

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Michelle Stecyk et al.,	:	
Plaintiffs,	:	
	:	
v.	:	CIVIL ACTION
	:	NO. 94-CV-1818
Bell Helicopter	:	
Textron., Inc. et al.,	:	
Defendants.	:	
	:	
	:	

MEMORANDUM OF DECISION

McGlynn, J. **October** , 1998

This case arises out of the crash of an experimental V-22 Osprey aircraft during a ferry flight near Quantico, Virginia on July 20, 1992. The accident killed seven people, including plaintiffs' decedents, who worked for Boeing Vertol Company ("Boeing"). The defendants are: (1) Bell Helicopter Textron, Inc. ("Bell"), the contractor who worked with Boeing and the United States Government on the development of the V-22; (2) the Allison Gas Turbine Division of General Motors, Inc. ("GM"), who contracted with the Government to develop and build the V-22 engine and its related parts; and (3) Macrotech Fluid Sealing ("Macrotech"), the manufacturer of a seal which is alleged to have been installed incorrectly on the plane that crashed.

The court is confronted with an avalanche of motions in limine: (1) GM's motion to exclude evidence of spoliation of the

right engine torquemeter shaft; (2) defendants' joint motion to exclude evidence of pre-accident oil leaks, engine surges, and smokey starts; (3) defendants' joint motion to exclude argument, evidence and testimony of decedents' pre-impact fright; (4) defendants' joint motion to exclude evidence of post-crash design changes in the V-22; and (5) defendants' joint motion to exclude the Navy's Court of Inquiry Report on the crash.

For the following reasons, defendants' motions to exclude evidence of spoliation and the Court of Inquiry Report will be denied. Their motion to exclude evidence of pre-accident oil leaks, engine surges, and smokey starts will be granted in part and denied in part. Lastly, defendants' motion to exclude evidence of pre-impact fright will be granted, and the motion to exclude evidence of post-crash design changes will be granted in part and denied in part.

I. EVIDENCE OF SPOLIATION

On May 1, 1997, several of the parties' experts examined the crash engine's right torquemeter shaft at the Marine Corps Air Station in Cherry Point, North Carolina. At that time, plaintiffs' expert, Robert L. Dega, found that the shaft's surface finish was not within design specifications and that excessive machine lead was present on the shaft groove -- defects which he opined contributed to oil leakage which led to the crash. The shaft remained at Cherry Point in government custody

until August 13, 1997, when GM brought it to Indianapolis, Indiana for inspection by GM's expert, Dr. Leslie Horve. (GM Spoliation Mot. at 3.) On August 19, 1997, Dr. Horve found that the shaft's surface finish was within design specifications and that no surface lead was present. Id. Mr. Dega reexamined the shaft on October 28, 1997 and concluded that the shaft had been refinished to reduce surface roughness -- despoiled -- since his May 1, 1997 examination.

GM moves to exclude all evidence of and reference to an allegation that the right engine torquemeter shaft was refinished and recoated after May 1, 1997, on the following grounds: (1) plaintiffs' spoliation evidence is not credible; (2) Mr. Dega's lack of qualifications; and (3) prejudice.

A. Credibility

GM argues that Mr. Dega's conclusion that the shaft was refinished is based on "before" and "after" pictures, and that "one of the 'before' pictures was taken from a different aspect of the shaft than the 'after' picture, and the other 'before' picture was a picture of the left engine shaft -- not the right engine shaft." Id. at 4. However, the deposition of Mr. Dega cited by GM as evidence of this inconsistency establishes only that one of two "before" and "after" pictures was taken from a different aspect, and that Mr. Dega did not use the "before" picture of the left engine shaft in coming to his conclusion that

the shaft was refinished. (Dega Dep., Ex. B at 37, 73-75.) GM's credibility argument is unavailing.

B. Mr. Dega's Qualifications

GM's allegation that Mr. Dega is unqualified to testify "on metallurgy in general and corrosion in particular" is also without merit. First, Mr. Dega is not offered in this context as an expert on metallurgy and corrosion. He is offered to testify about the change in appearance of the shaft between May 1 and October 23, 1997. His testimony that the right torque-meter shaft had "an entirely new surface other than that viewed and photographed during the 5/1/97 review at Cherry Point, NC" (GM Spoliation Br., Ex. D, 10/31/97 Dega Letter) is eyewitness testimony of the difference between what he saw in May, 1997 and what he observed in October, 1997. His conclusion that "[t]he groove in the OD surface had been lapped with an emery paper or other abrasive sheet" and coated in a "black oxide" is based upon an examination of the shaft at 10X magnification and upon enlarged photographs. Id. Given Mr. Dega's experience "as an engineer and machinist who has examined metal surfaces which mate with seals for over 42 years" (Pls'. Opp'n to GM Spoliation Mot. at 5), he is qualified to opine that a corroded metal surface has been refinished.

Second, Federal Rule of Evidence 702 does not require Mr. Dega to be a credentialed metallurgist or corrosion specialist to

testify about spoliation in this instance. See Fed. R. Evid. 702.¹ "[A] broad range of knowledge, skills, and training qualify an expert as such," and courts should eschew imposing overly rigorous requirements on expertise and be satisfied with more generalized qualifications. In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 741 (3d Cir. 1994) ("Paoli II"). Witnesses such as Mr. Dega "can qualify as experts under Rule 702 on the basis of practical experience alone, and a formal degree, title, or educational speciality is not required." Lauria v. National Railroad Passenger Corp., 145 F.3d 593, 599 (citing American Tech. Resources v. United States, 893 F.2d 651, 656 (3d Cir. 1990)). It would be an abuse of discretion to preclude Mr. Dega's testimony because he is perhaps not "the best qualified or . . . does not have the specialization that the court considers most appropriate." Id., 145 F.3d at 598-99 (quoting Holbrook v. Lykes Bros. S.S. Co., 80 F.3d 777, 782 (3d Cir. 1996)). Given his extensive experience in the sealing industry and in post-accident investigations, Mr. Dega is qualified to testify on plaintiffs' spoliation charge.

The differing conclusions of GM's metallurgist, Dr. John De

¹ Federal Rule of Evidence 702 provides, "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise."

Luccia, provide no basis for excluding Mr. Dega's opinions. As this court earlier noted, "in cases 'in which a party argues that an expert's testimony is unreliable because the conclusions of an expert's study are different from those of other experts . . . there is no basis for holding the expert's testimony inadmissible.'" Stecyk v. Bell Helicopter Textron, Inc., No. CIV. A. 94-CV-1818, 1998 WL 42302, at *7 (E.D. Pa. Jan. 5, 1998) (quoting Paoli II, 35 F.3d 717, 746 n.15 (3d Cir. 1994)). GM may present Dr. De Luccia as a rebuttal witness at trial, but his opinions do not serve to preclude Mr. Dega's testimony.

C. Prejudice

GM lastly contends plaintiffs' spoliation evidence is unduly prejudicial under Federal Rule of Evidence 403. "[I]n order to exclude evidence under Rule 403 at the pretrial stage, a court must have a record complete enough on the point at issue to be considered a virtual surrogate for a trial record." Paoli II, 916 F.2d 829, 859-60 (3d Cir. 1990) (citations omitted), cert. denied, 499 U.S. 961 (1991). The record before the court is not complete enough to exclude plaintiffs' spoliation evidence at this time.

Even so, GM's arguments for exclusion under Rule 403 fall short. Rule 403 provides that relevant "evidence may be excluded if its probative value is outweighed by the danger of unfair prejudice." Fed. R. Evid. 403. "'Unfair prejudice' within its

context means an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one." Id., Advisory Comm. Notes, 1972 Proposed Rules. GM argues that plaintiffs' spoliation charges are "an invitation to consider whether GM's employees and/or attorneys are bad people who have something to hide, rather than on whether plaintiffs can establish their causes of action." (GM Spoliation Mot. at 5.)

Under Rule 403, the court must balance "the probative value of and need for the evidence against the harm likely to result from its admission.'" United States v. Gatto, 995 F.2d 449, 456-57 (3d Cir.) (quoting Fed. R. Evid. 403, Advisory Comm. Notes), cert. denied, 510 U.S. 948 (1993). If plaintiffs present their spoliation evidence at trial, the jury might return a verdict against GM out of indignation, rather than solely on the merits of plaintiffs' negligence case. The danger of "unfair prejudice" is therefore real. But that danger is outweighed by the evidence's probative value. Under Rule 403, the court considers: (1) the need for the evidence in view of the contested issue; (2) the availability of alternative evidence to prove the contested issue; and (3) the strength of the evidence. United States v. Sriyuth, 98 F.3d 739, 748 (3d Cir. 1996) (quotation and citation omitted). Those factors are balanced "against the danger that the jury will be inflamed by the evidence." Id.

GM does not seek to exclude selective evidence of

spoliation, but rather all plaintiffs' evidence of spoliation. Plaintiffs' need for the evidence which GM seeks to exclude is therefore clear. Furthermore, because GM wishes to exclude all spoliation evidence, there is no alternative evidence available. Lastly, the strength of plaintiffs' evidence weighs against exclusion on prejudice grounds.²

In light of the foregoing, GM's motion in limine to exclude plaintiffs' spoliation evidence is denied. Of course, this ruling does not in any way preclude GM from offering evidence, either directly or on cross-examination, to refute or counteract the spoliation charges.

II. PRE-ACCIDENT OIL LEAKS, ENGINE SURGES & SMOKEY STARTS

Defendants move under Rules 401 and 403 to exclude evidence of pre-accident oil leaks, engine surges and smokey starts in the V-22. "In products liability cases evidence of prior accidents involving the same product under similar circumstances is admissible to show notice to the defendant of the danger, to show existence of the danger, and to show the cause of the accident." Gumbs v. International Harvester, Inc., 718 F.2d 88, 97 (3d Cir. 1983). The plaintiff bears the burden of establishing sufficient similarity between the prior incidents and his own theory of how the accident occurred, so that admitting the prior incident

² As a result, GM's motion for sanctions stemming from plaintiffs' spoliation charge must also be denied.

evidence "'will make the existence of any fact that is of consequence to the determination of the action more probable'" than it would be without the evidence. Id. (quoting Fed. R. Evid. 401).

A. Prior Oil Leaks

In his report, Warren Lieberman, plaintiffs' aviation accident reconstruction expert, cites four Failure Reporting and Corrective Action System ("FRACAS") reports documenting oil accumulation in the engine inlet area. Defendants contend these incidents of oil accumulation are not substantially similar to the type of oil leak which plaintiffs believe caused the crash.

The first two FRACAS reports, Exhibits 78 and 79, both note that "LH proprotor gearbox is leaking oil in the area of the engine inlet." (Defs'. Prior Incident Mot., Ex. C., Ex. 78.) In the Exhibit 78 incident, the corrective action taken was, "repaired by changing PRGB³ carbon seal (part number ("P/N") 901-340-531-101) and engine input SH FT seals (P/N 901-340-617-101/901-340-619-101)." Id. One of the replaced parts, P/N 901-340-617-101, is the 617 seal which plaintiffs believe was defective. Defendants argue that because both the PRGB carbon seal and the 617 seal were replaced, "the source of the leak reported in Exhibit 78 cannot be attributed to the 617 and 619

³ "PRGB" is apparently an abbreviation for "Proprotor Gear Box."

seals." (Defs'. Prior Incident Mot. at 7.)

With this argument, defendants' misconstrue the standard for relevance. Rule 401 requires only that evidence have "the tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Fed. R. Evid. 401. Simply because the carbon seal, which is not implicated in plaintiffs' theory of causation, and the 617 seal, which is, were both replaced does not make Exhibit 78 irrelevant. See Huff v. White Motor Corp., 609 F.2d 286, 294 (7th Cir. 1979) (existence of several possible causes of car fire did not make decedent's statement pointing to alleged product defect as the cause irrelevant under Rule 401). Exhibit 78, reporting a prior incident substantially similar to plaintiff's theory of causation, links the 617 seal to the prior incident and is therefore relevant and admissible.

Exhibit 79, reporting a similar leak, notes different corrective action: "repaired by changing PRGB input quill." (Defs'. Prior Incident Mot., Ex. C., Ex. 79.) Because the 617 and 619 seals are not part of the input quill, defendants argue the Exhibit 79 oil leak is not substantially similar to the alleged crash leak. In response, plaintiffs quote Charles Duello, who worked on the crash engine, as stating, "[t]he 617 seal is replaced every time the PRGB input quill is changed and

the engine is pulled out." (Pls'. Opp'n to Defs. Prior Incident Mot. at 4 n.2.) Duello, however, only expresses his assumption that "new 617 seals and 619 seals were installed when[ever] the engine was pulled back up into place." (Pls'. Opp'n to Defs'. Prior Incident Mot., Ex.1, Duello Dep. At 87.) Duello does not state that new seals were installed whenever the input quill is replaced. From the record, it is unclear whether replacing the input quill also entails pulling the engine back into place, which would involve replacement of the 617 and 619 seals. Without that information, plaintiffs have not met their burden of proving substantial similarity, and Exhibit 79 will be excluded.

The next FRACAS report is Exhibit 89, which reported,

[a]fter conversion of nacelles to airplane mode, a puddle of oil about 3 inches in diameter formed in both left and right intake cowls. Approximately ½ cup of oil wiped up and saved from each side. Problem has not reoccurred since the gearboxes [sic] were inspected after first flight. New seals were installed during inspection.

(Defs'. Prior Incident Mot., Ex. C., Ex. 89.)

The exhibit notes that the oil was not analyzed to determine whether it came from the gearboxes or the engines. Id. Defendants' reasons for seeking exclusion of this FRACAS report are: (1) the leaked oil was noted on the engine intake rather than on the intake center body, as plaintiffs theorize occurred in the crash; (2) the type of oil was not identified; and (3) the report does not identify which seals were replaced. Regarding

the presence of oil on the engine intake rather than on the center body, plaintiffs contend this distinction is irrelevant because "[t]he inlet center body is precisely the area where the oil pooled before spilling into the engine in helicopter mode." (Pls'. Opp'n to Defs'. Prior Incident Mot. at 6 (citing Ex. 1, Duello Dep. at 66-67.)) In light of this information, defendants' contention regarding the location of the oil on the inlet center body does not negate the relevance of Exhibit 89.⁴ Further, the report's notation that the leak stopped after the gearboxes were inspected and new seals were installed makes plaintiffs' theory of causation more likely. Exhibit 89 involves an incident substantially similar to plaintiffs' theory of causation and it will therefore be admitted.

Defendants also challenge Exhibit 90, which states, "a six inch puddle of oil was found in the L/H engine intake. Oil tends to puddle in the intakes whenever the rotor brake is used to stop the rotors." (Defs'. Prior Incident Mot., Ex. C., Ex. 90.) This leak was attributed to "seals not [being] tight on PRGB." Id. The action taken to correct the problem was tightening the seals. Id. Defendants argue that the Exhibit 90 incident is not substantially similar because (1) leaked oil was attributed to

⁴ Defendants also make their engine intake/inlet center body argument concerning the oil leaks reported in Exhibit 90 and plaintiffs' Exhibit 9. For the same reason, those arguments are rejected.

ground-use of the rotor brake to stop the rotors rather than an in-flight leak with the rotors in operation, and (2) the 617 and 619 seals are not part of the PRGB and cannot be tightened. Plaintiffs do not respond to these arguments, and because the Exhibit 90 incident does not seem substantially similar to plaintiff's theory of causation it will be excluded.

The last oil-leak document challenged by defendants is plaintiffs' Exhibit 9, a Memorandum from Petty Officer Todd M. Caldwell to Colonel Nymeyer, addressing torquemeter seal leakage. (Defs'. Prior Incident Mot., Ex. D, Caldwell Mem.) Exhibit 9 appears to be a military report which would fall within the hearsay exception to Federal Rule of Evidence 803(8)(C).⁵ The memo states, "[d]uring the process of government monitoring of the maintenance task, Bell/Boeing mechanics stated that the seals had been installed incorrectly." Id. Defendants object that Exhibit 9 "reflects a hearsay report attributed to Bell/Boeing mechanics that the torquemeter shaft seals had been installed incorrectly on this occasion" and that this report was later contradicted by mechanic Lawrence Sadler, who stated that the seal was installed correctly and that the leak was due to a nick or tear in the seal. (Defs'. Prior Incident Mot. at 7-8.)

⁵ Rule 803(8)(C) provides for the admission of public reports containing "factual findings resulting from an investigation made pursuant to authority granted by law, unless the sources of information or other circumstances indicate lack of trustworthiness." Fed. R. Evid. 803(8)(C).

Courts generally exclude hearsay statements recorded in public reports unless they are independently admissible under another hearsay exception. See Miller v. Field, 35 F.3d 1088, 1091 (6th Cir. 1994); Parsons v. Honeywell, Inc., 929 F.2d 901, 907 (2d Cir. 1991); United States v. Pazzint, 703 F.2d 420, 424 (9th Cir. 1983). If the Exhibit 9 memorandum also qualifies as a record of regularly conducted business activity, then the Bell/Boeing mechanics hearsay statement may be independently admissible under Rule 803(6). Without such a showing, however, this statement must be excluded.

The rest of Exhibit 9 is admissible. While the deposition of mechanic Lawrence Sadler clearly addresses a specific instance of leakage caused by a torn 617 seal, Sadler's statement does not address Caldwell's general conclusion that the "procedure for removal and replacement of subject seals was vague and introduced the potential for incorrect installation." (Defs'. Prior Incident Mot., Ex. D, Caldwell Mem.) Although "factual findings, which are based on inadmissible hearsay, are not admissible under Rule 803(8)(C) because the underlying information is untrustworthy," Complaint of Paducah Towing Co., Inc., 692 F.2d 412, 420-21 (6th Cir. 1982), Caldwell's conclusion is also based on government and Bell/Boeing maintenance records and review of technical manuals, blue prints, and logistic support analysis records, all of which would be independently admissible. (Defs'.

Prior Incident Mot., Ex. D, Caldwell Mem.) Thus, plaintiffs' Exhibit 9 pertains to plaintiffs' theory of causation and will therefore be admitted, with the Bell/Boeing mechanics' hearsay statement excised from the exhibit.

B. Other Engine Surges

Defendants also wish to exclude three prior engine surge incidents, one of which occurred in a "Ground Test Article" engine (which was anchored to the ground), and two of which occurred in level flight in Aircraft No. 1, an earlier V-22 prototype. Plaintiffs' theory is that the crash aircraft's right engine surged when proprotor gearbox oil, which had collected in the inlet center body, was ingested by the engine as the nacelles rotated from airplane mode to helicopter mode. Because this theory depends upon rotation of the nacelles, defendants contend that the ground test and level-flight surges, which did not involve nacelle rotation, are dissimilar to plaintiffs' theory of causation.

The first surge in Aircraft No. 1 occurred on March 23, 1991, and the second on April 8, 1991. A test request made to GM's Allison Gas Turbine Division describes those engine surges, and notes with regard to the first surge, "[i]nspection revealed a considerable quantity of oil in the compressor and [the] incident was attributed to oil ingestion from the prop rotor gearbox." (Defs'. Prior Incident Mot., Ex. H.) The second surge

occurred under similar conditions, but no oil leakage was found. Id. Plaintiffs argue that any oil causing the second surge would have burned up, although they have not submitted any evidence supporting that contention. They also point out that according to the deposition of Kenneth Lunn, the Osprey was in a steep climb when the second surge occurred. (Pls'. Opp'n to Defs'. Prior Incident Mot., Ex. 6 at 119.) Plaintiffs postulate that the steep angle from the climb would cause oil to flow aft towards the engine similar to rotating the nacelles to helo mode.

Neither party has submitted expert opinions on the possibility of gearbox oil ingestion causing the surges in Aircraft No. 1. Nevertheless, given the attribution of the first surge to proprotor gearbox oil leakage, together with the fact that the second surge occurred during a steep climb, there is a logical link between these two incidents. Therefore, plaintiffs' engine surge theory and evidence of the two surges in Aircraft No. 1 will be admitted.

The same, however, cannot be said of the Ground Test Article surge, which plaintiffs have not attempted to relate to their engine surge theory. As a consequence, evidence of the Ground Test Article surge will be excluded as irrelevant.

C. Prior Smokey Starts

To exclude evidence of prior smokey starts, defendants offer the affidavit of GM Flight Test Manager John Snakenberg, in which

he explains that "[s]mokey starts are caused when fluid in the Infrared ("IR") suppressor section (or in some cases the turbine section) of the engine is heated to operating level temperatures on engine start." (Defs'. Prior Incident Mot. at 10.) They argue that evidence of prior smokey starts is irrelevant because prior to starting the engine,

any propotor gearbox oil arguably leaking past the torquemeter shaft seals would not enter the engine, but instead would exit overboard through the torquemeter housing drain because the aircraft is starting in helicopter mode. As a result, propotor gearbox oil leaking past the torquemeter shaft seals would not collect in the IR suppressor and thus could not cause or contribute to a smokey start.

Id. at 10-11.

While that position may indeed be "arguable," it does not provide grounds for excluding evidence of prior smokey starts. The deposition statements of Charles Duello and Mark Bryant link previous smokey engine starts to gearbox oil leaking past the allegedly defective seals. Duello received a verbal report of a smokey start where "they removed the engine and found that the 617 seal and/or 619 seal was installed incorrectly." (Pls'. Opp'n to Defs'. Prior Incident Mot., Ex. 1, Duello Dep. at 28.) Bryant remembers discussing "an over-serviced propotor gearbox that had allowed . . . oil on the engine, around the engine . . . that caused a smokey engine at one time." (Pls'. Opp'n to Defs'. Prior Incident Mot., Ex. 3, Bryant Dep. at 53-54.) Evidence of

these prior smokey engine starts is logically related to plaintiffs' theory of causation and will therefore be admitted.

III. DECEDENTS' PRE-IMPACT FRIGHT

Plaintiffs contend that under Pennsylvania and Delaware law they may recover for pre-impact fright experienced by their decedents and, as a result, evidence of pre-impact fear should be admitted.⁶ Defendants are seeking to exclude evidence of decedents' pre-impact fright or fear of death in the seconds immediately preceding the fatal Osprey crash. Specifically, defendants contend that neither the Pennsylvania or Delaware survival statutes, nor common law principles of emotional distress permit recovery for a decedent's knowledge of impending injury or death. For the reasons discussed below, the defendants' motion to exclude evidence of decedents' pre-impact fright will be granted.

A. Pennsylvania and Delaware Survival Statutes

"The rule in Pennsylvania is that in survival actions the measure of damages is the decedent's pain and suffering and loss of gross earning power from the date of injury until death...." Slaseman v. Myers, 309 Pa. Super. 537, 544, 455 A.2d 1213, 1217 (1983). The law in Pennsylvania is clear that where a decedent

⁶ Plaintiffs Stecyk and Sullivan are domiciled in Pennsylvania, while plaintiffs Mayan and Rayburn are domiciled in Delaware. The law of a decedent's particular domicile governs recoverable damages.

is killed instantaneously, there can be no recovery for pain and suffering in a survival action. Slavin v. Gardner, 274 Pa. Super. 192, 418 A.2d 361 (1979). This rule is based on the proposition that where death is instantaneous, the decedent experiences neither pain nor suffering; therefore, an award of damages to compensate for pain and suffering would be unwarranted. Nye v. Commonwealth Department of Transportation, 331 Pa. Super 209, 213, 480 A.2d 318,321 (1984).

Moreover, Delaware state and federal courts routinely look to Pennsylvania law for instruction regarding the categories of damages recoverable in wrongful death and survival actions. See, e.g., Sterner v. Wesley College, Inc., 747 F. Supp. 263 (D. Del. 1990). The Delaware Supreme Court noted in Loden v. Getty Oil, Co., 359 A.2d 161, 163 (Del. 1976), that Pennsylvania's survival act was the apparent model for the Delaware act. Accordingly, both jurisdictions permit recovery for (1) pain and suffering from the time of injury to the time of death; (2) expenses incurred in endeavoring to be cured of such injuries; and (3) loss of earnings resulting from said injuries from the time of injury to the time of death. See Magee v. Rose, 405 A.2d 143 (Del. Super. Ct. 1979); McClinton v. White, 285 Pa. Super 271, 427 A.2d 218 (1981), vacated on other grounds, 497 Pa. 610, 444 A.2d 85 (1982).

In the present case it is uncontested that the decedents

died instantly upon impact, as indicated by the certificates of death supplied by the State of Maryland/Department of Health and Mental Hygiene. (Defs'. Pre-Impact Fright Mot., Ex. B.) Because Pennsylvania and Delaware courts measure damages for the pain and suffering of a decedent under their respective survival statutes from the time of injury to the time of death, plaintiffs are barred under the statutes from presenting evidence of or recovering damages for decedents' pre-impact fright.

B. Common Law Principles of Emotional Distress

Under Pennsylvania and Delaware common law, there is no precedent for an award of damages based on negligently induced, pre-impact emotional distress not resulting in some type of physical manifestation or harm. In Nye v. Commonwealth Department of Transportation, 331 Pa. Super. 209, 216, 480 A.2d 318, 322 (1984), the Superior Court held that the trial court erred when it instructed the jury as to post-impact emotional distress when the evidence clearly established that the plaintiff was killed on impact. Because the facts dealt with post impact pain and suffering and not pre-impact emotional distress, it was not necessary for the court to decide whether a recovery based on pre-impact fright or shock is permitted in Pennsylvania. Nye, 331 Pa. Super. at 215, 480 A.2d at 322.

However, when addressing the issue of recovery for pre-impact emotional distress caused by knowledge of impending injury

or death, the Nye court stated that:

[t]here is no precedent in Pennsylvania for such an award. The rule in Pennsylvania is that in survival actions the measure of damages is the decedent's pain and suffering and loss of gross earning power until death. Thus, we have always limited recovery to damages for pain and suffering and emotional distress occurring after the time of injury.

Nye, 331 Pa. Super. at 215, 480 A.2d at 321.

In addition, to the extent that the Nye court discussed pre-impact fright, it surmised that such a claim would be governed by the standards necessary to recover on a common law claim for emotional distress. Nye, 331 Pa. Super. at 215, 480 A.2d at 322. Accordingly, the Superior Court reasoned that:

if [the decedent] had somehow avoided the accident, she could recover damages based on her emotional distress or "fright" only if she averred and proved that her mental or emotional distress resulted in some type of physical manifestation or harm. Thus, the estate may recover damages for "pre-impact fright" only upon proof that [decedent] suffered physical harm prior to the impact as a result of her fear of impending death.

Id. (citations omitted).

Plaintiffs, on the other hand, contend that it is unnecessary to demonstrate a physical manifestation of injury to recover for negligently inflicted emotional distress, or, in the alternative, they argue such injury could reasonably be inferred by the jury. (Pls'. Opp'n to Defs'. Pre-impact Fright Mot., at 4.) In support of this proposition, plaintiffs rely on the

Pennsylvania Supreme Court's decision in Sinn v. Burd, 486 Pa. 146, 404 A.2d 672 (1979), in which the Court held that a parent could recover for the emotional distress which arose when she witnessed her child being struck and killed by an automobile, even though the plaintiff herself was not within any zone of personal physical danger and had no reason to fear for her own safety. Plaintiffs' reliance on the Court's holding in Sinn is misplaced for the reasons that follow.

In Sinn, the plaintiff, a bystander, sought to recover damages for both mental and "physical" injuries incurred when she witnessed her minor daughter being struck and killed by an automobile. Sinn, 486 Pa. 146, 149, 404 A.2d 672, 673 (1979). Whether the Court intended to create a limited exception to the physical injury requirement based on the specific facts of that case is unsettled.⁷ It is clear, however, that the Sinn Court limited its holding solely to those cases in which the plaintiff alleges psychic injury as a result of actually witnessing the defendant's act. Sinn, 486 Pa. 146, 167, 404 A.2d 672, 683 n.15 (1979). In his concurring opinion, then Chief Justice Eagen reached the conclusion that recovery should be permitted "... in

⁷ Some courts have interpreted the Pennsylvania Supreme Court's decision in Sinn v. Burd, supra, as creating an exception to the general rule requiring physical injury as a result of the emotional distress under the compelling circumstances of that case. See, e.g., Houston v. Texaco, Inc., 371 Pa.Super. 399, 538 A.2d 502 (1988) alloc. denied, 520 Pa. 575, 549 A.2d 136. But see Wall v. Fisher, 388 Pa.Super. 305, 565 A.2d 498 (1989).

cases of this nature" even where the plaintiff is beyond the scope of danger, if: (1) the plaintiff is closely related to the injured party, such as mother, father, husband or wife; (2) the plaintiff is near the scene of and views the accident; and (3) the plaintiff suffers serious mental distress and there is a severe physical manifestation of this mental distress. Sinn, 486 Pa. 146, 174, 404 A.2d 672, 687 (1979).

In sum, the Court's decision in Sinn is inapposite. In the present case, plaintiffs are not seeking recovery as bystanders for alleged emotional distress under the narrow circumstances identified by Chief Justice Eagen above.

Accordingly, the general rule of law in Pennsylvania after Sinn remains that a claimant may not recover damages for negligently inflicted emotional distress in the absence of a physical manifestation of the emotional distress suffered.⁸ See Reimer v. Tien, 356 Pa. Super. 192, 514 A.2d 566 (1986); Boarts v. McCord, 534 Pa. Super. 96, 511 A.2d 204 (1986); Lazor v. Milne, 346 Pa. Super. 177, 499 A.2d 369 (1985). Justice v. Booth Maternity

⁸ It should also be noted that the Pennsylvania Courts have adopted the Restatement (Second) Torts Section 436A which provides:

§ 436A. Negligence Resulting in Emotional Disturbance Alone
If the actor's conduct is negligent as creating an unreasonable risk of causing either bodily harm or emotional disturbance to another, and it results in such emotional disturbance alone, without bodily harm or other compensable damage, the actor is not liable for such emotional disturbance.
Banyas v. Lower Bucks Hospital, 293 Pa. Super 122, 128, 437 A.2d 1236, 1239 (1981).

Center, 345 Pa. Super. 529, 498 A.2d 950 (1985), reversed on other grounds, 510 Pa. 429, 509 A.2d 838 (1986); Rogers v. Nationwide Mutual Insurance Co., 344 Pa. Super. 311, 496 A.2d 811 (1985). Similarly, an essential element for recovery under Delaware law is a showing that the victim not only suffered mental stress, but also bodily injury or sickness. Robb v. Pennsylvania Railroad Company, 210 A.2d 709 (Del. Sup. 1965); Cosgrove v. Beymer, 244 F.Supp. 824 (D.Del. 1965). Thus, there can be no recovery for negligently inflicted mental or emotional distress in the absence of attendant physical injury to the person of the claimant. Houston v. Texaco, 371 Pa. Super. 399, 405, 538 A.2d 502, 505 (1988).

In light of the foregoing discussion, neither the survival statute of Pennsylvania or Delaware, nor the common law of either state permits recovery for a decedent's knowledge of impending injury or death. Moreover, even if recovery were permitted under common law principles of emotional distress, plaintiffs have not averred that any decedent manifested physical injury as a result of such emotional distress prior to impact. In addition, plaintiffs have cited no Pennsylvania or Delaware authority permitting an inference of physical injury in the absence of evidence of such injury. Therefore, evidence of pre-impact fright will be excluded.

IV. POST-CRASH DESIGN CHANGES

Following the crash of the Osprey, certain changes to the aircraft drive and engine area were made, including, but not limited to the following: (1) the redesign of the 617 seal to make it bidirectional; (2) the inclusion of drains in the nacelle to prevent pooling; (3) the strengthening of the nacelle to withstand greater surge pressures; (4) the extension of the firewall protecting the upper nacelle; (5) the installation of plumbing in the torquemeter housing to relieve pressure; and (6) the installation of the donut/environmental seal.

Defendants contend that any evidence of design changes to prove negligence or culpable conduct is inadmissible under Federal Rule of Evidence 407 as a subsequent remedial measure. (Defs'. Mot. To Exclude Evidence of Design Changes at 5.) Further, defendants argue that plaintiffs here have not alleged a theory of liability against GM concerning the design of the engine or instructions concerning the engine, and to the extent plaintiffs seek to introduce evidence of design changes to the engine to prove GM's negligence, that evidence is inadmissible under Federal Rules of Evidence 402 and 407. Id. For the following reasons, defendants' motion is granted in part and denied in part, and evidence of defendants' post-crash design changes will be allowed for the limited purposes described below.

A. Admissibility of Evidence of Design Changes Under Rule 407

As a general rule, evidence of remedial measures taken after

the event is not admissible to prove culpable conduct. Fed. R. Evid. 407.⁹ The reason for the exclusion is to encourage post-accident repairs or safety precautions in the interest of public safety. Kenny v. Southeastern Pennsylvania Transportation Authority, 581 F.2d 351, 356 (1978). For this reason, evidence of subsequent remedial measures is routinely excluded to encourage people to take such measures whether or not they are at fault. Petree v. Victor Fluid Power, Inc., 831 F.2d 1191, 1198 (3d Cir. 1987).

Plaintiffs contend that the general rule is inapplicable when the subsequent remedial measure was not undertaken voluntarily, but was required by a superior authority. (Pls'. Opp'n to Defs'. Subsequent Design Mot., at 3-4.) Specifically, plaintiffs argue that the subsequent design changes after the Osprey accident were required by the government to bring the aircraft into the next design phase, and that Rule 407 was not intended to benefit such involuntary conduct. Id. Plaintiffs

⁹ Federal Rule of Evidence 407 provides:
"When, after an event, measures are taken which, if taken previously, would have made the event less likely to occur, evidence of the subsequent measures is not admissible to prove negligence or culpable conduct in connection with the event. This rule does not require the exclusion of evidence of subsequent remedial measures when offered for another purpose, such as proving ownership, control, or feasibility of precautionary measures, if controverted, or impeachment."

argue, therefore, that the subsequent design changes were made involuntarily, and fall within a recognized exception to Rule 407. Id.

There is a conflict within the federal courts regarding the court's authority to admit certain government-ordered remedial measures under the "superior authority" exception to Fed. R. Evid. 407 cited by plaintiffs. See generally, E. Lee Reichert, Note, The Superior Authority Exception" to Federal Rule of Evidence 407: the Remedial Measure Required to Clarify a Confused State of Evidence, 1991 U. Ill. Rev. 843 (1991). In O'Dell v. Hercules, 904 F.2d 1194 (8th Cir. 1990), the Eighth Circuit became the first to explicitly adopt an exception to Rule 407 for evidence of remedial action mandated by a superior authority. Conversely, the Fourth Circuit explicitly rejected a superior authority exception to Rule 407 in Werner v. Upjohn, 628 F.2d 848 (4th Cir. 1980), cert denied, 449 U.S. 1080 (1981).

To date, the Third Circuit has not ruled on whether to recognize a superior authority exception to Rule 407. However, Federal Rule of Evidence 403 permits the trial court to exclude evidence "if its probative value is substantially outweighed by the dangers of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." Fed. R. Evid. 403. Assuming, arguendo, that the design changes were

compelled by the government and a superior authority exception does exist, the court believes that the exercise of its discretion under Fed. R. Evid. 403 weighs in favor of excluding the alleged governmental remedial actions under the circumstances of this case. Accordingly, evidence of subsequent design changes may not be presented to prove defendants' alleged negligence.

Although evidence of subsequent design changes is precluded on the issue of negligence, it may be admitted if offered for another purpose as to which "a genuine issue is present or for impeachment." Petree v. Victor Fluid Power, Inc., 831 F.2d 1191, 1198 (1987). The Fifth Circuit, for example, has held that evidence of subsequent remedial measures is admissible as "proof of subsidiary issues in the case, such as knowledge of a dangerous condition" Rozier v. Ford Motor Co., 573 F.2d 1332 (5th Cir.), reh'g denied, 578 F.2d 871 (5th Cir. 1978).

In Pitasi v. Stratton Corp., 968 F.2d 1558, 1560-61 (2nd Cir. 1992), for example, the district court refused to allow evidence of remedial changes to rebut defendant's argument that plaintiff was contributorily negligent. On appeal, the Second Circuit held that the probative value of this evidence clearly outweighed its prejudicial effect, and its exclusion constituted an abuse of discretion. Id.

In the present case, defendants have asserted the government contractor defense as an affirmative defense. In

Boyle v. United Techs. Corp., 487 U.S. 500, 512 108 S. Ct. 2510, 101 L. Ed.2d 442 (1988), the United States Supreme Court established a three-prong test for the establishment of this defense. The third prong or element of the defense is that the military equipment supplier warned the United States about the dangers in the use of the equipment that were known to the supplier but not to the United States. Id.

Plaintiffs seek to challenge defendants' assertions that they warned the United States of the consequences of the design choices by presenting evidence that the government was not aware of the choice between the unidirectional seal and the bidirectional seal, nor that the donut seal was removed from Osprey No. 4. They further argue that the subsequent design changes the government required defendants to implement rebuts defendants' evidence that the government was properly informed. Thus, the subsequent design changes are relevant evidence of the warnings given to the government by the defendants. Accordingly, while the post accident design changes are not admissible to prove negligence, they are admissible for the limited purpose of rebutting the affirmative defense raised by defendants.

As indicated above, the Third Circuit has also recognized the impeachment exception to Rule 407. See Kenny v. Southeastern Pennsylvania Transp. Auth., 581 F.2d 351 (3d Cir.), cert denied, 439 U.S. 1073, 99 S. Ct. 845, 59 L. Ed.2d 39 (1978). In fact, it

can be reversible error to exclude evidence of a subsequent remedial measure when it is offered entirely for impeachment purposes. Petree v. Victor Fluid Power, Inc., 887 F.2d 34, 38 (3d Cir. 1989).

However, Rule 407's impeachment exception may not be used as a subterfuge to prove negligence or culpability of the defendant. Petree, 887 F.2d at 39. The court must interpret the impeachment exception to Rule 407 circumspectly because "any evidence of subsequent remedial measures might be thought to contradict and so in a sense impeach [a party's] testimony" Complaint of Consolidation Coal Co., 123 F.3d 126, 136 (3d Cir. 1997), cert. denied, ___ U.S. ___, 118 S. Ct. 1380, 140 L. Ed.2d 526 (1998) (quoting Flaminio v. Honda Motor Co., 733 F.2d 463, 468 (7th Cir. 1984)). Accordingly, the evidence offered for impeachment must contradict the witness's testimony directly. Kelly v. Crown Equip. Co., 970 F.2d 1273 (2d Cir. 1992).¹⁰ Defining the term "impeachment" in a less stringent manner would permit the

¹⁰ In Kelly, supra, defendant's expert testified that the forklift involved in an accident giving rise to the claim was properly designed even though he knew that the design had been altered for subsequently manufactured machinery. The expert did not make a statement that the forklift's design was the best or only one possible, only that it was an excellent and proper design. The court concluded that evidence that the forklift's design had been altered did not contradict that statement since alteration did not compel the conclusion that the first design was defective. Thus, the trial court's decision to exclude evidence of subsequent changes to impeach the expert's statements was affirmed.

exception to swallow the rule. Id. at 1278.

Therefore, in the present case, plaintiffs may present evidence of subsequent remedial measures to impeach a witness, but only to the extent that the evidence directly rebuts the testimony of the witness.

Plaintiffs further contend that neither the installation of the donut seal, nor the changing of the 617 seal from a unidirectional to a bidirectional design constitutes a subsequent remedial measure under Rule 407; therefore, evidence of these changes should be admissible in plaintiffs' case in chief. (Pls'. Opp'n to Defs'. Motion to Exclude Evidence of Design Changes Mot. at 5, 6.) Additionally, plaintiffs argue that Bell and GM designs of the aircraft prior to and subsequent to the crash of Osprey No. 4 included the donut seal, and that the initial design of the aircraft called for the 617 seal to be bidirectional. Id. Finally, plaintiffs submit that the use of these seals was not a subsequent remedial measure in response to the accident, but rather an insistence by the government that Bell and GM follow their original design, made independently of the crash. Id.

The court concludes that both the existence of and the use of alternative designs in prior aircraft is of marginal relevance to the question of whether the defendants were negligent in the design of Osprey No. 4. Accordingly, the court excludes this

evidence under Rule 403.¹¹

B. Admissibility of Evidence of Design Changes Under Rule 402

Defendants maintain that plaintiffs have not alleged any theory of liability against GM concerning the design of the Osprey engine. Defendants further argue that because the design of the engine itself is not an issue, any evidence of design changes is irrelevant under Rule 402.¹²

It is unnecessary to address the merits of defendant GM's position in light of the court's decision to preclude evidence of subsequent design changes as evidence of negligence or culpable conduct against any defendant. Evidence of design changes will be admitted for the limited purpose of rebutting the government contractor defense and for directly impeaching the testimony of any witness.

V. NAVY COURT OF INQUIRY REPORT

Pursuant to Navy regulations, a Court of Inquiry was convened on July 24, 1992 to investigate the cause of the crash. (Defs'. COI Rep. Mot. at 2-3.) After several months of investigation and hearings, the Court of Inquiry issued a report

¹¹ Fed. R. Evid. 403 provides: "Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence."

¹² Fed. R. Evid. 402 provides: "Evidence which is not relevant is not admissible."

("COI Report") on December 17, 1992. Id. at 3. Defendants seek to exclude all opinions found in the COI Report regarding the circumstances surrounding the crash, and to prevent witnesses from making any reference to those opinions. If the court admits the COI Report, defendants' alternatively request that the Endorsement of Admiral W.C. Bowes also be admitted, and plaintiffs do not object.

As an exception to the hearsay rule in civil cases, Federal Rule of Evidence 803(8)(C) allows the admission of "factual findings resulting from an investigation made pursuant to authority granted by law, unless the sources of information or other circumstances indicate lack of trustworthiness." Fed. R. Evid. 803(8). Conclusions and opinions in a public report are therefore admissible as long as the report is based upon factual investigation and is sufficiently trustworthy. Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 167 (1988) (where district court determined that conclusions in Navy JAG report were trustworthy, report was admissible). "[P]ublic reports are presumed admissible . . . and the party opposing their introduction bears the burden of coming forward with enough 'negative factors' to persuade a court that a report should not be admitted." Complaint of Nautilus Motor Tanker Co., Ltd., 85 F.3d 105, 113 (3d Cir. 1996) (citing Beech Aircraft, 488 U.S. at 167). A district court considers four non-exhaustive factors in

determining whether a public report is sufficiently trustworthy: (1) the timeliness of the investigation; (2) the investigator's skill and experience; (3) whether a hearing was held; and (4) possible bias when reports are prepared with a view to possible litigation. Complaint of Nautilus, 85 F.3d at 112 (citing Beech Aircraft, 488 U.S. at 168 n.11); see also Fed. R. Evid. 803, Advisory Comm. Notes.

Defendants contend the COI Report is untrustworthy because (1) its conclusions lack adequate factual bases and do not meet the standard for admitting expert opinion, (2) it is not a final report, and (3) it is politically biased.

A. Factual Basis & Expert Opinion

Defendants cite Judge Becker's opinion in Zenith Radio Corp. v. Matsushita Elec. Indus. Co. for the proposition that "whether the factual basis for the report is flawed, and whether the facts or data upon which the opinion is based are ascertainable and/or of a type reasonably relied upon by experts in the field" is a factor relevant to the trustworthiness of the COI Report. Zenith Radio Corp. v. Matsushita Elec. Indus. Co., 505 F. Supp. 1125, 1150 (E.D. Pa. 1980), aff'd in part, rev'd in part sub nom. In re Japanese Elec. Prods. Antitrust Litig., 723 F.2d 238 (3d Cir. 1983), rev'd in part sub nom. Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574 (1986). Plaintiffs respond that this consideration is "either legally irrelevant under Rule

803(8)(C), or of only slight relevance." (Pls'. Joint Mem. Opposing Defs'. COI Rep. Mot. at 6) (quoting In re Japanese Elec. Prods. Antitrust Litig., 723 F.2d 238, 268 (3d Cir. 1983), rev'd in part sub nom. Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574 (1986)). This factor was not expressly rejected by the Third Circuit on appeal, see id., and because the investigation of the crash was highly technical in nature, Judge Becker's factual basis/reasonable reliance factor will be considered here. See also Gentile v. County of Suffolk, 129 F.R.D. 435, 450-53 (E.D.N.Y. 1990); Escrow Disbursement Ins. Agency, Inc. v. American Title and Ins. Co., Inc., 551 F. Supp. 302, 305-06 (S.D. Fla. 1982).

Defendants attack the report's factual basis by pointing to areas where Admiral Bowe's endorsement takes exception with the COI Report's conclusions. None of these exceptions, however, establish that the COI Report either lacks adequate factual bases for its findings or depends upon evidence not reasonably relied upon by experts. The report's opinion which defendants find most objectionable states, "[t]he backwards installation of the forward oil seal . . . may have been the primary cause of a propotor gearbox oil leak" (COI Rep. at 65, ¶ 41.) Admiral Bowe's endorsement merely downgrades that possibility, stating, "[i]mproper installation of the torquemeter shaft seals should only be considered one of several 'possible' leak sources

of flammable fluid." (Bowe Endorsement at 6, ¶ 10 & 10a.) Further, two of the endorsement exceptions cited by defendants do not appear to involve defendants' own alleged negligence. (Ex B., Bowe Endorsement at 30, ¶¶ m, jj) ("There is no evidence that the pilot moved the TCL incorrectly."). The other endorsement exceptions for lack of substantiating evidence concern design characteristics which are cited by the COI Report as secondary cause factors of the crash.¹³ The endorsement, however, thoroughly explains its disagreements with the COI Report's opinions on these possible causes. (Bowe Endorsement at 9, ¶ 14.) Those exceptions go to the weight, not the admissibility, of the COI Report.

In any case, the COI Report's conclusion that improper seal installation was the probable cause of the crash appears to possess adequate substantiating evidence in its own right. The report found that the torquemeter shaft seal was installed backwards (COI Rep. at 25, ¶ 171), had swelled .003 to .007 inch and stretched .002 inches (Id. at 53, ¶ 370), and that another V-22 experienced an oil leak when "the forward torquemeter shaft seal was installed incorrectly." (Pls'. Reply in Opp'n to Defs'.

¹³ See COI Rep. at 73, ¶ 88 ("The lack of adequate nacelle conversion redundancy is considered to be a cause factor in the mishap."); Bowe Endorsement at 33, ¶ ff & ii (both stating, "[t]here is no evidence available which would suggest that the rate of descent could have been arrested to allow for a survivable water landing").

COI Mot., Ex. 3, Dep. of Petty Officer Todd Caldwell at 64-69) (testifying that he observed gearbox oil fluid leakage from seal installed backwards). These factual bases do not indicate a lack of trustworthiness.

Moreover, Rule 803(8)(C) does not necessarily require that every variable in a public report be accounted for. In the Japanese Electronic Products antitrust case, the Court of Appeals reviewed the district court's exclusion of a Treasury Department report which determined that televisions from Japan were being sold on an anti-competitive basis. In re Japanese Elec. Prods. Antitrust Litig., 723 F.2d 238 (3d Cir. 1983), rev'd in part on other grounds sub nom. Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574 (1986). In calculating the television sets' fair market value, the Treasury Department made adjustments "for differences in the merchandise, and for differences in advertising and credit costs." Id. at 267-68. The district court excluded the report in part because "the finding contained no statement of reasons for allowances or disallowances of particular adjustments." Id. at 268. Reversing, the Court of Appeals held that "there is no requirement in Rule 803(8)(C) that an investigative report contain a statement of reasons for each adjustment or allowance." Id.

Similarly, where a military investigative body engages in

months of detailed investigation and hearings, where the commanding officer endorsing the report states that “[t]he combination of skills and perspectives residing in the members of the Court not only allowed the causes of this crash to be clearly established, but also offered valuable insights into design issues” (Bowe Endorsement at 3, ¶ 3), and where the report itself generally explains its investigation and analysis in great detail, Rule 803(8)(C) does not require exclusion simply because the endorsing authority does not concur with some of the investigative body’s findings. Id.

Defendants lastly argue that the COI Report ignored the results of a test run by Bell Helicopter which found that even when the torquemeter shaft seal at issue was installed backwards, no leakage occurred. (Defs’. COI Rep. Mot, Ex. J.) That contention is not supported by the record. Commander Gregory and Colonel Nymeyer, members of the Court of Inquiry, made clear that they were aware of the Bell test results before issuing the report. (Defs’. COI Rep. Mot., Ex. G, Cmdr. Gregory Dep at 174-179 and Ex. H, Col. Nymeyer Dep. at 126:20.)¹⁴ Simply because the COI Report did not find that Bell’s test results foreclosed the possibility of torquemeter seal leakage does not invalidate

¹⁴ See also COI Rep. at 53, ¶ 370 (noting that the Bell test found “[t]he reversed [seal] configuration was run at 12576 rpm and at 15000 rpm at 2° and 60° nacelle angle with no leakage of oil.”) & Id. at 65, ¶ 41 (noting that “ground testing with incorrectly installed seals did not show significant leakage”).

the Court of Inquiry's determination that leakage "possibly" occurred because the crash seal was installed backwards.¹⁵ (Defs'. COI Rep. Mot., Ex. B., Bowe Endorsement at 6, ¶ 10a.) Again, defendants' evidence that the torquemeter seals did not leak goes to weight rather than admissibility.

B. Finality

Defendants next contend that the COI Report should be excluded because Navy Regulations dictate that reports of administrative fact-finding bodies are not "final determinations or legal judgments," and their recommendations are not "binding upon convening or reviewing authorities." (Defs'. COI Mot. at 12.) (citing JAG Manual Section 0202a(1). Because the report was prepared by junior officers and was subject to review by commanding officers, defendants argue that it is not a final report and therefore untrustworthy.

Courts have found that finality is relevant to a public report's trustworthiness. See Complaint of Munyan, 143 F.R.D. 560, 564 (D.N.J. 1992); Gentile v. County of Suffolk, 129 F.R.D. 435, 450 (E.D.N.Y. 1990); Zenith Radio Corp., 505 F. Supp. at 1147. In this case, however, examination of both the COI Report and Admiral Bowe's endorsement establish that the COI Report is final for purposes of Rule 803(8)(C). The endorsement states,

¹⁵ This is especially so given the report's finding that "[t]he seals from V-22 number 4 had swelled .003 to .007 inch and were stretched 0.2 inches." COI Rep. at 53, ¶ 370.

"[t]he proceedings and the findings of facts, opinion, and recommendations of the Court of Inquiry are approved, except as noted below." (Bowe Endorsement, at 2, ¶ 1.) Moreover, the endorsement makes frequent reference to the findings of the COI Report, (Bowe Endorsement at 3, ¶ 1), so that excluding the report would make Admiral Bowe's endorsement incomplete. It is clear that the COI Report and Admiral Bowe's endorsement to it together constitute a final report.

Even without the endorsement, the COI Report could be considered final. Plaintiffs cite the D.C. Circuit's decision in In re Korean Air Lines Disaster, 932 F.2d 1475, 1481-3 (D.C. Cir. 1991), which found that a report of the International Civil Aviation Organization ("ICAO") was final under Rule 803(8)(C) despite the ICAO Council's refusal to endorse it. The court considered the report final because the ICAO investigator "was acting in his official capacity as a public official when he conducted 'an investigation made pursuant to authority granted by law' . . . and issued his final report." Id. at 1482. There is no dispute here that the Court of Inquiry was convened pursuant to Navy regulations and that its report was final as to the Court of Inquiry. In fact, Captain Hollis' introduction to the report explicitly states, "[t]he investigation is complete as of this date." (COI Rep. at intro. page.) Consideration of finality actually weighs in favor of admitting the COI Report.

C. Political Bias

Defendants' final argument is that the COI Report is untrustworthy because it is politically biased. They explain that the Court of Inquiry conducted its investigation in the closing days of the 1992 Presidential and Congressional campaigns and that the V-22 program was in political jeopardy, having previously been terminated and resurrected. Given that background, defendants suggest "there was possible pressure on the members of the COI not only to find a cause of the crash, but also to reassure lawmakers that the cause was easily correctable such that no major modification of the V-22 program was required." (Defs. COI Rep. Mot. at 14.)

Defendants have not submitted any evidence that the Court of Inquiry was under political pressure to provide lawmakers with an easy fix for the V-22 program. This unlikely theory does not undermine the trustworthiness of the report.

In sum, the COI Report is presumed admissible under Rule 803(8)(C), and defendants have not rebutted that presumption. The COI Report appears to be trustworthy and it will be admitted into evidence along with Admiral Bowe's endorsement.