages "only where the government proves that it received no value from the product delivered." The court rejected the contention that the received pipe was "valueless," finding no evidence "that [plaintiffs] have removed or contracted for the replacement of all (or any portion) of the J-M pipe in the ground; and it is undisputed that they have not ceased the use of that pipe and thereby have obtained, retained (for many years), and continue to receive value from it."

The court also rejected plaintiffs' argument that non-compliant pipe was less valuable than compliant pipe because it would "fail early," noting that plaintiffs failed to establish a "usable longevity figure" for either compliant pipe or non-compliant pipe. The court also noted the absence of industry consensus on how long PVC pipe is expected to last and concluded that compliance with the

³ J-M's pre-trial challenges under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), to the proposed expert testimony were denied.

AWWA and UL standards does not “result in any specific longevity figures for the compliant PVC pipe.” The court held that, even if their testimony were credited, plaintiffs’ experts “still failed to proffer sufficient evidence” to show a measurable reduction in pipe longevity. Absent evidence to “show the difference in terms of longevity between compliant PVC pipe and non-compliant PVC pipe,” the court saw “no way for a reasonable jury to reach an amount for actual damages in this case.”

But the court also struck the expert testimony concerning longevity, focusing on the four *Daubert* factors concerning the reliability of a methodology: (1) “whether it can be (and has been) tested”; (2) “whether the theory or technique has been subjected to peer review and publication”; (3) “the known or potential rate of error and the existence and maintenance of standards controlling the technique’s operation”; and (4) “general acceptance,” noting that “a known technique which has been able to attract only minimal support within the community may properly be viewed with skepticism.” *Daubert*, 509 U.S. at 593–94 (cleaned up).

JURISDICTION AND STANDARD OF REVIEW

The district court had jurisdiction over the federal claims in the operative fifth amended complaint under 28 U.S.C. § 1331 and over the state claims under 31 U.S.C. § 3732(b). The district court’s final judgment was timely appealed by plaintiffs, and cross-appealed by J-M. We have jurisdiction under 28 U.S.C. § 1291. We “review de novo the granting of a motion for JMOL” and “must review all of the evidence in the record, drawing all reasonable inferences in favor of the non-moving party.” *City Sols. Inc. v. Clear Channel Commc’ns, Inc.*, 365 F.3d 835, 839 (9th Cir. 2004).

DISCUSSION

I. Phase One Verdict

J-M argues that the Phase One verdict cannot stand because plaintiffs failed to show that any individual stick of pipe that they received did not comply with industry standards. J-M also asserts that the industry standards do not require “that all J-M pipe had to be exactly the same as the pipe material submitted for testing” and that it was “not uncommon” for some certified pipe manufactured after initial testing to fail to meet industry standards.

The district court correctly rejected these arguments. As an initial matter, given the evidence that J-M’s success rate on the HDB test for AWWA certification was below 50% and that by 2006, none of its facilities was producing pipe that met UL standards, a reasonable jury could surely conclude that plaintiffs received *some* pipe not meeting industry standards.

But more importantly, J-M misconstrues plaintiffs’ claim. It is not that J-M occasionally produced pipe that was not “exactly the same” as the pipe originally tested. Rather, plaintiffs assert that J-M knew that it had stopped producing pipes through processes materially similar to those used at the time of compliance testing—something required by industry standards to claim continued compliance—and also knew that a significant amount of the pipe later produced did not in fact meet industry standards. And they contend that they would not have purchased or installed J-M pipe had they been told the truth. Plaintiffs’ representatives so testified, and the Phase One jury reasonably so found.

J-M’s argument about scienter is similar: because plaintiffs could not prove that any individual stick of pipe

that they received was non-compliant, they also cannot show that J-M knowingly lied. J-M also argues that because the industry standards do not forbid “occasional non-compliance,” its claims of compliance therefore could not have been knowingly false.

These arguments fail for the same reason as J-M’s contentions about falsity. The industry standards do not require that every stick of pipe be tested to ensure compliance, but they do require manufacturers to continue producing product with materially similar processes as those used when the pipe was first certified before claiming continued compliance. There was ample evidence not only that J-M knew that its processes had materially changed but also that its pipe could no longer pass the tests.

II. Statutory Penalties

For each violation of the state FCAs, the district court was authorized to impose a statutory penalty. *See* Nev. Rev. Stat. § 357.040(2) (2007); Va. Code Ann. § 8.01-216.3(A) (2007); Cal. Gov’t Code § 12651(a) (West 2007). The district court awarded one penalty for each of the twenty-six projects at issue. Plaintiffs concede that the California FCA allows only one penalty per project. Cal. Gov’t Code § 12651(a) (West 2007). But they argue that because the Nevada and Virginia FCAs—like the federal FCA, 31 U.S.C. § 3729(a)(1)—impose a penalty for each *act* in violation of the statute, *see* Nev. Rev. Stat. § 357.040(2) (2007); Va. Code Ann. § 8.01-216.3(A) (2007), the stamp on each piece of pipe indicating compliance should give rise to a separate penalty. Plaintiffs also argue that because the Phase One jury found that J-M made false statements in its brochures and those statements were materially identical to

the stamps, it necessarily found that each of the stamps were false.

The district court did not err in awarding only one penalty per project. The Phase One jury's finding of falsity and materiality did not mean that *every* stick of pipe was non-compliant. That jury found only that J-M did not uniformly comply with industry standards and could have delivered *some* non-compliant pipe. Plaintiffs did not establish how much non-compliant pipe they received nor were they able to identify any specific piece of non-compliant pipe.

The Supreme Court has held that collusive bidding on fifty-six projects gave rise to only fifty-six FCA penalties, not one “for every form submitted by respondents in the course of their enterprise.” *United States ex rel. Marcus v. Hess*, 317 U.S. 537, 552 (1943), *superseded by statute on other grounds*, Act of Dec. 23, 1943, 57 Stat. 609. Our cases are in accord. *See United States v. Woodbury*, 359 F.2d 370, 378 (9th Cir. 1966) (holding that documents attached to applications for funds do not give rise to separate penalties); *United States v. Nat'l Wholesalers*, 236 F.2d 944, 950 (9th Cir. 1956) (holding that when seventeen invoices were attached to ten vouchers for payment, “the number of claims should be computed on the number of vouchers rather than the number of invoices”).⁴ Similarly, when determining

⁴ Numerous out-of-Circuit cases are to the same effect. *See, e.g., United States v. Grannis*, 172 F.2d 507, 515–16 (4th Cir. 1949) (holding that only the “ten vouchers covering the fictitious claims” constituted violations and not the 130 schedules attached to the vouchers); *United States v. Rohleder*, 157 F.2d 126, 127, 130–31 (3d Cir. 1946) (holding that a penalty was appropriate for the fraud associated with respect to each of sixteen contracts but not for each of the ninety purchase orders submitted with the contracts); *Miller v. United States*, 550 F.2d 17, 23–

penalties for false claims associated with goods, courts applying the federal FCA have awarded penalties based on the number of contracts or invoices but not on each good. *See, e.g., United States v. Bornstein*, 423 U.S. 303, 311–13 (1976) (awarding three penalties for three separately invoiced shipments rather than a penalty for each falsely marked tube); *see also United States v. Aerodex, Inc.*, 469 F.2d 1003, 1011 (5th Cir. 1972) (awarding a penalty for each of three invoices but not for each of the mislabeled bearings). The district court thus did not err in declining to award a statutory penalty for the stamp on each piece of pipe.⁵

24 (Ct. Cl. 1977) (agreeing with the Ninth Circuit’s decision in *Woodbury*); *BMV—Combat Sys. Div. of Harsco Corp. v. United States*, 44 Fed. Cl. 141, 150 & n.4 (1998) (holding that “false records in support of [] false claims . . . do not equate to separate penalties when the records and the claim support the same false demand for money” (cleaned up)).

⁵ It has long been settled that a statutory penalty may be imposed for violation of the federal FCA even absent proof of actual damages. *See, e.g., Rex Trailer Co. v. United States*, 350 U.S. 148, 152–53 (1956) (citing *United States ex rel. Marcus v. Hess*, 317 U.S. 537 (1943)); *Bly-Magee v. California*, 236 F.3d 1014, 1017 (9th Cir. 2001) (“[A] qui tam plaintiff need not prove that the federal government will suffer monetary harm to state a claim under the FCA.”); *United States ex rel. Hagood v. Sonoma Cnty. Water Agency*, 929 F.2d 1416, 1421 (9th Cir. 1991) (“No damages need be shown in order to recover the penalty.”); *see also Rohleder*, 157 F.2d at 127 (affirming the award of penalties where “[t]he government offered no evidence of actual damage at the trial and sought only to recover the statutory forfeitures”).

FCA plaintiffs who cannot prove actual damages do not lack Article III standing under the rule in *TransUnion LLC v. Ramirez*, 141 S. Ct. 2190 (2021). The common law provides a cause of action for fraud to the target of a material misrepresentation made with scienter. There is an obvious close relationship between a FCA cause of action and common law fraud. *See id.* at 2208; *see also Vt. Agency of Nat. Res. v. United States ex rel. Stevens*, 529 U.S. 765, 781 n.10 (2000) (noting “that

III. Actual Damages

The federal FCA imposes not only penalties but also liability for “the amount of damages which the Government sustains because of the” false claim. 31 U.S.C. § 3729(a)(1). FCA plaintiffs must “prove all essential elements of the cause of action, including damages, by a preponderance of the evidence.” 31 U.S.C. § 3731(d). The proper measure of damages when a “defendant agreed to provide goods or services to the government, . . . is the difference between the value of the goods or services actually provided by the contractor and the value the goods or services would have had to the government had they been delivered as promised.” *Sci. Applications Int’l Corp.*, 626 F.3d at 1278.

A.

Plaintiffs contend that because they would not have bought the pipe had they known the truth, their damages are the “entire amount paid.” The district court correctly rejected this theory because it would “impose a strict liability standard” under which J-M would “be obligated to refund the contract price regardless of any evidence of actual damages” and because it conflates “the materiality element of the FCA claim” with “actual damages.”

Plaintiffs also argue that they “bargained for the confidence that comes from compliance with industry standards; they did not receive it, and so they did not receive what they bargained for at all.” But in the cases that they cite, the goods were either plainly unusable, not used, or returned.

the FCA was intended to cover all types of fraud” (emphasis omitted)). And, both the common law and statutory actions are designed to address the same injury: reliance on an intentional, material misrepresentation.

United States ex rel. Compton v. Midwest Specialties, Inc., 142 F.3d 296 (6th Cir. 1998), involved a contract between Midwest and the U.S. Army for jeep brake-shoe kits that had undergone specified quality-assurance testing, which Midwest failed to conduct. *Id.* at 297–98. When the brakes failed, the Army tested a sample of the kits and found that 78% and 60% of the brake shoes failed the contracted-for quality-assurance tests. *Id.* at 298. In response, the Army removed all Midwest brake shoes from its jeeps. *Id.* The court awarded the full contract price as damages, finding that the “the brake shoe kits delivered . . . were completely valueless” and stressing that “*all* Midwest-manufactured jeep brake shoes were taken out of service and placed in storage.” *Id.* at 304.

In *United States v. Aerodex, Inc.*, 469 F.2d 1003 (5th Cir. 1972), the Fifth Circuit held that the proper measure of damages was the full contract price, \$27,000, when Aerodex contracted to sell one type of bearing, P/N 171815, to the Navy and instead delivered an interchangeable bearing, which it had reworked to be indistinguishable from the P/N 171815. *Id.* at 1007, 1011. Upon learning about the deceit, the Navy removed and replaced the installed bearings. *Id.* at 1006.⁶

Here, plaintiffs’ pipe has not failed to operate as promised, and there is no evidence that an actual failure is

⁶ Similarly, in *FTC v. Figgie International, Inc.*, 994 F.2d 595 (9th Cir. 1993) (per curiam), a case brought under the Federal Trade Commission Act, the Court held that consumers could either keep the products at issue or “return[] them for refunds.” *Id.* at 606.

imminent or even likely.⁷ Nor has the pipe been returned; indeed, it remains in use today.

Plaintiffs also cite *United States v. Mackby*, 339 F.3d 1013 (9th Cir. 2003), to argue that when the evidence shows that the defendant lied about a fact that would have prevented the government from paying for a product or service had it known the truth, the damages include the entire amount paid even if the defendant provided a valuable product or service. *See id.* at 1018–19. But that case is easily distinguished. In *Mackby*, a layperson who ran a physical therapy clinic used his father’s Medicare personal identification number to charge the government for services. *Id.* at 1015. However, Medicare can pay for physical therapy only if provided by a certified therapist. *Id.* at 1014 (citing 42 C.F.R. § 410.60(a) (1996)). Because Mackby lacked such certification, the United States was legally barred from paying anything for his service. *Id.* at 1017.⁸ In contrast, plaintiffs were not legally constrained from paying for non-compliant pipe.

B.

Plaintiffs also contend that the pipe they received had no value, or indeed a “negative value,” because “the risk of

⁷ Although Reno experienced a failure immediately after installation, it occurred during testing—not during normal operation—and the pipe was replaced. *See supra* n.2.

⁸ The same is true for the other Medicare cases plaintiffs cite. *See Yates v. Pinellas Hematology & Oncology, P.A.*, 21 F.4th 1288, 1295 (11th Cir. 2021); *United States ex rel. Drakeford v. Tuomey*, 792 F.3d 364, 370–71 (4th Cir. 2015); *United States v. Rogan*, 517 F.3d 449, 451–53 (7th Cir. 2008).

premature pipe failure and the cost of replacement dwarfed any value obtained through some period of use of that pipe.”

In general, a “jury may make a just and reasonable estimate of the damage based on relevant data” and is “allowed to act on probable and inferential as well as (upon) direct and positive proof.” *Bigelow v. RKO Radio Pictures, Inc.*, 327 U.S. 251, 264 (1946) (cleaned up). However, “the jury may not render a verdict based on speculation or guesswork,” “even where the defendant by his own wrong has prevented a more precise computation.” *Id.* And, although FCA damages “need not be calculated by mathematical precision,” *United States v. Killough*, 848 F.2d 1523, 1531 (11th Cir. 1988), FCA plaintiffs must still present some evidence to establish the difference in value between the goods as actually provided and as promised, *see Sci. Applications Int’l Corp.*, 626 F.3d at 1278. *See also United States v. Collyer Insulated Wire Co.*, 94 F. Supp. 493, 498–99 (D.R.I. 1950) (awarding only statutory damages when the rate of non-compliance was established for less than one-third of the contracted-for wire, none of the wire was returned, and there were no complaints as to its quality).

Even if the testimony of their experts is credited, plaintiffs did not provide evidence from which a jury could reasonably determine the value of the pipe that they received. The district court correctly noted that the pipe clearly had value because plaintiffs have received years, if not decades, of use from it. And to establish damages based on a “risk of premature pipe failure,” plaintiffs were required to provide at least an approximation of how much non-compliant pipe was received, whether that pipe was in fact inferior in longevity to compliant pipe, and some measure of its longevity. They failed to do so.

Nor do any of the plaintiffs' contracts have a specification about longevity. The AWWA and UL standards do not contain any estimate of longevity, and the certification tests are not intended to measure long-term performance. Plaintiffs assumed that there was an industry expectation that PVC pipe will last at least 100 years, although they also presented estimates of 50 and 150 years. But J-M's express warranty for its pipe was one year, the industry standard at the time. And PVC pipes have only been used in civic water systems since the 1950s, and industry standards were not developed until the 1960s, so no PVC pipes—compliant or not—have yet been in use for 100 years. More importantly, as the district court noted, plaintiffs' experts "merely assume [100 years] for purposes of this litigation."

Even accepting 100 years as the expected longevity of compliant pipe, there was no evidence that noncompliance with industry standards calculably correlated to a loss of longevity. Plaintiffs' experts conducted no experiments or studies to ascertain the relationship between the standards and longevity, nor could they point to studies or reports by others. Nor did they articulate any damages figure arising from non-compliance with the three standards at issue.

In any event, plaintiffs do not challenge on appeal the district court's eventual *Daubert* ruling excluding their experts' opinions. Absent that testimony, there was no basis at all for a finding as to decreased longevity.

C.

Plaintiffs are also not entitled to seek recovery for the cost of replacing all their J-M pipe. We need not today resolve the parties' debate about whether replacement costs

are recoverable under the FCA.⁹ Plaintiffs have not replaced any pipe nor provided sufficient evidence that any of the pipe that they received will not last as long as compliant pipe, so no matter how replacement costs are categorized, the district court was correct not to award them.

D.

We also reject plaintiffs' argument that the district court's JMOL on actual damages conflicts with the Phase One jury's findings. As the district court correctly noted, "the Phase One jury did not make factual findings as to the physical state of the pipe purchased by Plaintiffs, such as reduced life span."

CONCLUSION

The district court did not err in finding that J-M violated the relevant state FCAs and in awarding only one statutory penalty for each project at issue. We therefore **AFFIRM**.

⁹ Compare *Bornstein*, 423 U.S. at 313–14 (permitting recovery for "the per unit cost to replace" the misrepresented good), with *Cook County v. United States ex rel. Chandler*, 538 U.S. 119, 131 & n.9 (2003) (noting that the FCA does not "provide for the consequential damages that typically come with recovery for fraud" because the "treble damages provision" serves "as a *substitute* for consequential damages" (emphasis added)).