

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

UNITED STATES OF AMERICA : CRIMINAL ACTION
 :
 v. :
 :
 FLEET MANAGEMENT LTD., ET AL. : NO. 07-279

MEMORANDUM

Padova, J.

April 29, 2008

Before the Court is Defendants' Joint Motion to Exclude the Expert Report and Testimony of Marine Science Technician Chief Matthew Jones. Pursuant to the United States Supreme Court's decision in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), we held hearings on January 30, and February 5-6, 2008 to address the issues raised in Defendants' Motion. For the following reasons, we grant the Motion and exclude the expert report and testimony of Matthew Jones.¹

I. BACKGROUND

The Defendants in this case are Fleet Management, Ltd., the operator of a ship called the Valparaiso Star (the "Ship"); Parag Raj Grewal, the Captain of the Ship; and Yevgen Dyachenko, the Chief Officer of the Ship. The six-count Indictment charges the three Defendants with crimes associated with the alleged discharge of oil-contaminated bilge water and oil-contaminated sludge (collectively "oily waste") into the ocean from the Ship, including conspiring to fail to maintain an accurate Oil Record Book that recorded all discharges of oily waste for presentation to the United

¹Chief Jones produced two expert reports in this case, one dated August 8, 2007, and one dated December 11, 2007. In a January 28, 2008 Memorandum Opinion, we struck the December 11, 2007 report due to its late production, and limited the scope of Chief Jones's testimony from the August 8, 2007 expert report, because certain of the opinions in that report were beyond the scope of the Government's Bill of Particulars. Accordingly, the only expert report now at issue is the August 8, 2007 report, as limited in our January 28, 2008 Memorandum Opinion.

States Coast Guard.²

The Government has informed Defendants and the Court that it intends to call Matthew Jones as an expert witness pursuant to Rule 702 of the Federal Rules of Evidence. It proffers him as an expert in the field of ship operations, procedures and record-keeping requirements. Jones is a marine science technician with the United State Coast Guard, assigned to Sector Delaware Bay. (Hrg Ex. G10.) He carries Coast Guard qualifications as a foreign tank vessel inspector, a foreign chemical tank vessel inspector, and a pollution inspector, and has been conducting foreign vessel tank inspections for at least seven years. (Id.) In that time, he has conducted over 800 vessel inspections. (Id.) Only approximately ten of those investigations, however, have concerned apparent violations of the Act to Prevent Pollution from Ships (“APPS”), 33 U.S.C. § 1901 et seq., or MARPOL, a set of international regulations that addresses oil pollution, the laws that are at issue in the instant case. (N.T. 1/31/08, at 164.) Chief Jones has never before testified as an expert witness. (Id. at 162.)

On January 24-25, 2007, Chief Jones was the lead investigator on a Port State Control Inspection of the Ship. That inspection was precipitated by the statement of a crew member, Motorman Gopal Singh, that oily waste had been discharged overboard from the Ship. (See Witness Statement of Matthew Jones (“Jones Stmt.”), Hrg. Ex. DF-80.) Singh told Chief Jones that one way that the oily waste was discharged was through a bypass hose that was hooked up to connect the discharge side of the Ship’s sludge pump to the Ship’s boiler blow-down valve. (Id.; N.T. 1/31/08 at 111-12.) Singh took Jones to the Ship’s engine room, where he showed him the alleged bypass

²An Oil Record Book is a log that is kept on a vessel and contains records of movements and transfers of oily waste onboard the vessel. There are two types of oily waste at issue here – bilge waste and sludge. Chief Jones explained that bilge waste is waste accumulated from leaking engine room machinery and is primarily water. (N.T. 1/31/08, at 101.) Sludge is the “black tarry, dirty debris” that is filtered out of fuel oil or lubricating oil when such oils are purified. (Id. at 103.)

hose, which was stored underneath the deck plates. (Jones Stmt., at 1.) While in the engine room, Jones also spoke with the Ship's Second Engineer, Alokesh Dhabal, who allegedly told Jones that he believed that oily waste had been discharged from the Ship through the Ship's bilge-ballast system. (N.T. 1/31/08, at 98-99.) At Dhabal's suggestion, Jones opened the discharge valve that led overboard from the bilge-ballast system and found oil in the valve. (Id.) Later that same day, Jones interviewed a number of crew members on the Ship regarding the alleged discharges. (See Jones Stmt., at 3-5.)

The Government now offers Chief Jones as an expert witness who will opine that oily waste was discharged overboard on January 14-15, 2007, through the Ship's bilge-ballast system and through a bypass hose hooked up to the discharge side of the sludge pump and then connected to the boiler blow-down.³ (N.T. 1/31/08, at 96-97.) According to the Government, Chief Jones will also opine that the Ship's Oil Record Book is false because it contains no record of these discharges.⁴ (Id. at 96.)

Defendants object to the introduction of the expert report and testimony of Chief Jones,

³Jones's report suggests that he will testify that a "large volume" of oily waste was removed from waste oil tanks on the Ship on January 14-15, 2007. (Aug. 8, 2007 Exp. Rpt. at 2.) In extensive cross-examination, Defendants probed whether he could properly opine as to the volume of the allegedly missing oily waste. However, Jones eventually clarified that the exact amount of oily waste that was removed from the waste oil tanks was inconsequential as no amount of oily waste can be legally discharged overboard. (N.T. 2/6/08, at 73-74.) Moreover, the Government emphasizes in its post-hearing submissions that Jones will not opine as to the precise amount of oily waste that was removed from the tanks. (Gov't Proposed Findings of Fact and Conclusions of Law, at 3.) Accordingly, we will not dwell on the amount of the missing waste, focusing instead on the ultimate opinion that some amount of waste was discharged overboard.

⁴It is undisputed that the Oil Record Book contains no notation that oily waste was discharged overboard on January 14-15, 2007. Thus, this latter opinion is, in essence, merely a restatement of the former opinion that there was an overboard discharge. As such, its admissibility depends entirely on the admissibility of the former opinion and we will not separately analyze its admissibility.

asserting that Jones is not qualified to offer the opinions he proffers and that the purported methodology underlying those opinions is unreliable and invalid. For the following reasons, we find that Jones did not employ a reliable methodology in formulating his opinions and that the opinions that resulted from that unreliable methodology are neither reliable nor helpful to a jury. We therefore grant Defendants' Motion to exclude his expert report and opinions on that basis.⁵

II. LEGAL STANDARD

Federal Rule of Evidence 702 provides as follows:

If 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, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. As the United States Court of Appeals for the Third Circuit has explained, Rule 702 “embodies a trilogy of restrictions on expert testimony: qualification, reliability and fit.” Schneider ex re. Estate of Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003) (citing In re Paoli Railroad Yard PCB Litigation, 35 F.3d 717, 741-43 (3d Cir.1994) (“Paoli II”).

With respect to reliability, the Third Circuit has explained that “an experts’ testimony is admissible so long as the process or technique used in formulating the opinion is reliable.” Pineda v. Ford Motor Co., No. 07-1191, 2008 U.S. App. LEXIS 6091, *25 (3d Cir. March 24, 2008) (citing Paoli II, 35 F.3d at 742). The “expert’s opinions must be based on the methods and procedures of

⁵As we conclude that Jones’s opinions are unreliable, we do not further address Defendants’ argument that he is unqualified to render them.

science, rather than on subjective belief or unsupported speculation.” Paoli II, 35 F.3d at 742 (citations and internal quotations omitted). In other words, “the expert must have ‘good grounds’ for his or her belief.” Id. (quoting Daubert, 509 U.S. at 590). “While a litigant has to make more than a prima facie showing that his expert’s methodology is reliable . . . ‘the evidentiary requirement of reliability is lower than the merits standard of correctness.’” Pineda, 2008 U.S. App. LEXIS 6091, *25-*26 (quoting Paoli II, 35 F.3d at 744).

In evaluating whether a particular methodology is reliable, the Supreme Court and Third Circuit have suggested a number of factors to guide the Court's inquiry. These factors include:

- (1) whether a method consists of a testable hypothesis;
- (2) whether the method has been subjected to peer review;
- (3) the known or potential rate of error;
- (4) the existence and maintenance of standards controlling the technique’s operation;
- (5) whether the method is generally accepted;
- (6) the relationship of the technique to methods which have been established to be reliable;
- (7) the qualifications of the expert witness testifying based on the methodology; and
- (8) the non-judicial uses to which the method has been put.

Paoli II, 35 F.3d at 742 n.8. This list is not exhaustive, and the inquiry under Daubert remains flexible; each factor need not be applied in every case. See, e.g., Elcock v. Kmart Corp., 233 F.3d 734, 746 (3d Cir. 2000); Schieber v. City of Philadelphia, Civ. A. No. 98-5648, 2000 WL 1843246, at *2 (E.D. Pa. Dec. 13, 2000) (“These factors are non-exclusive and no one of the factors weighs more heavily than another; the approach to determining the admissibility of expert testimony is a flexible one.”) (citing Daubert, 509 U.S. at 594). Ultimately, the purpose of the reliability requirement “is to make certain an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the field.” Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999). As

such, the “focus must be solely on principles and methodology, not on the conclusions they generate.” Paoli II, 35 F.3d at 744. The court has significant latitude both in deciding “*how* to test an expert’s reliability” and in deciding “*whether* or *not* the expert’s relevant testimony is reliable.” Kumho, 526 U.S. at 152.

In assessing the third restriction on the admissibility of expert testimony, the testimony’s “fit,” the Court must ascertain whether the testimony is “relevant for the purposes of the case” and whether it “assist[s] the trier of fact.” Schneider, 320 F.3d at 404. This “helpfulness standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.” Id. (quoting Daubert, 509 U.S. at 591-92).

III. DISCUSSION

Defendants assert that Chief Jones’s opinions are unreliable because they are not based on sound methods and procedures, but rather, are based on subjective beliefs and speculation. Among other things, Defendants assert that Jones utilized methodologies of his own creation, disregarding information that did not support his central hypothesis that oily waste was discharged into the ocean, and failing to consider other possible interpretations of the facts and data on which he relied. They therefore assert that his expert report and testimony should be excluded from evidence, because they are not reliable and are not helpful to the jury.

Over the course of three days of hearings, Jones testified as to his bases for his opinions. With respect to his opinion that waste was discharged overboard on January 14-15, 2007, Jones explained that he relied on the Ship’s Oil Record Book; the tank soundings book entries for the tanks that Jones had identified as places where oily waste was stored -- the sludge tank, the overflow tank, the bilge

tank, and the dirty oil tank;⁶ Second Engineer Alokesh Dhabal's personal notebook that contained his own soundings for various tanks;⁷ the Ship's bridge log;⁸ offloading receipts, which reflected the offloading of oily waste to reception facilities in the Ship's ports of call; and conversations with Captain Parag Grewal and Chief Engineer Dyachenko. (N.T. 1/31/08, at 193-95, 208; N.T. 2/6/08, at 7-11)). He explained that he determined from the Oil Record Book and tank sounding logs that the amounts of oily waste in the Ship's waste storage tanks decreased significantly from January 14 to 15, and that no explanation for that decrease was reflected in the Oil Record Book.⁹ (N.T. 1/31/08,

⁶A sounding book, as its name implies, is a record of soundings, which are linear measurements of products in tanks. The Ship's sounding book contained daily soundings of various tanks during the relevant time period, which were taken by crew members in both the morning and evening. (N.T. 1/31/08, at 99; N.T. 2/6/08, at 29.) Jones testified that a sounding is ascertained by taking a tape measure with a weight on the bottom and running it down a tube called a "sounding tube." (N.T. 1/31/08, at 104.) When the tape touches the bottom of the tank, the tape is pulled back up and the level of the oil on the tape is the sounding for that tank. (Id.) To determine the volume of product in a tank, one uses the "conversion table" that corresponds to that tank. (Id. at 105.) The conversion table identifies the volume that corresponds to the linear measurement. (Id.)

⁷Defendants object to the admissibility of Dhabal's personal notebook and the Ship's tank sounding book, asserting that they were not maintained in the regular course of business. Because that issue is not germane to our ultimate resolution of Defendant's motion, we do not reach it.

⁸A bridge log is a log book that contains, among other information, daily information regarding the location of the vessel on its voyage. (N.T. 1/31/08, at 109.)

⁹ Jones testified that sludge can only be disposed of by transferring it to a shore reception facility or incinerating it. (N.T. 1/31/08, at 103-04.) He testified that bilge waste can be disposed of by these same two methods or, in the alternative, by processing it through a device called an oily water separator, which separates the oil from the water, discharges the water overboard, and sends the oil to a dirty oil tank. (Id. at 101-02.) Jones testified that if bilge waste is processed through the oily water separator or offloaded to an offshore reception facility, that action should be recorded in the oil record book. (Id. at 102.) He further testified that there was no entry in the Ship's Oil Record Book indicating that the oily water separator had been run, or that waste had been transferred off the Ship, on January 14-15, 2007. (Id. at 96, 102.) Finally, he testified that the Ship did not have an incinerator and thus, that was not an option for waste disposal in this case. (Id. at 102.)

at 194; id. at 121.) From the bridge log, he determined that the Ship was at sea on the 14th and 15th, and from the lack of offloading receipts or Oil Record Book entries for those dates, he determined that the Ship had not discharged anything to a reception facility during that two-day period. (Id. at 194-96.) Finally, he testified that he asked the Captain and the Chief Engineer why the tank levels had decreased and they had no explanation. (Id. at 203.)

While Jones suggested to defense counsel that it was on these bases alone that he concluded that the oily waste had gone overboard (id. at 193-94, 203), he subsequently clarified that his opinion in that regard was also based on the presence of the hose under the deck plates and the oil in the bilge-ballast discharge valve.¹⁰ (N.T. 2/5/08, at 118-20.) He testified that the fact that there was oil in the discharge valve and that there was no entry in the Oil Record Book to explain the presence of that oil, in combination with the statements of Singh and Dhabal, led him to the conclusion that oily waste had been discharged from the Ship through that valve. (N.T. 1/31/08, at 97-98; N.T. 2/5/08, at 127-28, 144.) He further explained that the fact that the hose was under the deck plates; that there was oil in the hose; that the flanges on the hose matched up with the sludge pump and the boiler-blow down valve; that paint was chipped off the nuts and bolts for the boiler blow-down valve as well as the sludge pump discharge valve, indicating that the nuts and bolts had been removed; and that the hose was long enough to connect the sludge pump to the boiler blow-down valve, led him to the conclusion that oily waste had also been discharged from the Ship using that hose. (N.T. 1/31/08, at 111-12; N.T. 2/5/08, at 155-56, 158.)

On cross-examination, Defendants extensively questioned Jones regarding the process by

¹⁰Jones testified that the bilge-ballast discharge valve is ordinarily used only for ballast water, sea water that is taken onto the ship to maintain the stability of the vessel. (N.T. 2/6/08, at 68.)

which he reached his opinions. For example, they probed his ultimate opinion that oily waste had been discharged from the Ship in part by questioning whether he considered the possibility that the waste at issue had been moved to another location on the Ship rather than discharged. Defendants established through Jones's testimony that there were other storage tanks on the Ship, including an incinerator tank, which was connected with hard piping to the sludge tank and the dirty oil tank (two tanks that Jones asserted had lost volumes of oily waste on the relevant dates), and the Center Storage Tank ("11 Center"), which had actually been used to store oily waste earlier in the voyage, when other storage tanks had reached their capacity. (N.T. 1/31/08, at 204-05, 221; N.T. 2/6/08, at 90.) Jones admitted that he did not consider the contents of these tanks or any others to determine whether the waste that was missing from the storage tanks he did consider may have been moved to other tanks. (N.T. 1/31/08, at 204-06, 217-18.) Indeed, he was not even certain what other storage tanks existed on the Ship, explaining that he did not consider other tanks because he did not understand the Ship to have other tanks that were designated for waste oil storage, and because no one told him that there were other tanks in which the missing waste might have been stored. (N.T. 2/6/08, at 50-51, 55, 90-91.) He even admitted that "in hindsight" looking at 11 Center "might have been a good idea," but he stated that he did not look there because it was his understanding from conversations with crew members that the transfer of waste to 11 Center had been a one time occurrence and that the individuals who transferred the waste to 11 Center had been told never to do it again. (N.T. 1/31/08, at 207; N.T. 2/5/08, at 22.)

Defendants also questioned Jones regarding whether he had considered explanations for the oil that he found in the bilge-ballast overboard discharge valve other than his explanation that the crew members had used that valve to discharge oily waste overboard. In this regard, Jones was

specifically asked if he took into account all the different alternatives and possibilities as to how the oil got into the valve. He simply replied: “I did the best I could and took in all the different factors that I knew of at the time.” (N.T. 2/5/08, at 151.) He also admitted, however, that Chief Engineer Dyachenko told him that he thought that the oil in the valve was the result of “sabotage,” and that he did not further investigate this possibility, even though he acknowledged that it would have been significant to know if there was a history of sabotage.¹¹ (N.T. 2/5/08, at 152.) His explanation for failing to investigate the possibility of sabotage was that Dyachenko refused to talk to him further. (Id.)

In a third area of inquiry, Defendants probed Chief Jones’s basis for concluding that the bypass hose was used to discharge waste rather than for another benign purpose. In this regard, Jones admitted that he did not walk around the engine room to see if the hose fittings might match other fittings in the engine room or to see if the length of the hose might be appropriate for other connections. (N.T. 2/5/08, at 161.) He also admitted that he did not consider the fact that the fittings on the hose on January 24 might not be the same fittings that had been on the hose on January 14 or 15, as it only takes a matter of minutes to change the fitting on a hose. (N.T. 2/5/08, at 164-66.) He ultimately conceded that he did not rule out other possible uses for the hose that were unrelated to an overboard discharge, but rather, stated that he was merely attempting “to confirm what [Singh and Dhabal] were saying was accurate.” (Id. at 161-62.) Jones explained: “If someone had told me [another use for the hose] when I was asking what the hose was used for and no one could explain what that hose was used for, then I might have considered that [other use]” (Id. at 164.)

¹¹Defendants’ “sabotage” theory is based in part on the fact that whistle blowers such as Gopal Singh can receive as a reward a portion of any criminal fine or penalty that is imposed on an APPS violator, which Jones acknowledged at the hearing. (N.T. 2/5/08, at 109.)

Upon consideration of the above testimony, as well as the other testimony that was presented during the three days of hearings on Defendants' motion, we are compelled to conclude that Jones's opinions are not the product of any "reliable principles and methods" and are not based on "sufficient facts and data." Fed. R. Evid. 702. It is difficult to apply the Paoli II reliability factors to this case due to the nature of Jones's opinions, which are experience-based and technical rather than scientific, and do not involve the application of any clearly identifiable discipline. Indeed, the Supreme Court has recognized that its specific reliability factors are "meant to be helpful, not definitive, and "do not all necessarily apply . . . in every instance." Kumho, 526 U.S. at 151. That said, attempting to apply those factors in the instant case, we note that no one has suggested that there are published peer-reviewed studies that address Jones's methodology for ascertaining both the fact of an overboard discharge and the method by which the discharge allegedly occurred. Likewise, no one has suggested that his methodology in this regard is "generally accepted" or consists of a testable hypothesis; there is no support in the record for a conclusion that one can calculate a known or potential rate of error for the methodology; and there has been no comparison of Jones's technique to methods which have been established to be reliable. Indeed, we find that Jones simply did not employ any definable methodology in formulating his "expert" opinion that there was an overboard discharge, and it is self-evident that we cannot consider his qualifications to employ an undefined and otherwise unused methodology. The Government also has not identified non-judicial uses for which Jones's purported methodology for determining the fact and method of overboard discharge has been put. As such, we find that none of the Paoli II reliability factors support a conclusion that Jones's methodology is reliable.

We also find, based on other considerations, that Jones's opinions simply do not carry with

them sufficient indicia of reliability to justify their introduction into evidence as the process or technique that Jones used in formulating them was not a reliable application of any scientific, technical, or other specialized knowledge. As an initial matter, we note that Jones formulated his opinions based on facts and data that he compiled in an investigative capacity, as the chief inspector on the January 24, 2008 Port State Control Inspection, and as an outgrowth of his role as one of the Government's primary fact witnesses at trial.¹² Jones essentially admitted at the hearing that his mind-set in compiling the facts necessary to formulate his opinions was that he was looking for evidence to confirm Gopal Singh's allegations, testifying, for example, that he initially looked for oil in the boiler blow-down valve "in hopes of maybe finding oil in that system, where there shouldn't be oil in that system." (N.T. 1/31/08, at 119). Similarly, he testified that he stretched out the alleged bypass hose between the sludge tank discharge valve and the boiler blow-down "to confirm what [Singh and Dhabal] were saying was accurate." (N.T. 2/5/08, at 162; see also Aug. 8, 2007 Exp. Rpt. at 2 ("I have found that a long flexible hose and the flanges connected to it . . . is consistent with allegations that sludge waste was bypassed from the sludge tank through the boiler blow-down valve") (emphasis added).)

We find that, approaching his expert analysis in this way, Jones formulated his opinion that there was an overboard discharge without a sufficiently comprehensive evaluation of all of the available facts and data. As was established on cross-examination, he did not consider other tanks or storage facilities on the Ship to which the oily waste might have been moved, did not consider other possible uses for the alleged bypass hose, and did not consider other ways in which oil could

¹²The Government initially represented to the Court that it would only be offering Jones as a lay witness, who would offer fact testimony along with certain opinion testimony under Federal Rule of Evidence 701. See Fed. R. Evid. 701.

have infected the bilge-ballast discharge valve. While the Government argues that an expert is not required to rule out all possibilities when reaching a conclusion, we find that Jones's error was greater than that; he approached his investigation with a particular conclusion in mind (i.e., that an overboard discharge occurred) and, without using any clearly-defined methodology, much less any intellectually rigorous analysis, he concluded that select facts and data could be interpreted to support that conclusion. Such an approach is simply not reliable and does not provide "good grounds" for an expert opinion.

We further find that Jones's opinion testimony that there was an overboard discharge on January 14-15, 2007, and that it was accomplished using the alleged bypass hose and through the bilge-ballast system is simply not scientifically helpful to the jury under the circumstances of this case. Whether there was an overboard discharge is possibly the most critical fact determination that the jury will be called upon to make. That being the case, we will not permit Jones to render an "expert" opinion as to that issue, when that opinion is not the product of a more clearly-defined, scientifically defensible, and comprehensive methodology. Indeed, Jones's opinion constitutes nothing more than his inference and conclusion based on his personal evaluation of the limited circumstances that he considered, without regard to any particular scientific, technical or other specialized methodology. His opinion, in essence, simply tells the jury what result to reach based only on the factors that he considered, without reference to a host of other ignored circumstances. Such reasoning lacks the level of intellectual rigor that should characterize an expert's opinion. Under Daubert, we must close the gate on such an opinion.

IV. CONCLUSION

For the reasons discussed above, we find that Matthew Jones did not formulate his opinion

that there was an overboard discharge by utilizing a reliable methodology that was based on sufficient facts and data. As a result, his opinions are not reliable and would not be helpful to the jury. Accordingly, we grant Defendants' Motion, and exclude Jones's expert report and expert testimony. In doing so, we do not intend to foreclose Jones from testifying, in accordance with the Federal Rules of Evidence, as a fact witness with respect to his observations. He may not, however, opine that an overboard discharge occurred on January 14-15, 2007, and that the discharge was accomplished by means of the alleged bypass hose and the bilge-ballast system. Likewise, he may not testify that the Oil Record Book is false because it lacks a record of such a discharge.

An appropriate Order follows.

