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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF CALIFORNIA

WILLIAM LEE JOHNSON, et al.,

Plaintiffs,

v.

NATURAL GAS FUEL SYSTEMS, INC.
D.B.A. MOMENTUL FUEL
TECHNOLOGY, et al.,

Defendants.

Case No. 1:19-cv-00105-SAB

ORDER GRANTING IN PART AND DENYING
IN PART DEFENDANTS CARLETON AND
COBHAM'S MOTION TO LIMIT OPINIONS
AND TESTIMONY OF PAPE'S EXPERT
ROBERT A. CARNAHAN; DENYING
DEFENDANTS CARLETON AND COBHAM'S
MOTION TO LIMIT OPINIONS OF
MOMENTUM'S EXPERT AARON JONES, P.E.;
AND DENYING DEFENDANTS CARLETON
AND COBHAM'S MOTION TO EXCLUDE OR
LIMIT OPINIONS AND TESTIMONY OF
PLAINTIFFS' EXPERT BRIAN SPENCER

(ECF Nos. 131, 132, 133, 135, 136, 137, 139, 141,
142, 166, 167, 168)

MARKEL AMERICAN INSURANCE
COMPANY as Subrogee of AMERICAN
NATURAL GAS, LLC,

Plaintiff,

v.

NATURAL GAS FUEL SYSTEMS, INC.
D.B.A. MOMENTUL FUEL
TECHNOLOGY, et al.,

Defendants.

1 Currently before the Court are three motions filed by Defendants Carleton Technologies,
2 Inc. and Cobham PLC (“Defendants”) to limit or exclude expert testimony during the trial of this
3 matter.¹ (ECF Nos. 131, 132, 133.) The Court, having reviewed the record, finds this matter
4 suitable for decision without oral argument. See Local Rule 230(g).

5 **I.**

6 **FACTUAL BACKGROUND**

7 This is a California state law negligence and product liability action arising out of the
8 personal injuries sustained by Plaintiff William Johnson (“William”) on December 21, 2018, as a
9 result of an explosion that occurred during the refueling of a compressed natural gas (“CNG”)
10 cylinder that was part of the fueling system for a commercial vehicle. William, by and through
11 his guardian ad litem Jerrad Johnson (“Jerrad”) (see ECF No. 12), as well as Plaintiffs Joan
12 Johnson and B&N Trucking, Inc. (“B&N”) (collectively “Plaintiffs”) initiated this action on
13 January 24, 2019. (ECF 1.)

14 Plaintiffs filed the operative first amended complaint (“FAC”) on February 14, 2019.
15 (ECF No 13.) The operative first amended complaint proceeds against Carleton, Pape Trucks
16 (“Pape”), and Natural Gas Fuel Systems, Inc. dba Momentum Fuel Technology (“Momentum”).
17 (Id.) Carleton asserts crossclaims against Momentum and Pape for (1) indemnity and
18 contribution; and (2) declaratory relief. (ECF No. 22 at 18–20.) Momentum asserts a crossclaim
19 against Carleton for: (1) express indemnity; (2) breach of contract; (3) total equitable indemnity;
20 (4) contribution; and (5) declaratory relief. (ECF No. 28 at 25-29.) Pape asserts crossclaims
21 against Momentum and Carleton for (1) total equitable indemnity; (2) contribution; (3)
22 negligence (regarding the design, construction, installation and distribution of the CNG system
23 sold to Pape and installed in the vehicles sold to B&N); and (4) declaratory relief. (ECF No. 36 at
24 16–18.) On November 12, 2019, Markel filed a motion to intervene as subrogee of American
25 Natural Gas, LLC (the owner of the gas station at which the incident occurred). (ECF No. 53.)
26 Markle asserts the causes of action on behalf of the Insured against Momentum, Carleton, and

27 _____
28 ¹ The parties have consented to the jurisdiction of the magistrate judge and this matter has been assigned to the undersigned for all purposes. (ECF Nos. 153, 154, 155, 156, 157, 159.)

1 Pape Trucks for (1) negligence; (2) strict productions liability—manufacturing defect; (3) strict
2 products liability—design defect; and (4) strict products liability—failure to warn. (Id. at ¶¶ 23–51.)

3 On April 4, 2024, Defendants filed motions to limit the opinions and testimony of
4 Momentum, Pape, and Plaintiffs’ experts. (Defs. Carleton and Cobham PLC’s Mot. to Limit
5 Opinions and Testimony of Pape’s Expert Robert A. Carnahan (“Carnahan Mot.”),² ECF No. 131;
6 Defs. Carleton and Cobham PLC’s Mot. to Limit Opinions of Aaron Jones, P.E. (“Jones Mot.”),
7 ECF No. 132; Defs. Carleton and Cobham PLC’s Mot. to Exclude or Limit Opinions and
8 Testimony of Expert Brian Spencer (“Spencer Mot.”), ECF No. 133.) On April 15, 2024,
9 Momentum, Pape, and Plaintiffs filed oppositions to the motions, Plaintiffs filed a joinder in
10 Momentum’s and Pape’s opposition, and Markel filed a notice of joinder in Plaintiffs’ opposition
11 to Defendants’ motions to exclude or limit the testimony of Brian Spencer. (Opp. to Defs.’ Mot.
12 to Limit Expert Opinions of Expert Aaron Jones (“Jones Opp.”), ECF No. 135; Def. Pape’s Opp.
13 to Defs.’ Mot. to Limit Opinions and Testimony of Pape’s Expert Robert A. Carnahan
14 (“Carnahan Opp.”), ECF No. 136; Pls.’ Opp. to Defs. Carleton and Cobham’s Mot. to Exclude or
15 Limit Opinions and Testimony of Pls.’ Expert Brian Spencer (“Spencer Opp.”), ECF No. 137;
16 Pls.’ Joinder in Def. Momentum Fuel Technologies, Inc. Opp. to Def. Carleton Technologies Inc.
17 and Cobham PLC’s Motion to Limit Opinions of Momentum’s Expert Aaron Jones, P.E., ECF
18 No. 139; Pls.’ Joinder in Def. Pape Trucks Inc. Opp. to Def. Carleton Technologies, Inc. and
19 Cobham PLC’s Mot. to Limit Opinions of Pape’s Expert Robert A. Carnahan, ECF No. 140; Pl.
20 Intervenor Markel American Insurance Co.’s Not. of Joinder in Pl. Johnson’s Opp. to Defs.
21 Carleton Technologies, Inc. and Cobham PLC’s Mot. to Exclude or Limit Opinions and
22 Testimony of Pl. Johnson’s Expert Brian Spencer, ECF No. 141.) On July 19, 2024, Defendants
23 filed replies to the oppositions of Momentum, Pape, and Plaintiffs. (Defs. Carleton Technologies,
24 Inc. and Cobham PLC’s Reply in Support of Mot. to Limit Opinions of Momentum’s Expert
25 Aaron Jones, P.E., ECF No. 166; Defs. Carleton Technologies, Inc. and Cobham PLC’s Reply in
26 Support of Mot. to Limit Opinions and Testimony of Pape’s Expert Robert A. Carnahan, ECF

27 _____
28 ² All references to pagination of specific documents pertain to those as indicated on the upper right corners via the
CM/ECF electronic court docketing system.

1 No. 167; Defs. Carleton Technologies, Inc. and Cobham PLC's Reply in Support of Mot. to
2 Exclude or Limit Opinions of Pls.' Expert Brian Spencer, ECF No. 168.)

3 The parties do not dispute the following facts:

4 Plaintiffs purchased two trucks from defendant Pape, which were to be equipped
5 with a CNG engine, manufactured and designed by defendant Momentum Fuel
6 Technologies ("Momentum"), equipped with CNG cylinders manufactured and
7 designed by Cobham. The subject vehicle exploded due to a rupture of one of the
8 CNG cylinders ("subject cylinder"). The subject cylinder is a type IV composite
9 overwrapped pressure vessel ("COPV"). As part of Cobham's testing
10 requirements, the subject cylinder was pressurized to over 5400 PSI for 6 minutes
11 and did not rupture. The subject cylinder's operating pressure is 3600 PSI. During
[William's] initial fill of the subject truck, the subject cylinder was pressurized at
or below 3600 PSI when the subject cylinder ruptured, resulting in a pressurized,
nonthermal explosion. The [] subject cylinder was never pressurized to operating
pressure after it left Cobham's possession and [William] should not have been the
first person to fully pressurize the subject cylinder after it left Cobham's
possession.

12 (Carnahan Mot. at 7;³ Jones Mot. at 6, ECF No. 132; Spencer Mot. at 7.) The parties dispute
13 what caused the rupture of the cylinder.

14 II.

15 Legal Standard

16 Expert witnesses in federal litigation are governed by Rules 702 to 705 of the Federal
17 Rules of Evidence. Rule 702 provides that expert testimony is admissible if 1) the witness is
18 sufficiently qualified as an expert by knowledge, skill, experience, training, or education; 2) the
19 scientific, technical, or other specialized knowledge will help the trier of fact understand the
20 evidence or determine a fact in issue; 3) the testimony is based on sufficient facts or data; 4) the
21 testimony is the product of reliable principles and methods; and 5) the witness has reliably
22 applied the principles and methods to the facts of the case. Fed. R. Evid. 702. In Daubert v.
23 Merrell Dow Pharm., Inc., 509 U.S. 579, 593-94 (1993), the Supreme Court provided a non-
24 exclusive, nondispositive list of factors to use in assessing the reliability of an expert's testimony:
25 (1) whether the theory or technique can be, or has been, tested; (2) whether it has been subjected
26 to peer review and publication; (3) whether it has a known or potential rate of error; and (4)

27 _____
28 ³ All references to pagination of specific documents pertain to those as indicated on the upper right corners via the
CM/ECF electronic court docketing system.

1 whether it has been generally accepted by the scientific community. In Kumho Tire Co., Ltd. v.
2 Carmichael, 526 U.S. 137, 147 (1999), the Supreme Court held that these factors “may or may
3 not be pertinent in assessing reliability, depending on the nature of the issue, the expert’s
4 particular expertise, and the subject of his testimony.”

5 The trial judge has a gate keeping role to “ensure that any and all scientific testimony . . .
6 is not only relevant, but reliable.” Kumho Tire Co., Ltd., 526 U.S. at 147 (quoting Daubert, 509
7 U.S. at 589. “Expert opinion testimony is relevant if the knowledge underlying it has a valid
8 connection to the pertinent inquiry. And it is reliable if the knowledge underlying it has a reliable
9 basis in the knowledge and experience of the relevant discipline.” City of Pomona v. SQM N.
10 Am. Corp., 750 F.3d 1036, 1044 (9th Cir. 2014) (quoting Primiano v. Cook, 598 F.3d 558, 565
11 (9th Cir. 2010)).

12 The court’s “gatekeeping function is not limited to ‘scientific’ expert testimony, but
13 applies to all expert testimony[.]” United States v. Hankey, 203 F.3d 1160, 1167 (9th Cir. 2000).
14 When an expert meets the threshold established by Rule 702 as explained in Daubert, the expert
15 may testify, and the jury decides how much weight to give that testimony. Primiano, 598 F.3d at
16 564–65 (citing United States v. Sandoval-Mendoza, 472 F.3d 645, 654 (9th Cir.2006)). The
17 inquiry into whether an expert opinion is admissible is a “flexible one” where shaky “but
18 admissible evidence is to be attacked by cross examination, contrary evidence, and attention to
19 the burden of proof, not exclusion.” Primiano, 598 F.3d at 564 (citing Daubert, 509 U.S. at 592-
20 96). The Supreme Court has held that “Rule 702 grants the district judge the discretionary
21 authority, reviewable for its abuse, to determine reliability in light of the particular facts and
22 circumstances of the particular case.” Kumho Tire Co., Ltd., 526 U.S. at 158. “A court may
23 conclude that there is simply too great an analytical gap between the data and the opinion
24 proffered,” however, “Rule 702 does not license a court to engage in freeform factfinding, to
25 select between competing versions of the evidence, or to determine the veracity of the expert’s
26 conclusions at the admissibility stage.” Elosu v. Middlefork Ranch Inc., 26 F.4th 1017, 1026 (9th
27 Cir. 2022) (citation omitted).

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III.

DISCUSSION AND ANALYSIS

Defendants bring motions to exclude or limit the testimony of Robert A. Carnahan, Defendant Pape’s expert witness; Aaron Jones, P.E., Defendant Momentum’s expert witness; and Brian Spencer, Ph.D., Plaintiffs’ expert witness. The Court shall first address issues common to all motions and then address the remainder of each motion separately.

A. Issues Common to All Motions

Upon review of the motions, there are several issues that are common to all.

1. Whether expert testimony should be allowed at trial

Plaintiffs contend that the agreed upon facts are controlling in this matter and since this is an admitted liability case no expert testimony is required. (Spencer Opp. at 6.) Plaintiffs cite to Imprimis Int’l v. Fraidenburgh, 2007 U.S. Dist. LEXIS 39408 (E.D. Cal 2007) (citing United States v. First Nat’l Bank, 652 F.2d 882, 886 (9th Cir. 1981) in support of their argument. The citation in Imprimis, Int’l states,

As such, the undisputed facts, as set forth by the parties in their joint final pretrial report (Docket # 65) and incorporated in the court’s Final Pretrial Conference Order (Docket # 69), are binding and controlling. See United States v. First Nat’l Bank of Circle, 652 F.2d 882, 886 (9th Cir.1981) (‘[A] party need offer no proof at trial as to matters agreed to in the order, nor may a party offer evidence or advance theorems at the trial which are not included in the order or which contradict its terms.’).

2007 U.S. Dist. LEXIS 39408, *3 n.4. Both of these cases address the effect of the pretrial order and do not stand for the proposition that expert testimony is not needed in a situation such as here, where there are crossclaims brought for contribution and indemnification. While the parties do not dispute liability, the trier of fact will be tasked with deciding the amount of damages and indemnification and contribution at issue between the defendants. See Res-Care Inc. v. Roto-Rooter Servs. Co., 753 F.Supp.2d 970, 981 (N.D. Cal. 2010). While it is true that an expert is not required to find that the subject vehicle exploded causing William’s injuries, the cause of the vehicle exploding is relevant to the contribution and indemnification crossclaims.

Under California law, “[a] product liability case must be based on substantial evidence establishing both the defect and causation (a substantial probability that the design defect, and not

1 something else, caused the plaintiff's injury) and where . . . the complexity of the causation issue
2 is beyond common experience, expert testimony is required to establish causation.” Stephen v.
3 Ford Motor Co., 134 Cal.App.4th 1363, 1373 (2005); see also Pierson v. Ford Motor Co., 445
4 F.App'x 966, 969 (9th Cir. 2011) (dissenting opinion); Monroe v. Zimmer U.S. Inc., 766
5 F.Supp.2d 1012, 1028 (E.D. Cal. 2011). In this case, the trier of fact will be required to consider
6 the cause of the explosion to determine the issue of contribution and indemnification between the
7 defendants and this is a complex issue that is beyond common experience so expert opinion will
8 be necessary to assist the trier of fact. See Shalaby v. Newell Rubbermaid, Inc., 379 F.App'x
9 620, 622 (9th Cir. 2010) (Determining the cause of explosion required exploration and evaluation
10 of complex facts and theory “beyond common experience” and “presented questions of physics,
11 metallurgy, and engineering related to the construction, composition, design and operation of a
12 handheld torch attached to a gas cylinder.”). The Court finds that expert testimony is necessary
13 on the issue of the causation of the rupture of the cylinder.

14 2. Opinion regarding a gas leak in the cylinder causing the rupture

15 Momentum's engineering expert Aaron Jones and Plaintiffs' expert Brian Spencer both
16 concluded that the subject cylinder ruptured due to a gas leak in the cylinder. (Jones Mot. at 11;
17 Momentum Mot. at 11.) Defendant Pape's expert Robert Carnahan stated that rupture of the tank
18 due to a boss leaking during fueling cannot be ruled out. (Carnahan Mot. at 11.)

19 **a. Defendants' argument**

20 Defendants seek to preclude all experts from testifying that a cracked and leaking boss
21 allowed gas to leak causing the rupture of the cylinder. Defendants contend that this theory has
22 never occurred with Type 4 cylinders, has never been tested, and is not based on any authoritative
23 literature. Further, this theory has been debunked by Cobham's expert and is inconsistent with
24 the National Aeronautics and Space Administration's (“NASA”) own assessment as to the causes
25 of COPV ruptures. (Carnahan Mot. at 13; Jones Mot. at 12-13; Spencer Mot. at 15.)

26 **b. Momentum's argument in opposition**

27 Momentum counters that Defendants rely on the testimony of their expert who claims to
28 have tested Jones' theory and conclusively demonstrated that gas cannot flow laterally through

1 the carbon filter, but the Court's role under Daubert is not to weigh the testimony or to supplant
2 the jury's fact-finding role. The Court's role is limited to ensuring the evidence in dispute is
3 sufficiently reliable and relevant to the issue before the jury that is appropriate for the jury's
4 consideration. (Jones Opp. at 20.)

5 Momentum is arguing that Cobham is seeking for this Court to believe the testimony of its
6 own expert and disregard Mr. Jones' testimony which is improper under Daubert. Further,
7 Cobham seeks to have this Court weigh the evidence by pointing to evidence from NASA that a
8 leaking tank is not a known cause of COPV ruptures, but weighing the evidence is improper
9 under Daubert. Cobham's argument that a leak causing a rupture in a Type 4 tank has never
10 occurred before is an unsupported representation, and an assertion that a given product has never
11 failed before is not a valid defense to a product liability claim. (Id. at 21.) Cobham does not
12 explain how the absence of prior similar incidents is even relevant to the Daubert analysis. (Id. at
13 22.)

14 **c. Plaintiffs' argument in opposition**

15 Plaintiffs respond that while Cobham notes that Mr. Spencer has been unable to point to
16 another incidence of a Type 4 cylinder rupturing due to a leak, it is of no consequence because the
17 absence of prior incidents is not probative as to whether a particular manufactured item contains a
18 manufacturing defect. (Spencer Opp. at 137.) Experts are often called on to evaluate novel issues
19 and Cobham retained its own expert to opine as to causation in this matter. Plaintiffs assert that
20 the fact that Mr. Grewal tested Mr. Spencer's theory actually supports Mr. Spencer's theory
21 regardless of the result of his testing. Further, Cobham's assertion that the theory is refuted by
22 NASA, setting aside that this is an issue of weight and not admissibility of the evidence, is untrue.
23 NASA failure modes list COPV failures to specifically include "Crack Growth in Boss." (Id. at
24 15.)

25 **d. Defendants' argument in reply**

26 Defendants reply there is no evidence that the theory regarding a leak in the tank causing a
27 rupture has been generally accepted in the scientific community, and there is no literature or
28 documents that support the theory. (Carnahan Reply at 4-5; Jones Reply at 7.)

1 **e. Analysis**

2 While Defendants argue that the theory that a gas leak would have caused the explosion
3 has been disproved by their expert and is inconsistent with NASA standards⁴ as to the causes of
4 COPV ruptures, this goes to the weight, not the admissibility of the testimony. “The test under
5 Daubert is not the correctness of the expert’s conclusions but the soundness of [the expert’s]
6 methodology. Under Daubert, the district judge is a gatekeeper, not a fact finder. When an
7 expert meets the threshold established by Rule 702 as explained in Daubert, the expert may testify
8 and the jury decides how much weight to give that testimony.” Primiano, 598 F.3d at 564-65
9 (internal punctuation and citations omitted).

10 “Where two credible experts disagree, it is the job of the fact finder, not the trial court, to
11 determine which source is more credible and reliable.” City of Pomona, 750 F.3d at 1049
12 (quoting Sandoval-Mendoza, 472 F.3d at 654). Simply put, “[t]he district court is not tasked
13 with deciding whether the expert is right or wrong, just whether his testimony has substance such
14 that it would be helpful to a jury.” City of Pomona, 750 F.3d at 1044 (quoting Alaska Rent-A-
15 Car, Inc. v. Avis Budget Grp., Inc., 738 F.3d 960, 969-70 (9th Cir. 2013)). A disagreement
16 between the experts is not a reason to limit the challenged testimony.

17 Further, while Defendants argue that the experts have not tested their theory, point to no
18 prior cases where a rupture was caused by a leaking cylinder, or any manufacturer that warns that
19 a leaking cylinder could cause an explosion, “[e]xperts working in specialized, scientific, and
20 uncertain fields regularly ‘extrapolate from existing data’ and generate novel hypotheses about
21 complex issues.” Elosu, 26 F.4th at 1026 (quoting Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146
22 (1997)). This is why experts are permitted wide latitude to offer opinions, even when not based
23 on firsthand knowledge or observation. Elosu, 26 F.4th at 1026.

24 Defendants also seek to exclude any testimony that a leak in the cylinder could have
25 caused the rupture arguing that this theory is based on other expert’s opinions, has not been
26 subject to peer review and publication, and the experts’ opinions were developed for litigation.

27 _____
28 ⁴ The Court does note that the Failure Modes identified by NASA include “crack growth in boss” which can result in catastrophic failure. (Composite Overwrapped Pressure Vessels, a Primer, 91, ECF No. 131-1.)

1 However, although independent research into a topic is helpful, it is not necessary to establish
2 reliability where the expert presents other objective, verifiable evidence that the testimony is
3 based on scientifically valid principles. Wendell v. GlaxoSmithKline LLC, 858 F.3d 1227, 1235
4 (9th Cir. 2017). Further, expert testimony can be reliable without peer review and publication
5 especially where the subject is rare making published studies difficult. Wendell, 858 F.3d at
6 1235.

7 The Court finds that Defendants arguments challenging the testimony regarding a gas leak
8 causing the rupture of the cylinder goes to the weight of the experts' testimony and not the
9 admissibility.

10 3. Testimony regarding whether testing of the cylinder failed to comply with ANSI
11 NGV 2

12 **a. Defendants' argument**

13 Defendants seek to preclude any testimony that testing of the cylinder failed to comply
14 with the American National Standard for Compressed Natural Gas Fuel Containers ("ANSI NGV
15 2"). They contend that Mr. Carnahan's opinion as to the requirements of ANSI NGV 2 is
16 unreliable, not based on sufficient facts or data or reliable principles and methods, is irrelevant,
17 and based solely on his reading of ANSI NGV 2 (Carnahan Mot. at 2); Mr. Jones did not
18 participate in developing the standards, has not spoken to anyone involved in drafting the
19 standards regarding their interpretation of the standard, and has not leak tested Type 4 tanks
20 (Jones Mot. 10-11); and Mr. Spencer has no basis for his opinion, was not involved in developing
21 NGV 2 nor contributed to its development and has not spoken to anyone who developed NGV 2
22 in terms of how to interpret the testing requirement (Spencer Mot. at 18).

23 Defendants also argue that the experts attempt to provide opinions as to Cobham's
24 purported failure to comply with ANSI NGV 2 based entirely on their reading of the statute and
25 nothing more. (Carnahan Mot. at 14-15; Jones Mot. at 11; Spencer Mot at 18.) Further, opinion
26 testimony regarding their compliance with leak testing is irrelevant to the issue at hand--what
27 caused the subject cylinder to rupture. It is undisputed that Cobham hydrostatically tested the
28 subject cylinders to over 5400 PSI for 6 minutes without rupturing and the experts have failed to

1 assert, allege or testify as to how Cobham’s decision to utilize water in lieu of gas caused the
2 incident. (Carnahan Mot. at 14; Jones Mot. at 11; Spencer Motion at 18-19.)

3 **a. Pape’s argument in opposition**

4 Pape responds that Cobham is seeking to exclude what it thinks is an incorrect
5 interpretation of NGV 2 which is an improper subject for a Daubert motion. (Carnahan Opp. at
6 16.) Mr. Carnahan’s interpretation is based on a plain reading of the statute and supported by the
7 testimony of a Cobham employee who stated that Cobham’s leak test using water resulted in a
8 confusing situation where 4126-80 tanks would pass Cobham’s leak test even though they were
9 leaking water when leak tested. (Id. at 16-17.)

10 **b. Momentum’s argument in opposition**

11 Momentum responds that Defendants have only set forth a portion of the relevant standard
12 and their assertion that water testing is an “acceptable alternative method” is wrong. This issue
13 does not turn on expert testimony as much as an interpretation of the sections which is a question
14 of law. Regardless, any disagreement that Defendants have with the interpretation of the section
15 goes only to weight not admissibility. (Jones Opp. at 20.)

16 Momentum argues that the flaw in Defendants’ argument is that the issue is not the
17 procedures that Cobham used but the fact that Cobham ignored the results of its investigation and
18 testing which yielded information about the defects in its products. By ignoring the results of its
19 investigation, Cobham allowed a defective product to be delivered leading to the accident. (Id. at
20 23.)

21 **d. Defendants’ argument in reply**

22 Defendants reply sets forth the same arguments that the experts do not have the
23 qualifications to opine on the standards under the NGV 2 and their compliance with NGV 2 is
24 irrelevant. (Jones Reply at 4-5; Carnahan Reply at 6-7; Spencer Reply at 10.)

25 Defendants argue that Gaddy v. Am. Interstate Ins. Co., No. 1:14-CV-1928-WSD, 2017
26 WL 11629052 (N.D. Ga. Nov. 3, 2017) supports excluding testimony regarding the standards
27 because the expert’s interpretation of the standards were not subjected to peer review, not
28 published, nor did the expert serve on any subcommittee. (Jones Reply at 5; Carnahan Reply at 7;

1 Spencer Reply at 10.)

2 **e. Analysis**

3 Expert witnesses are allowed to testify about industry standards.⁵ Hangarter v. Provident
4 Life & Accident Ins. Co., 373 F.3d 998, 1017 (9th Cir. 2004). Further, the Daubert factors are
5 not applicable to nonscientific testimony, like testimony about industry standards, in which
6 reliability depends heavily on the knowledge and experience of the expert rather than the
7 methodology or theory behind the testimony. Hangarter, 373 F.3d 998 at 1017; Spearman Corp.
8 Marysville Div. v. Boeing Co., No. C20-13RSM, 2022 WL 6751797, at *4 (W.D. Wash. Oct. 11,
9 2022); King v. GEICO Indem. Co., 712 Fed. Appx. 649, 651 (9th Cir. 2017) (“Although it is well
10 established that experts may not give opinions as to legal conclusions, experts may testify about
11 industry standards”). Whether the experts have the requisite knowledge to testify as to the
12 industry standard will be addressed below in discussing their qualifications.

13 While Defendants argue that Gaddy supports exclusion of the testimony, the Court finds
14 Gaddy to be distinguishable. In Gaddy, the expert was not testifying as to the specific standard
15 but was borrowing a different standard to attack the specificity of the standard that applied in the
16 case. The court found there was no basis to show that the borrowing approach was an industry
17 standard. 2017 WL 11629052, at *3. There is no issue here that the experts are borrowing a
18 different standard than would apply in this action.

19 Assessing a proffer of expert testimony “entails a preliminary assessment of whether the
20 reasoning or methodology underlying the testimony is scientifically valid and of whether that
21 reasoning or methodology properly can be applied to the facts in issue.” Daubert, 509 U.S. at
22 592–93. While Rule 702 is applied with a “liberal thrust” that favors admission, it does require
23 expert testimony to be relevant and reliable. Messick v. Novartis Pharms. Corp., 747 F.3d 1193,

24
25 ⁵ In their reply, Defendants argue that the testimony regarding ANSI NGV2 does not relate to industry standards but
26 is a legal interpretation of the regulations. However, the ANSI is the nationally recognized coordinator of voluntary
27 standards development in the United States and have some 10,000 national consensus standards currently approved
28 as American National Standards. (American National Standard for Compressed Natural Gas Vehicle Fuel
Containers, 110, ECF No. 131-1.) The evidence suggests that the ANSI NGV2 standards do relate to industry
standards and as such the Court finds that the testimony would be admissible as long as the expert possesses
sufficient background with the standards for the testimony to be reliable.

1 1196 (9th Cir. 2014). “Encompassed in the determination of whether expert testimony is relevant
2 is whether it is helpful to the jury, which is the ‘central concern’ of Rule 702.” Elsayed Mukhtar
3 v. California State University, Hayward, 299 F.3d 1053, 1063 n.7 (9th Cir.2002).

4 “Relevancy simply requires that ‘[t]he evidence . . . logically advance a material aspect of
5 the party’s case.’ ” Est. of Barabin v. AstenJohnson, Inc., 740 F.3d 457, 463 (9th Cir. 2014),
6 overruled on other grounds by United States v. Bacon, 979 F.3d 766 (9th Cir. 2020) (quoting
7 Cooper v. Brown, 510 F.3d 870, 942 (9th Cir.2007). “Relevancy depends on the particular law at
8 issue because ‘[e]xpert opinion testimony is relevant if the knowledge underlying it has a valid
9 connection to the pertinent inquiry.’ ” Messick, 747 F.3d at 1196–97 (quoting Primiano, 598
10 F.3d at 565). “California state products liability law requires only that a plaintiff show that the
11 defendant’s conduct was ‘more likely than not’ a substantial factor in causing the injury in order
12 to prove specific causation.” Messick, 747 F.3d at 1197 (citing Saelzler v. Advanced Grp. 400,
13 25 Cal.4th 763, 107 Cal.Rptr.2d 617, 23 P.3d 1143, 1152 (2001)).

14 While Defendants argue that the cylinder was tested without rupturing, evidence has been
15 presented that as early as October 5, 2018, Cobham was aware that their current design did not
16 provide sufficient margin to ensure an acceptable risk going forward.

- 17 - Prone to cracking in the outboard corner of the O-ring groove
18 - Crack grows into fastener counterbore at closest point
19 - Crack grows up into boss everywhere else
- Cracking causes nibbling of O-ring
- Nibbling leads to leaking of cylinder

20 (4114 Boss Redesign Delta CDR Momentum Type IV Tanks, Dated October 5, 2018, at 4, ECF
21 No. 137-2.) Mr. Carnahan testified that the end of the cylinder that failed appears to have been
22 cracked prior to the rupture of the tank. (Carnahan Decl. at ¶ 5, ECF No. 136-1.) “Cobham’s
23 analysis showed that subject tank boss design can be highly stressed even at low tank pressure.
24 Cobham took measures to mitigate boss leaks that occurred during batch cycle testing, but they
25 continued to use the same boss design.” (Id.) Further, “Cobham documentation shows that some
26 tanks that met their hydrostatic test pass criterion had leaks, meaning that hydrostatic testing
27 alone is insufficient for detecting some leaks.” (Id.)

28 “The relevancy bar is low, demanding only that the evidence ‘logically advances a

1 material aspect of the proposing party's case.' ” Messick, 747 F.3d at 1196 (quoting Daubert v.
2 Merrell Dow Pharm., Inc. (“Daubert II”), 43 F.3d 1311, 1315 (9th Cir.1995)). The Court finds
3 that the testimony regarding the testing of the cylinders is relevant because it sufficiently relates
4 to the facts of this case and may be useful to the trier of fact in resolving the factual dispute
5 regarding the cause of the rupture of the cylinder. Daubert, 509 U.S. at 591.

6 The Court next considers the individual motions to exclude or limit the testimony of the
7 experts.

8 **B. Motion to Limit Opinions and Testimony of Robert A. Carnahan**

9 1. Defendants' Argument

10 Defendants assert that Mr. Carnahan stated that he had not determined with certainty what
11 caused the tank to rupture and attempts to suggest that the subject cylinder may have a crack and
12 the leaking boss allowed for gas to infiltrate the carbon fiber composite and weaken it to the
13 extent that the tank could rupture at service pressure. (Carnahan Mot. at 10-11.) However, Mr.
14 Carnahan also stated that although he is not aware of any prior tank ruptures having occurred in
15 this manner, rupture of the tank due to a boss leaking during fueling cannot be ruled out.
16 Defendants contend Mr. Carnahan is attempting to latch onto the theory advanced by other
17 experts, even though he is not able to determine the cause of the accident. (Id. at 11.)

18 2. Pate's Argument in Opposition

19 Pate counters that Mr. Carnahan's opinion that a crack in the subject tank could have led
20 to its rupture is not *ipse dixit*⁶ as claimed by Defendants. Rather Cobham knew that the crack was
21 occurring during their production process for this exact type of tank and Mr. Carnahan's opinion
22 is supported by his analysis of Cobham's CNG tank production process documents produced in
23 the litigation and other key admissions made by Cobham's employees. (Carnahan Opp. at 4.)

24 3. Analysis

25 Defendants suggest that Mr. Carnahan's opinion should be excluded because he was
26

27 ⁶ An *ipse dixit* is “an assertion made but not proved.” Sumotext Corp. v. Zoove, Inc., No. 16-CV-01370-BLF, 2020
28 WL 264701, at *6 n.2 (N.D. Cal. Jan. 17, 2020) (citing Merriam-Webster Online Dictionary, [https://www.merriam-webster.com/dictionary/ipse% 20dixit](https://www.merriam-webster.com/dictionary/ipse%20dixit) (last visited December 30, 2019)).

1 unable to conclusively determine what caused the rupture of the cylinder, but “[l]ack of certainty
2 is not, for a qualified expert, the same thing as guesswork.” Monroe, 766 F.Supp.2d at 1032
3 (quoting Primiano, 598 F.3d at 565.) “Expert opinion testimony is relevant if the knowledge
4 underlying it has a valid connection to the pertinent inquiry.” Id. (quoting Sandoval–Mendoza,
5 472 F.3d at 655).

6 Defendants also argue that Mr. Carnahan is attempting to join the theory advanced by
7 Plaintiffs and Momentum’s experts without a reasonable degree of certainty and his opinion is
8 unreliable because it is plain *ipse dixit* and the absence of any scientific underpinnings render it
9 unreliable. The reliability threshold requires that the expert’s testimony have ‘a reliable basis in
10 the knowledge and experience of the relevant discipline.’ ” Messick, 747 F.3d at 1197 (quoting
11 Kumho Tire Co., Ltd., 526 U.S. at 149). The court must determine “whether the reasoning or
12 methodology underlying the testimony is scientifically valid.” Daubert, 509 U.S. at 592–93. A
13 district court errs by looking too narrowly at individual factors without taking into account the
14 broader picture of the experts’ overall methodology. Wendell, 858 F.3d at 1233.

15 Defendants further contend that Mr. Carnahan has not explained how his experience leads
16 to the conclusions reached, why his experience is a sufficient basis for his opinion, and how his
17 experience is reliably applied to the facts of this case.⁷ (Carnahan Reply at 3 (citing Fed. R. Evid.
18 702 Advisory Committee’s notes (2000)). Pape has presented evidence that Mr. Carnahan has
19 extensive experience in failure analysis and prevention, including carbon fiber composites similar
20 to the tank at issue in this action. Mr. Carnahan is a principal engineer with Exponent, Inc. and
21 holds an M.S. degree in Metallurgical Engineering and a B.S. degree in Materials and
22

23 ⁷ The Court finds that the cases Defendants rely on in argument are distinguishable. See Powell v. Anheuser-Busch
24 Inc., No. CV 09-729-JFW (VBKX), 2012 WL 12953439, at *7 (C.D. Cal. Sept. 24, 2012) (expert relied on
25 incomplete facts and data making his testimony unreliable); Messer v. State Farm Fire and Cas. Co., No. CIV03-
26 1653PHXJWS, 2005 WL 5976565, at *4 (D. Ariz. Aug. 29, 2005) (excluding testimony of attorney who failed to
27 explain how experience in insurance litigation is a sufficient basis for opinion that defendant “did not investigate,
28 handle, and assess plaintiff’s insurance claim correctly, or that defendant engaged in unfair and/or deceptive
practices”); Watts v. Allstate Indem. Co., No. CIV. S-08-1877 LKK, 2013 WL 210059, at *11 (E.D. Cal. Jan. 17,
2013) (expert failed to explain how she derived her conclusions regarding collisions which led to unsafe seatbelt
stretching from the fields in the insurer’s computer systems); Hernandez v. City of Albuquerque, No. CIV 02-0333
JB/RHS, 2004 WL 5522847, at *7 (D.N.M. Jan. 23, 2004) (excluding portions of expert testimony that were
primarily based on possibilities instead of probabilities).

1 Metallurgical Engineering from the University of Michigan. He is a licensed professional
2 engineer in Arizona, California, Michigan, Nevada, and Texas. He was employed in the Nuclear
3 Energy Division of General Electric Company in San Jose, California, and was admitted to the
4 Materials and Science and Engineering Department at Stanford University and took the core
5 courses required for a Ph.D. He is certified by the American Petroleum Institute as a corrosion
6 and materials professional. (Carnahan Decl. at ¶ 1.) Mr. Carnahan has expertise in failure
7 analysis and prevention, physical metallurgy, materials selection, fracture mechanics, corrosion,
8 welding, engineering mechanics, and machine design. He has previously investigated failures of
9 carbon fiber composite and fiberglass CNG fuel tanks similar to the subject tank. (Id. at ¶ 4.)
10 Defendants have not challenged Mr. Carnahan's qualifications as an expert in this matter, and the
11 Court finds that Pape has presented evidence that Mr. Carnahan is qualified to opine on the
12 condition of the cylinder and the potential cause of the rupture.

13 Pape counters that Mr. Carnahan can properly address the industry standards and
14 Cobham's testing procedures. (Carnahan Opp. at 17.) As relevant here, Mr. Carnahan opined,

15 Cobham did not perform NGV 2 Section 9.3 gas leak testing required by NGV 2.
16 Cobham decided, with no documented technical basis, that Section 9.2 hydrostatic
17 testing met the requirements of the Section 9.3 gas leak test. Cobham
18 documentation shows that some tanks that met their hydrostatic test pass criterion
had leaks, meaning that hydrostatic testing alone is insufficient for detecting some
leaks.

19 (Carnahan Decl. at ¶ 5.) Mr. Carnahan testified as to the testing requirements of ANSI NGV 2
20 section 9.3 which applies to Type 4 containers. (Id. at ¶ 13.) Mr. Carnahan determined that
21 Cobham did not perform NGV2 section 9.3 leak test on the subject container because it
22 determined that a water test was an acceptable alternative method, and that Cobham should have
23 contacted ANSI for clarification as to whether they could substitute a water test for the section 9.3
24 gas leak test. (Id.) Mr. Carnahan determined from reviewing leak testing documentation from
25 Cobham, that the standard Cobham adopted was not an adequate method for detecting leaking
26 tanks because an employee testified that it was possible for a container to pass the leak test even
27 if water was leaking. (Id. at ¶ 15.) Mr. Carnahan agrees with Momentum's expert that a gas test
28 is required under section 9.3. (Id.) Mr. Carnahan testified that the decision not to use a gas test

1 could be the cause of the rupture of the subject tank because if the gas test had been used and the
2 tank was found to be leaking, Cobham would likely have never shipped the subject tank. (Id. at ¶
3 16.) Mr. Carnahan explained that gas can leak through smaller spaces than water and that could
4 be the difference as well as the pressurization with gas instead of water. (Id.) The Court finds
5 that Pape has submitted sufficient evidence to demonstrate that Mr. Carnahan has sufficient
6 knowledge to testify to the requirements of ANSI NGV2.

7 Mr. Carnahan's expert report also addresses the evidence he considered in arriving at his
8 conclusions. The report contains a section with an extensive review of Cobham's tank design,
9 tank qualification and manufacturing process and devotes an entire subsection to boss cracking
10 which occurred during Cobham's testing of the part number 4126-80 tanks (i.e., the same part
11 number of the subject tank). (Id. at ¶ 6, see Ex. A. at 72-100, ECF No. 136-1.) Mr. Carnahan
12 based this section of his report on his analysis of documents Cobham produced in this litigation,
13 along with inspections of the subject tank and exemplar tanks. (Carnahan Decl. at ¶ 6.)

14 Further, the report addresses the basis of his conclusion. Upon testing of the boss from
15 the incident tank, it was found that "[t]he [valve side] boss [from the subject tank] is quite thin at
16 the bolt hole fracture locations," and [t]he fracture appearance is nearly identical to that of the
17 bosses that were found cracked during [Cobham's] lot acceptance testing." (Carnahan Decl. at ¶
18 7, Exh. A at 61.) Mr. Carnahan's work included optical microscope examination of exemplar
19 4126-80 tanks from Cobham as well as the subject tank which revealed considerable porosity in
20 the composite. (Carnahan Decl. at ¶ 11, Ex. A at 46, 48.) Mr. Carnahan also testified that under
21 certain circumstances, such as where there is sufficient porosity or delamination for the gas to get
22 through, gas can flow laterally through the carbon filter. (Depo. of Robert Carnahan ((Carnahan
23 Depo.)) 118:22-119:4, ECF No. 136-1 at 167-183.) Three tanks were tested, the subject tank and
24 two exemplar tanks, and there was considerable porosity present in each of the samples. (Id.,
25 133:4-17.)

26 While the court may screen an expert opinion for reliability and reject testimony that is
27 wholly speculative, the court may not weigh the expert's conclusions or assume a factfinding
28 role. Elosu, 26 F.4th at 1020. Here, Defendants seek to have the Court weigh the experts'

1 conclusions and exclude them, but this is not the role of the Court. Rather, the gatekeeping
2 function is “to prevent unfounded or unreliable opinions from contaminating a jury trial.” Id.

3 “[W]hile a court may reject wholly speculative or unfounded testimony, it abuses its
4 discretion if it overlooks relevant data submitted as the foundation of an expert’s remarks. Elosu,
5 26 F.4th at 1025. Contrary to Defendants’ contention, Mr. Carnahan’s opinion is not solely his
6 *ipse dixit*, but was based on his review of Defendant Cobham’s tank qualification and production
7 process and the cracking of the bosses that occurred during Cobham’s testing of the tanks, as well
8 as his inspection of the subject tank and exemplar tanks. While Mr. Carnahan was not aware of
9 any manufacturer who provides information and a warning related to how a leak could lead to a
10 rupture nor could he identify any testing or evidence to support his contention that gas is capable
11 of flowing laterally through the carbon fiber composite of a Type 4 COPV or that a leak could
12 lead to a rupture, the Court finds this goes to the weight of Mr. Carnahan’s testimony rather than
13 admissibility. See City of Pomona, 750 F.3d at 1044 (quoting Alaska Rent–A–Car, 738 F.3d at
14 969 (“The Court is not to “exclude opinions merely because they are impeachable.”)).

15 Defendants also argue that Mr. Carnahan is attempting to join the opinions of Plaintiffs
16 and Momentum’s expert that a leak caused the rupture. During his deposition, Mr. Carnahan
17 testified as follows:

18 Q. Now, you also understand that Mr. Jones and Mr. Spencer are of the opinion
19 that the cause of the rupture was the leak in the tank?

20 A. Yes.

21 Q. Do you share that opinion?

22 A. My opinion in that regard is that you can’t rule it out.

23 Q. Okay.

24 A. I can’t say whether or not that’s what caused the tank to fail, but based on my
25 understanding you can’t rule it out.

26 Q. Okay. So it would be fair say that you do not share the opinion that the cause
27 was a crack --a leak, but you are of the opinion that it can’t be ruled out?

28 A. Yes, simply stated, right, exactly. So, you know, there is a crack in the boss, to
what extent did gas leak through that crack and contribute to the tank failure, you
know, I can’t rule out that, you know, gas escaping through that crack didn’t
contribute to failure of the tank.

Carnahan Depo. at 62:7-63:1.)

Mr. Carnahan was unable to determine the cause of the rupture of the cylinder and the
Court finds that his testimony that a leak in the tank cannot be ruled out as a cause of the rupture

1 is not helpful to the jury. Therefore, this testimony shall be excluded unless Defendants
2 questioning of Mr. Carnahan raises the issue during trial. Should counsel believe that Defendants
3 questioning of Mr. Carnahan has rendered his testimony on this subject admissible, the issue shall
4 be raised outside the presence of the jury prior to eliciting the testimony.

5 The Court denies Defendants' motion to exclude the testimony of Mr. Carnahan on the
6 interpretation of ANSI NGV 2 and grants Defendants' motion to exclude Mr. Carnahan's
7 testimony that a leak in the tank caused the rupture cannot be ruled out.

8 **C. Motion to Limit the Opinion of Momentum's Expert Aaron Jones, P.E.**

9 1. Defendants' argument

10 Defendants argue that Mr. Jones is an engineer with a metallurgy background and is not
11 qualified to offer an opinion in this case because he has never designed, manufactured, or tested a
12 Type 4 tank or any of the composites used in connection with Type 4 tanks. (Jones Mot. at 9-10.)
13 Mr. Jones' testimony is exactly the type of *ipse dixit* of the expert that should be excluded.
14 Further, Defendants assert that Mr. Jones admitted during his deposition that there was no basis
15 for his opinion. (Id. at 11.) Since Mr. Jones has no basis for his opinion regarding how the tank
16 ruptured, he should be precluded from offering an unsupported hypothesis. (Id. at 13.)

17 Defendants also argue that Mr. Jones should be precluded from testifying regarding the
18 void content of the cylinder because it is not based on his own work, but on the work of
19 Plaintiff's expert, Mr. Spencer. (Id.) The foundation for Mr. Jones' opinions is based on imaging
20 of the void content provided by Mr. Spencer's daughter and Mr. Jones made no effort to verify
21 that the imaging was done properly and accepted the work at face value. (Id. at 13-14.) Since the
22 opinion related to the void content was based on the work of another expert's daughter who will
23 not be testifying in this case, Defendants contend there is no foundation for his opinion. (Id. at
24 14.)

25 2. Momentum's argument in opposition

26 Momentum counters that Defendants attempt to challenge Mr. Jones' opinion that a crack
27 in the subject tank's boss allowed gas to escape into the layers of carbon fiber that was wrapped
28 around the tank which compromised the strength of the carbon fiber and led to the tank rupture.

1 However, Defendants do not address the foundation for Mr. Jones' opinion which comes directly
2 from Cobham's own investigation and the testimony of Cobham's employees, nor do Defendants
3 discuss Mr. Jones' 62-page report which explains the basis for his opinions. Defendants ignore
4 Mr. Jones' detailed report, his methodology, reasoning, and the basis for his ultimate opinion.
5 (Jones Opp. at 19.)

6 Momentum further asserts that Mr. Jones did not admit that there was no basis for his
7 opinion as asserted by Defendants. Cobham's failure to even address Mr. Jones' methodology is
8 fatal to its argument. It is not surprising that Defendants make no attempt to show that Mr. Jones'
9 did not use reliable methodology in investigating and arriving at his conclusions, since Mr. Jones
10 explained that he conducted multiple, thorough inspections of the subject vehicle, damaged
11 component parts, the sister truck, and photographs. (Id. at 22.)

12 Momentum argues that Cobham has not proffered any showing that Mr. Jones' methods
13 were unreliable and only submits snippets of his deposition and does not address the substance of
14 the reports. Further, Mr. Jones can properly rely on photos of the voids provided by Plaintiffs'
15 expert, Brian Spencer, which were taken by his daughter who is a mechanical engineer, and Mr.
16 Jones properly relied on Mr. Spencer's opinion in reaching his own decision. (Id. at 23, 24.)

17 3. Defendants' argument in reply

18 Defendants reply that Momentum's opposition suffers from the misunderstanding that
19 Cobham is seeking to prevent Mr. Jones from testifying altogether, but Defendants are only
20 seeking to limit his opinions. Momentum fails to offer any evidence that Mr. Jones is qualified to
21 render opinions related to the design and/or manufacturing defects with the subject cylinder or the
22 testing requirements per NGV 2. Further, Defendant argues that Momentum's opposition fails to
23 provide any evidence that Mr. Jones' opinions are reliable and based on scientific principles or
24 methods. (Jones Reply at 2.) Mr. Jones' experience must be sufficiently related to the particular
25 subjects at issue in the case and since Mr. Jones has no experience with Type 4 tanks, let alone
26 Type 4 CNG tanks, he is not qualified to render opinions as to the design and/or manufacture
27 defects within a Type 4 CNG tank. (Id. at 3-4.)

28 ///

1 4. Analysis

2 a. **Mr. Jones' qualifications to testify as an expert in this matter**

3 Rule 702 “contemplates a *broad conception* of expert qualifications,” and only a “*minimal*
4 *foundation* of knowledge, skill, and experience” is required for an expert to be qualified to testify.
5 Hangarter, 373 F.3d at 1015-16 (emphasis in original) (quoting Thomas v. Newton Int’l Enters.,
6 42 F.3d 1266, 1269 (9th Cir. 1994)).

7 Mr. Jones specializes in analyzing the mechanical, environmental and material causes of
8 failures in engineered systems with an emphasis in vehicle and transportation equipment, piping
9 and pressure vessels, and machinery. (Curriculum Vitae of Aaron J. Jones, P.E., 199, ECF No.
10 132-1.) As relevant here, his areas of expertise include failure analysis, composites/carbon fiber,
11 metallurgy, explosion investigation, and truck and bus engineering. He is a Ph.D. Candidate with
12 his coursework and qualifying examination completed and has a B.S. and M.S. in Metallurgical
13 and Materials Engineering from Illinois Institute of Technology. He is a licensed professional
14 engineer in the States of Illinois and Nevada, a certified vehicle fire investigator and a certified
15 fire and explosion investigator. (Id.) As relevant here, he has attended continuing education in
16 Fractography (1999), Vehicle Fire Arson and Explosion Investigation (2005), Professional
17 Engineering Boot Camp, ISPE (2007), Arc Mapping Basics - IAAI (2015), Investigating Motor
18 Vehicle Fires - IAAI (2015), Ethics and Fire Investigator - IAAI (2015), and Vehicle Fire
19 Investigation Training Program – NAFI (2017). He is on the following professional committees
20 and peer review: Editorial Review Board/Associate Editor - Journal of Failure Analysis and
21 Prevention, ASM International (2012-Present); Peer Review- ASM Handbook Volume 4E: Heat
22 Treating of Nonferrous Alloys; Member - SAE Motor Vehicle Fire Investigation Task Force
23 (2013-Present); Member-The Failure Analysis Society (Formerly ASM Failure Analysis
24 Committee (2015-Present). (Id. at 200.)

25 Defendants argue in reply that Mr. Jones has no experience with Type 4 tanks and that
26 Tokio Marine & Fire Ins. Co. v. Grove Mfg. Co., 958 F.2d 1169 (1st Cir. 1992) and Diefenbach
27 v. Sheridan Transp., 229 F.3d 27, 29 (1st Cir. 2000), which are cited by Momentum, support
28 excluding his testimony. (Jones Reply at 4.) In Tokio Marine & Fire Ins. Co., the Court found

1 that the trial court properly excluded expert testimony on crane defects. The expert testimony on
2 whether the absence of a load moment indicator was a defect called for meaningful cost benefit
3 analysis including how hydraulic cranes work and operate, crane design, manufacture and
4 marketing, and applicable industry standards and the expert admitted he had never designed
5 cranes, worked for a crane manufacturer, and there was no evidence of publication or in-depth
6 studies on the subjects of cranes and he conceded he was not an expert in crane maintenance,
7 crane operation, or load moment indicators, and his background did little to suggest expert
8 knowledge of relevant economic issues and industry standards. Tokio Marine & Fire Ins. Co.,
9 958 F.2d at 1174. Further, the expert had never examined the crane involved in the accident nor
10 had he spoken to the crane operator. Id. The court was clear that it was the expert’s “failure to
11 measure up in any one of several possible ways—educationally or experientially—that led to his
12 rejection: ‘[a] true expert in crane defects would be a mechanical engineer, a person with vast
13 experience in the design and manufacture of cranes, or a person involved in the teaching thereof.’
14 ” Id. at 1175.

15 In Diefenbach, the court concluded that a maritime captain was well qualified to testify
16 regarding docking and undocking even though he had never served aboard the type of vessel at
17 issue in the action. 229 F.3d at 31. The captain had testified that he was familiar with the type of
18 vessel, and they used the same equipment as the vessels on which he served. Id.

19 Here, Momentum has presented evidence that Mr. Jones has investigated pressure vessels,
20 including Type 4 tanks. Specifically in early 2019, Mr. Jones was asked by Waste Management
21 to look into some leakage from Cobham tanks in the field which he advised should be removed
22 from service. (June 15, 2023 Deposition of Aaron Jones, P.E., 20:8-23, ECF No. 132-1 at 207-
23 38.) This is the second time that Mr. Jones has been involved in litigation for failure of a Type 4
24 tank. (Id. at 21:22-25.)

25 While Defendants focus on Mr. Jones’ experience with Type 4 cylinders, Mr. Jones has
26 also previously investigated Hexagon/agility cylinders and has looked at Xperion and/or Luxfer
27 failures in the past. (Id. at 110:3-10.) This is the first COPV explosion where he determined the
28 cause was a design and/or manufacturing failure. (Id. at 110:11-14.) Mr. Jones uses the scientific

1 method in his investigation. (Id. at 110:15-18.) Mr. Jones' familiarity with the NGV 2 is based
2 on dealing with clients that utilize COPVs. (Id. at 117:23-118:9.) Mr. Jones has attended other
3 failure analysis classes and teaches his employees how to do failure analysis. (Id. at 122:18-21.)
4 Mr. Jones has been working with composites since he got out of college and has weighed in on
5 design but has not designed or manufactured composites. (Id. at 124:2-22.) Mr. Jones stated that
6 it would be very difficult to demonstrate that a leak could lead to a rupture, but it might be
7 possible. (Id. at 138:1-7.) He is basing his opinion that there was a gas flow laterally through the
8 carbon filter on the testimony of Wolfe, Pemberton and other work he has seen. (Id. at 138:17-
9 139:10.) Mr. Jones forgot exactly where, but the ASM Handbook talks about something similar
10 in a rocket motor case. (Id. at 139:11-15.)

11 In 2011, Mr. Jones investigated a rupture that was caused by a forklift improperly secured
12 on the back of a truck and it rolled into the BOC while the truck was in operation. A puncture by
13 the forks of the forklift caused the damage. (Id. at 22:2-8.) Mr. Jones has also been involved in
14 many pressure investigations and looked at some Type 3 tanks when working for Packer
15 Engineering. (Id. at 23:13-24.) In this case, Mr. Jones inspected the sister cylinders twice and
16 some exemplar cylinders. (Id. at 30:11-24.) Mr. Jones has personally performed a burst test and
17 a cycle test on Type 1 cylinders. (Id. at 130:22-131:13.)

18 Defendants assert that Mr. Jones is not qualified to offer an opinion in this case because he
19 has never designed, manufactured, or tested a Type 4 tank or any of composites used in
20 connection with Type 4 tanks. (Jones Mot. at 9-10, Jones Reply at 3.) However, "in considering
21 the admissibility of testimony based on some 'other specialized knowledge,' Rule 702 generally
22 is construed liberally." Hankey, 203 F.3d at 1168. Admissibility turns on relevance and
23 reliability, including whether the expert has appropriate qualifications such as "some special
24 knowledge, skill, experience, training or education on that subject matter" and "[w]hether the
25 methodology or technique the expert uses 'fits' the conclusions[.]" Id. As long as an expert
26 testifies within the reasonable confines of his subject area, a "lack of particularized expertise goes
27 to the weight of [the] testimony, not its admissibility." United States v. Garcia, 7 F.3d 885, 890
28 (9th Cir. 1993) (citing United States v. Little, 753 F.2d 1420, 1445 (9th Cir. 1984.); Avila v.

1 Willits Env't Remediation Tr., 633 F.3d 828, 839 (9th Cir. 2011); Hankey, 203 F.3d at 1168.

2 The Court finds that Momentum has presented evidence that Mr. Jones meets at least the
3 minimal qualifications to issue an opinion on the cause of the subject incident and the industry
4 standards.

5 **b. Whether Mr. Jones' opinion is without basis**

6 Defendants assert that Mr. Jones admitted during his deposition that there was no basis for
7 his opinion (Jones Mot. at 11) and that since Mr. Jones has no basis for his opinion regarding how
8 the tank ruptured, he should be precluded from offering an unsupported hypothesis (id. at 13).

9 Mr. Jones completed a report in this matter on April 4, 2023. (Fusion Engineering Report
10 prepared by Aaron J. Jones P.E. ("Jones Report"), ECF 132-1 at 131-198.) He concluded that
11 Cobham's design and manufacture processes of the cylinders fell below the standard of care
12 within the carbon filter cylinder industry and that the evidence indicates that the rupture of the
13 Cobham cylinder was the cause of the subject incident. (Id. at 132, 134.) Prior to coming to his
14 conclusion, Mr. Jones considered evidence such as the photographs from the surveillance videos
15 of the incident and Defendant Cobham's diagram of the resting location of the debris; the design,
16 manufacture, and testing of the cylinders by Cobham; and the specific results of the production
17 lot of the subject cylinder. (Id. at 134-140.) Further, Mr. Jones considered the history of the
18 problems with initial testing of the cylinders, change in the cylinder design, and Cobham's
19 method of leak testing the cylinders. (Id. at 140-52.) He also considered the history of the
20 subject cylinder after it had been received by Momentum and the installation of the cylinder by
21 Pape. (Id. at 153-55.) There were also prior incidents in which Cobham's cylinders had
22 developed a leak and he considered Cobham's leak testing of the cylinders. (Id. at 157-58.) Mr.
23 Jones considered the ANSI NGV 2 standards for carbon composite cylinders. (Id. at 158-63.)

24 Defendants argue that Mutersbaugh v. Gen. Elec., Inc., No. 5:17-CV-1300, 2019 WL
25 1409379 (N.D. Ohio Mar. 28, 2019) supports exclusion of the testimony because Mr. Jones
26 did not test his theory, explain why it could not be tested, and failed to explain why his theory had
27 not resulted in similar incidents and that therefore his testimony should be excluded. (Jones
28 Reply at 6.) In Mutersbaugh, the court found that the expert did not use scientific methodology

1 in developing his opinion but found a failed component and then formulated a theory that would
2 lead back to that failed component. 2019 WL 1409379, at *3. The expert did not physically
3 examine the components and only looked at pictures, did not test his theory on similar
4 components and failed to adequately explain why the testing could not be done, and wholly failed
5 to explain why his alleged conclusion has not led to a single other fire being reported that was
6 caused by the alleged defect. Id.

7 Here, several inspections were conducted of the subject ruptured cylinders and the other
8 cylinders installed on the subject and sister trucks, including analysis of the epoxy, evaluation of
9 the porosity, analysis of the fracture of the carbon fiber overwrap, and fractographic analysis of
10 the subject boss. (Jones Report at 163-75.) The bosses from other manufacturers were examined
11 and compared to the design of the Cobham boss utilized on the subject cylinder. (Id. at 175-181.)
12 Mr. Jones then discusses his reasoning and findings, including problems with the design of the
13 boss, inconsistencies in manufacturing, testing criteria, and Cobham’s investigation into leaking
14 of the cylinders prior to the subject incident.⁸ (Id. at 181-91.) Mr. Jones also considered that
15 there was no evidence that the subject cylinder sustained any damage after it left Cobham’s
16 possession. (Id. at 190-91.) “Rule 702’s ‘sufficient facts or data’ element requires foundation,
17 not corroboration.” Elosu, 26 F.4th at 1025. “Consistent with the court’s gatekeeping function,
18 Rule 702 instructs a district court judge to determine whether an expert ‘had sufficient factual
19 grounds on which to draw conclusions.’ ” Id. at 1025-26.

20 Momentum has presented evidence that Mr. Jones’ opinion is based upon his review of
21 documents, evidence, and testing of the subject cylinder and other similar cylinders and therefore
22 the Court finds that Momentum has demonstrated that there is a basis for Mr. Jones’ opinion.

23 **c. Opinion regarding void content of cylinder**

24 Defendants argue that Mr. Jones should be precluded from testifying regarding the void
25 content of the cylinder because it is not based on his own work but on the work of Plaintiffs’
26

27 ⁸ While Defendants argue that Momentum misleadingly states testing protocols revealed a design defect in the
28 subject tank and that the issue was actually changed and implemented in the subject tank (Jones Reply at 6 n.3), this
is an issue for the jury and irrelevant to the instant motion.

1 expert, Mr. Spencer; the imaging of the void content provided by Mr. Spencer's daughter; and
2 Mr. Jones made no effort to verify that the imaging was done properly and accepted the work at
3 face value. (Id. at 13-14.)

4 Rule 703 of the Federal Rules of Evidence provides:

5 An expert may base an opinion on facts or data in the case that the expert has been
6 made aware of or personally observed. If experts in the particular field would
7 reasonably rely on those kinds of facts or data in forming an opinion on the
8 subject, they need not be admissible for the opinion to be admitted. But if the facts
9 or data would otherwise be inadmissible, the proponent of the opinion may
10 disclose them to the jury only if their probative value in helping the jury evaluate
11 the opinion substantially outweighs their prejudicial effect.

12 While an expert cannot solely rely on another expert's opinion, Jerpe v. Aerospatiale, No.
13 CIV.S-03-555 LKK/DAD, 2007 WL 1394969, at *6 (E.D. Cal. May 10, 2007), the expert may
14 consider other experts' opinions in reaching their own independent judgment, United States v.
15 Pritchard, 692 F.App'x 349, 351 (9th Cir. 2017). If the facts or data used would reasonably be
16 relied upon by experts in forming an opinion on the subject, they need not be admissible for the
17 opinion to be admitted. Here, Defendants do not argue that the photographs are not the type of
18 evidence that would reasonably be relied upon by experts in developing an opinion but argue a
19 lack of foundation and reliability because they were taken by another expert's daughter.

20 Mr. Jones testified that Mr. Spencer provided him with images of the voids that were
21 made using an automated machine at his office. (Jones Depo. at 76:22-77:4.) Mr. Jones did not
22 independently verify that the images were done properly, but he believed they were Mr.
23 Spencer's daughter's work, and it was their joint work. (Id. at 77:8-13.)

24 Momentum presents evidence that Mr. Spencer's daughter works for and has ownership in
25 Spencer Composites Corporation. (June 6, 2023, Deposition of Brian Spencer, Ph.D. ("Spencer
26 Depo."), 14:20-25, ECF No. 137-4.) The company has about 25 employees. (Id. at 15:4-6.) His
27 daughter did the work on the void and fiber volume content to the ASTM and one of the other
28 engineers did the visual microscopic void analysis. (Id. at 15:10-15.) Mr. Spencer's daughter
was a biochemical major in college until she changed her major to business. She had lab
experience in college and has worked for his company for over 20 years. (Id. at 15:18-23.) She
has done dozens of void fiber content analysis prior to this. (Id. at 16:19-22.) The engineer who

1 performed the microscopic void analysis has a degree in mechanical engineering and has been
2 trained to do void analysis. She has been doing void analysis for years and has done many
3 dozens. (Id. at 16:6-18.)

4 To the extent that Defendants are challenging the reliability of the void analysis, the Court
5 finds that the evidence demonstrates that the analysis was conducted by individuals with
6 sufficient knowledge and experience to provide reliable results. Further, as discussed supra, an
7 expert may consider other experts' opinions in reaching their own independent judgment.
8 Pritchard, 692 F.App'x at 351. An "expert can use facts, data, and conclusions of other experts to
9 offer an opinion within the testifying expert's domain of expertise, but the testifying expert
10 cannot vouch for the truth of the other expert's conclusion." K&N Eng'g, Inc v. Spectre
11 Performance, No. EDCV 09-1900VAP (DTBX), 2011 WL 13131157, at *10 (C.D. Cal. May 12,
12 2011); Dura Auto. Sys. of Indiana, Inc. v. CTS Corp., 285 F.3d 609, 613 (7th Cir. 2002) ("it is
13 common in technical fields for an expert to base an opinion in part on what a different expert
14 believes on the basis of expert knowledge not possessed by the first expert; and it is apparent
15 from the wording of Rule 703 that there is no general requirement that the other expert testify as
16 well").

17 In his report, Mr. Jones discusses how the samples were analyzed for porosity.

18 Samples from three locations on the subject tank were removed at EAG labs on
19 September 9, 2022. The sample locations are shown in Figure 17 and were
20 identified as locations A, B, C, respectively. Each party involved in the litigation
21 was provided samples for analysis. Fusion Engineering further sectioned
22 longitudinal and transverse sections from the samples and provided them to
23 Element Materials Technology in New Berlin, Wisconsin for polishing and
24 photography. The photographs of the subject tank samples were given to Brian
25 Spencer of Spencer Composites for porosity analysis. Mr. Spencer utilized
26 photographic analysis software for determining the void content of the subject tank
27 samples.

28 Porosity in the samples of carbon fiber extracted from the subject tank ranged from
4.5% – 8.3%.

(ECF No. 312-1 at 163-64.)

26 Samples of the carbon fiber for other manufacturers of Type 4 CGN tanks were examined
27 and compared to the boss utilized on the subject cylinder. (Id. at 175.) The samples were
28 submitted for porosity analysis and the porosity sample report was prepared by Element Materials

1 Technology in the same manner as the subject tank samples. (Id. at 176.) In comparing the
2 porosity of the subject cylinder to the porosity of other Type 4 CNG cylinders, the other cylinders
3 had significantly lower porosity values than the subject cylinder. (Id. at 177-79.) Mr. Jones
4 opined that the subject cylinder was defectively manufactured by Cobham, in part, because the
5 “carbon fiber overwrap contained significant voids that far exceeded those of similar cylinders
6 from other manufacturers.” (Id. at 192.) The Court finds that Mr. Jones’ could properly consider
7 the Spencer laboratory findings on the void content in the subject cylinders compared to the
8 Element Materials Technology findings on the samples of other manufacturers Type 4 CGN tanks
9 in developing his opinion. An expert opinion may be based in part “on what a different expert
10 believes on the basis of expert knowledge not possessed by the first expert[,] and ”this is common
11 in technical fields.” In re Toyota Motor Corp. Unintended Acceleration Mktg., Sales Pracs., &
12 Prod. Liab. Litig., 978 F.Supp.2d 1053, 1066 (C.D. Cal. 2013) (quoting Dura Auto. Sys. of
13 Indiana, Inc., 285 F.3d at 613.

14 During the trial of this matter, the experts may testify to their opinions and address the
15 evidence upon which they relied to come to their opinion. However, the experts will not be
16 allowed to vouch for or bolster another expert’s opinion and, in accord with the gatekeeping
17 function, the Court will not allow an expert to testify beyond the expert’s area of expertise.⁹ If
18 counsel believes that an expert is testifying beyond their expertise or merely parroting another
19 expert’s opinion, an objection may be made during trial.

20 Defendants’ motion to limit the opinions of Mr. Jones is denied.

21 **D. Motion to Limit the Opinion of Mr. Spencer**

22 1. Defendants’ argument

23 Defendants contend that Mr. Spencer is unqualified to render any opinions regarding the
24 cause of the subject cylinder’s failure or any metallurgical or fractographical opinions and based
25 on his limited experience or lack thereof, he offers opinions that are inconsistent with published
26

27 ⁹ The Court is mindful that sometimes counsel will disrupt this concept through the “art of cross-
28 examination” or on re-direct. To the extent this occurs, the Court will make its ruling consistent
with the rules of evidence.

1 literature. (Spencer Mot. at 8.) Defendants argue Mr. Spencer is completely unqualified to
2 render any opinions as to the cause of the subject truck's explosion and admitted during his
3 deposition that his sole training in relation to investigating an explosion and determining its cause
4 is basic practical experience and working with other engineers on failure analysis. (Id. at 11.)
5 Mr. Spencer admitted he had never received any classroom training on how to investigate an
6 explosion and determine its cause, never reviewed any written material on how to investigate an
7 explosion, and never received any training in accident reconstruction or accident investigation.
8 Further, Mr. Spencer admitted that he has never investigated an explosion of a product that
9 occurred in the field, and this is the first time he has investigated a vehicle explosion. Mr.
10 Spencer's generalized background in composites and designing and manufacturing COPVs does
11 not qualify him to render opinions on the cause of a cylinder's failure in the field. (Id. at 11.)
12 While Mr. Spencer may be qualified to discuss the design and manufacture of COPVs, he has no
13 experience, training, or education in determining the cause of the truck's explosion or a cylinder's
14 rupture in the field and therefore should be excluded from testifying at trial as to the cause of the
15 subject cylinder's failure. (Id. at 12.)

16 Defendants assert that Mr. Spencer is unqualified to offer any metallurgical or
17 fractographical opinions and has offered several criticisms of the design and manufacture of the
18 subject cylinder which focus on metallurgical and/or fractographical issues. Specifically,
19 Defendants argue Mr. Spencer criticizes the fiber content and void content of the subject cylinder
20 which he contends resulted in a reduction in its strength and performance. (Id.) However, Mr.
21 Spencer admits he has no training in fractology and metallurgy and has conceded that he is not
22 qualified to render opinions related to metallurgy and fractology but defers to Mr. Jones on these
23 issues. (Id. at 12-13.) Therefore, Mr. Spencer should not be permitted to offer such opinions.
24 (Id. at 13.)

25 Defendants assert that even a cursory review of Mr. Spencer's admissions demonstrates
26 that his testimony is plain *ipse dixit* and the absence of any scientific underpinnings for his leak
27 leading to rupture opinion renders it unreliable. (Spencer Mot. at 13.) Mr. Spencer's experience
28 is with Type 3 COPVs, and the subject cylinder is a Type 4 COPV which is completely different

1 because the liners are composed of different materials. (Id. at 14.)

2 Defendants contend that since Mr. Spencer is relying on his experience he must “explain
3 how that experience leads to the conclusion reached, why that experience is a sufficient basis for
4 the opinion, and how that experience is reliably applied to the facts.” (Id. at 14 (citing FRE 702,
5 Adv. Comm. Note (2000).) Mr. Spencer’s opinion is based on nothing more than his supposed
6 experience with no proper basis or foundation. (Spencer Mot. at 14.)

7 Finally, Defendants argue that Mr. Spencer has opined that due to the defects with the
8 void content the voids contributed to lowering the burst pressure of the subject cylinder and since
9 Mr. Spencer is completely unqualified to render this type of metallurgical opinion it makes his
10 opinion equally unreliable. Defendants assert that Mr. Spencer has admitted that his opinion that
11 the appropriate void content is less than 2% is solely based on his experience in manufacturing
12 tanks and customer requirement and is not based on published literature. Yet, an American
13 Society of Metals publication asserts that the typical void content for high-void areas can be 5-
14 10%. Since Mr. Spencer’s opinion is solely based on his own experience and not accepted by the
15 relevant community, his opinion must be excluded. (Id. at 17.)

16 2. Plaintiffs’ argument in opposition

17 Plaintiffs counter that Mr. Spencer is eminently qualified and offers relevant and reliable
18 opinions in this matter. Plaintiffs assert it is important to note that, just three days prior to
19 Cobham shipping the subject tank to Momentum for use in the subject truck, Cobham’s design
20 team held a meeting to discuss issues with their tanks. Cobham knew that components were
21 prone to cracking which caused leakage but shipped the tanks anyway. Cobham made the
22 particular finding that “the current design does not provide sufficient margin [to] ensure an
23 acceptable risk level going forward” and therefore, Cobham’s own findings bolster Mr. Spencer’s
24 opinions. (Spencer Opp. at 7.)

25 Plaintiffs argue that while Defendants assert that Mr. Spencer has no training or education
26 in accident reconstruction, investigating automotive fires or investigating automotive explosions
27 in the field, here it was a compressed natural gas tank comprising the subject vehicle’s fueling
28 system that exploded. It is undisputed that the explosion was “initiated by the catastrophic

1 rupture of the lower tank in the enclosure located behind the cab of the subject truck.” (Id. at 9
2 (citing Pretrial Order [Dkt No. 125] incorporating undisputed facts from Joint Pretrial Statement
3 [Dkt. No 121 at pg. 5].) Further, this case does not involve an automotive fire or motor vehicle
4 collision in the field. There is no allegation or evidence that the subject vehicle could have
5 sustained damage sufficient to cause the explosion after William took possession of it or that
6 there was any damage sustained sufficient to cause the explosion while Plaintiff drove the subject
7 vehicle to the fueling station. (Spencer Opp. at 9.)

8 Plaintiffs state that Defendants’ arguments regarding Mr. Spencer’s qualifications go to
9 the weight of his testimony, not its admissibility. (Id. at 9.) The relevant analysis here is what
10 caused the CNG tank to rupture and Mr. Spencer is more than qualified to opine on the cause of
11 the ruptured CNG tank. (Id. at 10-11.) Plaintiffs argue that Mr. Spencer more than meets the
12 threshold established by Rule 702 and Defendants’ complaints regarding his knowledge,
13 education, and experience are issues for cross examination. (Id. at 11.)

14 Plaintiffs assert that Mr. Spencer admittedly testified that he was relying on the opinions
15 of Mr. Jones on any issues of metallurgy or fractology because he has no experience in these
16 areas, but he has read the report of Mr. Jones and finds it persuasive. Mr. Spencer relies on Mr.
17 Jones’ opinion as a basis for his opinion that the crack in the O-ring groove existed prior to
18 Plaintiff taking possession of the truck which was not asked during the deposition. To the limited
19 extent that Mr. Spencer relied on the opinion of Mr. Jones, Plaintiffs contend it is not grounds for
20 excluding his opinions as it is well established that expert opinions may be based in part on what
21 a different expert believes on the basis of expert knowledge not possessed by the first expert and
22 this is common in technical fields. (Id.)

23 Plaintiffs assert that Mr. Spencer testified to employing engineering principles in
24 investigating ruptures and has attended multiple inspections of the subject vehicles, including
25 cutting samples from the subject tank, and having those samples examined at his laboratory where
26 detailed cross section photographs were taken to determine the porosity of the composite wrapped
27 around the subject tank and differential scanning calorimetry was performed on the samples of
28 the composite. (Id. at 12.) Further, Mr. Spencer attended testing at EAG Labs where

1 measurements were taken of the subject tank, differential scanning calorimeter was performed on
2 samples from the subject tank, high resolution photography was taken of samples from the subject
3 tank, and pieces of the subject tank were examined by way of a scanning electron microscope
4 including pieces of the composite and the aluminum boss. Additionally, Mr. Spencer outsourced
5 a “drop test” which was performed on a sample taken from the subject tank’s liner. (Id.)

6 Plaintiffs argue that Mr. Spencer has investigated dozens of pressure vehicle failures in his
7 own composite work and has numerous other companies consult with him to determine why their
8 tanks have failed. (Id.) While Cobham has gone to great lengths to malign Mr. Spencer’s
9 opinion as to the cause of the rupture, Plaintiffs take the position that the arguments are not
10 persuasive. Mr. Spencer’s opinions are based on “reliable methods “and generally-accepted
11 principles.” (Id. at 13.) Although Defendants argue that Mr. Spencer’s experience is with Type 3
12 as opposed to Type 4 tanks, this is a distinction without a difference. Both types are COPVs and
13 the main difference is the type of liner. Mr. Spencer testifies that the liner’s material does not
14 matter in determining the viability of a tank and Mr. Spenser has observed this type of failure in
15 his own designs and provided examples. (Id. at 14.)

16 Plaintiffs argue that Mr. Spencer’s overarching opinion is that the subject tank was poorly
17 manufactured and one of the grounds for this opinion was that the tank had a “higher than
18 normal” void content. (Id. at 15.) Mr. Spencer’s opinion as to void content is based on decades
19 of experience with COPVs and his theory has been tested numerous times. Through his research
20 and development, Mr. Spencer has made composite components that ended up having excess
21 voids and examined the components microscopically to determine the cause of failure. (Id. at
22 18.) Substantial scientific analysis was employed to determine the void content of the subject
23 tank and Mr. Spencer’s opinion regarding the void content has a reliable basis in the knowledge
24 and experience of the relevant discipline and should be allowed. (Id. at 17-18.)

25 3. Defendants’ argument in reply

26 Defendants reply that Plaintiffs have not presented any evidence that Mr. Spencer is
27 qualified to opine as to the cause of the subject cylinder’s rupture in the field. (Spencer Reply at
28 3-4.) Mr. Spencer does not have any experience or training in determining the cause of the

1 explosion, accident reconstruction, or investigating automotive fires or explosions. The cause of
2 the subject cylinder's failure resulted in the subject vehicle's explosion which necessarily requires
3 Mr. Spencer to opine on the cause of the subject vehicle's explosion. (Id. at 4.) Since the subject
4 cylinder passed Cobham's internal testing and ruptured in the field, Mr. Spencer is not qualified
5 to render an opinion as to the cause of the subject vehicle's explosion. (Id. at 4-5.)

6 Further, Defendants argue that Mr. Spencer has no experience in the area on metallurgy or
7 fractology and has deferred these issues to Mr. Jones. (Id. at 5.) Mr. Spencer is not relying in
8 part on Mr. Jones' opinion but is attempting to parrot Mr. Jones' opinions and claim them as his
9 own. (Id. at 6.) Defendants contend that Mr. Spencer cannot rely on Mr. Jones' opinions that
10 were developed solely for the purpose of litigation. (Id. at 6-7.) Defendants make the same
11 arguments addressed above that Mr. Spencer has not affirmatively shown the requirements in the
12 Rule 702 Advisory Notes and that judges can consider several factors in determining whether to
13 admit expert testimony. (Id. at 7-8.) Mr. Spencer's sole qualifications pertain to experience with
14 offshore oil platforms utilizing Type 3 metal liners and this case involves a Type 4 cylinder using
15 polymer liners that are fully wrapped in carbon fiber. (Id. at 8.)

16 4. Analysis

17 a. **Mr. Spencer's qualifications to testify as an expert in this matter**

18 Mr. Spencer has a B.S. in Architectural Engineering and a Ph.D. in Engineering
19 Mechanics from the University of Nebraska, Lincoln, Nebraska; a M.E. in Industrial Engineering
20 from the University of California, Berkeley, California; and a M.E. in Mechanical Engineering
21 from the University of California, Davis, California. Since 1994, Mr. Spencer has been president
22 of Spencer Composites Corporation dedicated to the design, development, and fabrication of
23 advanced composite products. (Spencer Curriculum Vitae ("Spencer C.V.") 1, ECF No. 137-3.)
24 He holds over thirty patents, and professional affiliations include: Society for the Advancement of
25 Material and Process Engineering ("SAMPE"); Sigma Xi, The Scientific Research Society;
26 Advance Composites Seminars – Founder and General Partner; Senior Member of The Society of
27 Manufacturing Engineers ("SME"); SME Board Review, Session Chairman and Speaker;
28 CA/SME Board of Advisors from 1998 to 2000; SAMPE Session Chairman, Speaker and

1 International Committee Chair: Sports and Recreation. (Id.; June 6, 2023 Deposition of Brian
2 Spencer, Ph.D. (“Spencer Depo.”), 12:17-22, ECF No. 12.) Some of his patents have to do with
3 COPVs, including one for a Type 4 COPV. (Spencer Depo. at 12:23-13:4, 13:18-21.) He also
4 has an extensive list of publications addressing composites. (Spencer C.V. at 2-4.) Composites
5 was the subject of Mr. Spencer’s Ph.D. and dissertation which addressed manufacturing thick
6 wall composite, both manufacturing and determining what the residual stress state is in a
7 composite structure that has been manufactured and cured. (Id. at 161:1-9.) Mr. Spencer also
8 gives lectures around the world on composites and has taught weeklong classes in both the United
9 States and Australia on composite manufacture and design, including Type 4 pressure vessels.
10 (Spencer Depo. at 161:10-22.)

11 Mr. Spencer’s company was founded on doing research and development for other
12 companies in developing their product or evaluating materials. They have worked with
13 composite pressure vehicles and other structural members since the first day and composite
14 pressure vehicles have been the main part of their business as far as development is concerned.
15 (Spencer Depo. at 14:16-25.) Mr. Spencer has designed and built Type 4 vessels from six or
16 eight inches in diameter all the way up to six to nine meters in diameter. They have made some
17 very large and medium sized vessels ranging in pressure ratings from a few thousand PSI up to
18 15,000 PSI or higher, including designing Type 4 vessels. (Id. at 18:1-25, 19:20-25.) Mr.
19 Spencer has also done some of the NGV 2 testing concentrating on cycle tests, elevated
20 temperature cycle tests, burst tests, and lot acceptance tests such as proof tests and volume
21 expansion in the research and development phase. (Id. at 20:19-21:8.)

22 The Court finds that Plaintiffs have presented evidence that Mr. Spencer meets at least the
23 minimal qualifications to issue an opinion on the subject cylinder and the industry standards.

24 **b. Opinion in regards to Type 4 cylinders**

25 Defendants rely on Diviero v. Uniroyal Goodrich Tire Co., 919 F.Supp. 1353 (D. Ariz.
26 1996), aff’d, 114 F.3d 851 (9th Cir. 1997), and Berry v. Crown Equip. Corp., 108 F.Supp.2d 743,
27 744 (E.D. Mich. 2000), to argue that experience in the general area of composites and Type 3
28 cylinders is not sufficient to allow Mr. Spencer to testify as to the cause of the explosion of the

1 Type 4 cylinder. (Spencer Mot. at 11.)

2 In Diviero, a witness issued an opinion regarding whether a tire was defective. He was an
3 engineer and had experience working with tires for many years. He had examined numerous tire
4 failures and was president of a tire consulting company but had never been engaged by a
5 manufacturer of steel belted radial tires, had never conducted controlled testing of steel belted
6 radial tires in a plant setting, and had worked with bias belted, not steel belted radial tires. He
7 admitted that the two types of tires differed significantly, and he was not aware of the right
8 compatibility of steel to rubber interface with steel belted radial tires. He was unaware of the
9 mechanical, chemical, or thermal components that went into the design system for the steel to
10 rubber interface on a steel belted tire. Diviero, 919 F.Supp. at 1356. The court found that it was
11 clear from the testimony that was presented that the witness did not possess the training or
12 expertise to render a valid scientific opinion concerning whether the tires were defective.
13 “Expertise in the technology of fruit is not sufficient when analyzing the science of apples.
14 Courts have excluded the testimony of engineers because their expertise was not particular to the
15 science involved in the case.” Id. at 1357. The court found that the witness’ expertise and
16 experience did not fit the facts of the case. Id.

17 In Berry, the plaintiff was injured while driving a stand-up forklift and alleged that the
18 forklift was defectively designed. 108 F.Supp.2d at 745-46. In support of her claim, she
19 employed a “safety consultant” who considered himself an expert in accident prevention and
20 safety. The witness had a B.S. degree in speech with minors in English and science and had
21 attended multiple safety training seminars at the Chrysler Training Institute. Prior to becoming a
22 safety consultant, he had worked in an automobile manufacturing plant, for one year as a safety
23 director, and one year with the National Safety Council. He had never published any articles
24 regarding forklifts, and the only article he wrote that was published concerned butane lighters.
25 He had worked as a forklift operator operating a sit-down forklift. He was familiar with stand-up
26 forklifts because they were used in the manufacturing plants where he had worked, but had never
27 been employed as a forklift service technician or by a forklift manufacturer, nor had he ever
28 attempted to service a forklift or designed any product connected with the safety of forklifts that

1 went into production. Id. at 750. The court ultimately found that any opinion rendered by the
2 witness concerning defective design of the forklift was beyond his expertise in accident
3 prevention and safety. Id. at 753.

4 Unlike the cases relied upon by Defendants, Mr. Spencer's qualifications do fit the facts
5 of this case. He has a Ph.D. in Engineering Mechanics, and the subject of his dissertation was
6 composites. (Spencer C.V. at 1.) He holds over thirty patents, including patents in composites
7 and some of them have to do with COPVs, including one for a Type 4 COPV. (Id.; Spencer
8 Depo. at 12:23-13:4, 13:18-21.) Mr. Spencer's company has worked with composite pressure
9 vehicles and other structural members since the first day and composite pressure vehicles have
10 been the main part of their development; and they have developed, designed, manufactured, and
11 tested COPDs, including Type IV vessels. (Spencer Depo. at 14:16-25, 19:20-25, 20:19-21:8.)
12 Further, Mr. Spencer lectures around the world on composites and has taught classes on
13 composite manufacture and design, including Type IV pressure vessels. (Id. at 161:10-22.)

14 Defendants seek to exclude his testimony because Mr. Spencer has not had training on
15 how to investigate an explosion and has no training in accident reconstruction or accident
16 investigation, investigating vehicle fires, or automotive explosions but he was not retained, nor is
17 he opining, on such issues. Rather, Mr. Spencer's testimony directly addresses the design,
18 manufacturing, and condition of the Type 4 cylinder which the Court finds is within his area of
19 expertise.

20 Defendants also argue that Mr. Spencer's generalized background in composites and
21 designing and manufacturing COPVs does not qualify him to render opinions on the cause of a
22 cylinder's failure in the field and his experience is with Type 3 COPVs, but the subject cylinder is
23 a Type 4 COPV which is completely different because the liners are composed of different
24 materials. (Spencer Mot. at 11, 14.) Mr. Spencer has designed and tested Type 3 and Type 4
25 vessels and testified that the difference between the two does not make a difference as far as
26 determining the stress and strained state of the composite. (Spencer Depo. at 19:20-25, 64:8-14,
27 68:21-69:3.) Further, Mr. Spencer has investigated several dozen failures in pressure vessels,
28 including Type 4 vessels in the past. (Id. at 140:8-141:10.)

1 While Defendants contend that Mr. Spencer is not qualified to testify as to the cause of the
2 rupture of the tank, Mr. Spencer has observed failure of COPVs due to cracks in the liner that
3 allowed leakage into the composite. (Id. at 62:22-64-2.) He has investigated several dozen
4 failures in pressure vessels analyzing why the vessels failed, including Type 4 pressure vessels
5 that ruptured in testing. (Id. at 140:8-141:10.) Although Defendants argue that Mr. Spencer is
6 not qualified to testify as to a vehicle explosion in the field, Mr. Spencer has extensive experience
7 in investigating the failure of pressure vessels and it is undisputed that the subject vehicle
8 exploded due to a rupture of one of the CNG cylinders. The Court finds that Mr. Spencer is
9 qualified to issue an opinion as to the failure of the Type 4 cylinder at issue in this action.

10 **c. Whether Mr. Spencer's opinion is without basis**

11 Mr. Spencer testified that he inspected the remains of the subject truck and has seen
12 photographs. (Spencer Depo. at 29:22-25.) Mr. Spencer's inspection was focused on the BOC
13 and the cylinders within the BOC. (Id. 30:15-18.) He also has seen the sister truck and looked
14 through the compartment where the tanks were stored and saw the tanks. (Id. at 30:19-31:3.) He
15 inspected the subject cylinder three times. (Id. at 20:9-13.) His initial inspection occurred on
16 October 7, 2020, the truck was on a pallet, and they were able to inspect the tank. (Id. at 31:16-
17 32:3.) He looked at the locations where the tank had burst, the composite had failed, and the parts
18 and pieces that had been collected from the accident. No sampling or testing was done on this
19 date. (Id. at 31:6-17.) He next inspected the subject cylinder on November 19, 2021, and
20 samples were marked off and cut for further examination. (Id. at 33:20-34:5.) The samples were
21 tested by EAG sometime in early 2022. (Id. at 34:13-17.) There were two other people who were
22 experienced with taking photographs who took pictures and provided him with photographs of the
23 cylinders. (Id. at 35:13-25.)

24 A third inspection of the cylinder was conducted on September 2022 at EAG. Mr.
25 Spencer observed a differential scanning calorimeter that was performed on the samples of the
26 tank and high-resolution photographs were done of sections of the boss and also SEM. (Id. at
27 38:3-16.) Mr. Spencer did have a differential scanning calorimetry done on the samples at his
28 facility to verify that the resin was cured. (Id. at 39:19-25.)

1 Mr. Spencer also described how a leak would lead to a rupture and that he has observed
2 this multiple times on tanks in doing their research and development work. (Id. at 62:22-62:25.)
3 They did quite a bit of work examining this on offshore oil platforms. They had a crack in the
4 thin liner that allowed water they were using for testing to get into the composite. They were
5 seeing a drop in pressure and were able to determine that the water had infused into the composite
6 and in some cases on a shorter test sample saw that the composite failed due to the crack in the
7 liner that allowed the water to get in to depressurize the lower levels of the winding. (Id. at 63:3-
8 64:2.) These tests were with Type 3 tanks, but while the liner is different physics holds. The
9 engineering still holds for all these types of tanks, and it does not matter what the liner is made of
10 as far as determining the stress and strained state of the composite you are putting on the outside
11 of it. (Id. at 64:8-14.) The tank itself is very, very thin and does not take any load, it is just a
12 barrier, but they can be designed to take a significant portion of the load depending on the design.
13 (Id. at 64:21-65:7.) Mr. Spencer has not had any problem with Type 4 liners being breached and
14 has only seen this with metal liners. (Id. at 64:8-15.)

15 To investigate an explosion, Mr. Spencer uses engineering principles: identifying the
16 design basis of the tank, what it is required to do; the geometry; the pressures, temperatures, and
17 such; they will go through their own finite element analysis to figure out what stress state
18 composites are in under different loads; and look at the physical evidence to try and figure out if
19 there are any defects in the components used to make the vessel. (Id. at 141:19-142:7.) He will
20 look at every possible cause that could result in the result and go through each of them to figure
21 out what is happening. (Id. at 142:22-143:2.)

22 In his Rule 26 report, Mr. Spencer set forth the evidence and documents reviewed, and the
23 site visits that form the basis of his opinion. (Johnson Matter Findings 6-9, ECF No. 133-1.) The
24 report states that Mr. Spencer's opinions are based on "my expertise, education and training, and
25 Cobham Design Analysis Report Dated 5/18/2018 for P/N 4126-80 and other documents
26 produced by Cobham. My opinions are also based on my review of the physical evidence,
27 including inspections at Dunkel, EAG, and inspections of vessel samples at my lab in
28 Sacramento, CA." (Id. at 9.) The report sets forth findings regarding the filling of the vessel at

1 ANG; manufacturing of the cylinder by Cobham and conduct of Momentum. Each of the eleven
2 findings relating to Cobham set forth the findings and basis. (Id. at 10-12.)

3 The Court is unpersuaded by Defendants argument that Mr. Spencer's opinion was *ipse*
4 *dixit* and lacks scientific underpinnings. Rather, the evidence presented by Plaintiffs
5 demonstrates that Mr. Spencer examined the vessel on multiple occasions, conducted testing,
6 reviewed documents and photographs and applied his knowledge, experience, and training to
7 arrive at his opinion. As discussed supra, Court's gatekeeping role is to assess reliability under
8 702 and not determine the veracity of the expert's opinions. Elosu, 26 F.4th at 1020, 1026.

9 **d. Opinion regarding void content of cylinder**

10 As discussed supra, while an expert cannot solely rely on another expert's opinion, Jerpe,
11 2007 WL 1394969, at *6, the expert may consider other experts' opinions in reaching their own
12 independent judgment, Pritchard, 692 F.App'x at 351. Defendants argue that Mr. Spencer is just
13 parroting the opinion of Mr. Jones and claiming them as his own (Spencer Opp. at 6), however,
14 Mr. Spencer testified that he is not relying on any of Mr. Jones' work for his opinions, but he
15 believes that Mr. Jones' work backs up his own opinion, (Spencer Depo. at 82:8-16). Mr.
16 Spencer may properly consider that the opinion of Mr. Jones supports his own findings. Also as
17 discussed supra, an "expert can use facts, data, and conclusions of other experts to offer an
18 opinion within the testifying expert's domain of expertise[.]" K&N Eng'g, Inc, 2011 WL
19 13131157, at *10. In fact, "it is common in technical for an expert to base an opinion in part on
20 what a different expert believes on the basis of expert knowledge not possessed by the first
21 expert; and it is apparent from the wording of Rule 703 that there is no general requirement that
22 the other expert testify as well." Dura Auto. Sys. of Indiana, Inc., 285 F.3d at 613. Mr. Spencer
23 may properly consider the opinions of other experts as long as he reaches his conclusion based on
24 his own independent judgment. Pritchard, 692 F.App'x at 351. However, as discussed above, the
25 Court will not allow any expert to vouch for or bolster another expert's opinion and, in accord
26 with the gatekeeping function, the Court will not allow an expert to testify beyond the expert's
27 area of expertise. If counsel believes that an expert is testifying beyond their expertise or merely
28 parroting another expert's opinion, an objection may be made during trial.

1 To the extent that Defendants argue that Mr. Spencer’s opinion is not based on published
2 literature, the Court finds that goes to the weight of his testimony and can be addressed on cross
3 examination, but it does not go to the admissibility of the testimony. Defendants also argue that
4 Mr. Spencer opines that void content should be less than 2% but published literature refutes this
5 noting that typical void content for high-void areas can be 5-10%. (Spencer Reply at 9.)
6 Alternative or opposing opinions or tests do not “preclude the admission of the expert’s testimony
7 – they go to the weight, not the admissibility.” Kennedy v. Collagen Corp., 161 F.3d 1226, 1231
8 (9th Cir. 1998). Furthermore, “[d]isputes as to the strength of [an expert’s] credentials, faults in
9 his use of [a particular] methodology, or lack of textual authority for his opinion, go to the
10 weight, not the admissibility, of his testimony.” Kennedy, 161 F.3d at 1231 (quoting McCulloch
11 v. H.B. Fuller Co., 61 F.3d 1038, 1044 (2d Cir. 1995)).

12 Defendants motion to limit the opinions and testimony of Brian Spencer, P.E. is denied.

13 **IV.**

14 **CONCLUSION AND ORDER**

15 Based on the foregoing, IT IS HEREBY ORDERED that:

- 16 1. Defendants Carleton and Cobham’s motion to limit opinions and testimony of Pape’s
17 Expert Robert A. Carnahan (ECF No. 131), filed April 4, 2024, is GRANTED IN
18 PART AND DENIED IN PART as follows:
- 19 a. The motion to exclude Mr. Carnahan’s testimony that a leak in the tank caused
20 the rupture of the cylinder cannot be ruled out is GRANTED; and
 - 21 b. The motion to exclude Mr. Carnahan’s testimony on his interpretation of ANSI
22 NGV 2 is DENIED;
- 23 2. Defendants Carleton and Cobham’s motion to limit opinions of Momentum’s Expert
24 Aaron Jones, P.E. (ECF No. 132), filed April 4, 2024, is DENIED; and
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3. Defendants Carleton and Cobham's motion to exclude or limit opinions and testimony of Plaintiffs' Expert Brian Spencer (ECF No. 133), is DENIED.

IT IS SO ORDERED.

Dated: August 8, 2024



UNITED STATES MAGISTRATE JUDGE