UNITED STATES COURT OF APPEALS

FOR THE FIFTH CIRCUIT

No. 91-3669

DEUTSCHE SHELL TANKER
GESELLSCHAFT mbH,

Plaintiff-Appellant/
Cross-Appellee,

versus

PLACID REFINING COMPANY,

Defendant-Appellee/
Cross-Appellant.

Appeals from the United States District Court
for the Eastern District of Louisiana

(June 8, 1993)

Before POLITZ, Chief Judge, JOHNSON and JOLLY, Circuit Judges.

POLITZ, Chief Judge:

This case involves a general average claim arising from the grounding of the tanker DIALA in the Mississippi River. Deutsche Shell Tanker-Gesellschaft mbH, the vessel owner, appeals the judgment in favor of the cargo owner, Placid Refining Company. Finding no reversible error, we affirm.

Background

In 1983 Deutsche Shell contracted to deliver a shipment of crude to Placid's refinery in Port Allen, Louisiana. The crude was transpsorted by the tanker DIALA which departed Sullom Voe, Scotland on May 21, 1983. The Atlantic crossing was uneventful. Upon reaching the Mississippi River the DIALA took on a compulsory Mississippi River pilot to guide the vessel upstream.

On June 5, in the Mississippi, the ship passed through shallow water and experienced a vibration after which its 10-centimeter radar picture failed. Captain Schätzel radioed Deutsche Shell's New Orleans agent, Lykes Bros., requesting service for the 10-cm radar and for the 3-cm radar which had a weak picture. Further upriver, the tanker encountered a squall during which its 3-cm radar unit also failed leaving the tanker without any operational radar.

Captain Schätzel was able to interswitch the two radar systems and establish a picture on the 3-cm display. The pilot, however, fearful that another radar failure would leave the tanker in the shipping lanes at night with no radar, and believing that Coast Guard regulations required the ship to have two operational radar units, refused to proceed and directed the ship to anchor.[1] The Mississippi River was at flood stage with a swift current. Before the second anchor took hold, the current caught the ship and swept her two miles downstream where she ran aground. After a week of

[1] There were no qualified radar technicians on board the vessel.

extensive salvage efforts, the DIALA was refloated and delivered the oil to Placid's refinery.

Deutsche Shell brought suit against Placid asserting a claim under the general average clause of the shipping contract[2] to recover a portion of the costs of the salvage effort.[3] Placid denied the claim asserting that it did not own the cargo at the time of the grounding and that the proximate cause of the grounding was Deutsche Shell's failure to maintain the radar in proper working order.

The issue of liability was tried to the court which entered a

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[2] The shipping contract contained the following general average clause:

> General average shall be payable according to the York/Antwerp Rules 1974 and shall be adjusted in London, but should the adjustment be made in accordance with the law and practice of the United States, the following clause shall apply:
>
> NEW JASON CLAUSE SQ In the event of accident, danger, damage or disaster before or after the commencement of the voyage, resulting from any cause whatsoever, whether due to negligence or not, for which, or for the consequences of which, the Carrier is not responsible, by statute, contract or otherwise, the cargo, shippers, consignees or owners of the cargo shall contribute with the Carrier in General Average to the payment of any sacrifices, losses or expenses of a General Average nature that may be made or incurred and shall pay salvage and special charges incurred in respect of the cargo.

[3] "General average is an ancient maritime doctrine making all participants in a maritime venture ratably responsible for losses incurred for their common good." **Atlantic Richfield Co. v. United States**, 640 F.2d 759, 761 (5th Cir. Unit A 1981).

take nothing judgment in favor of Placid.[4] The district court found that Deutsche Shell failed to prove that a general average act occurred and, even if such had occurred, Deutsche Shell's failure to exercise due diligence in maintaining the 3-cm radar was the proximate cause. The district court also found that Placid owned the cargo at the time of the grounding. Deutsche Shell timely appealed; Placid cross-appealed on the issue of cargo ownership.

Analysis

A standard "New Jason clause"[5] requires general average contribution even if the carrier is negligent, unless the carrier is responsible for the damage under the Carriage of Goods by Sea Act.[6] Under COGSA a carrier is held at fault for damage to the cargo caused by unseaworthiness resulting from "want of due diligence on the part of the carrier to make the ship seaworthy."[7]

A general average claim such as the claim at bar requires a three step analysis. The vessel owner has the initial burden to

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[4] The district court's opinion is reported at: **Deutsche Shell Tanker-Gesellschaft mbH v. Placid Refining Co.**, 767 F. Supp. 762 (E.D.La.1991).

[5] See **The Jason**, 225 U.S. 32, 32 S.Ct. 560, 56 L.Ed. 969 (1912).

[6] **Atlantic Richfield**, 640 F.2d at 761; see COGSA, 46 U.S.C. § 1301 et seq.

[7] 46 U.S.C. § 1304(1).

establish a general average act and that there was a separate cargo owner at the time of the act. If the vessel owner meets this burden, the cargo owner may avoid liability by establishing that the vessel was unseaworthy at the start of the voyage and the unseaworthiness was the proximate cause of the general average act. Finally, if the cargo owner establishes unseaworthiness, the vessel owner may still succeed if it proves that it exercised due diligence to make the vessel seaworthy at the start of the voyage.[8]

Deutsche Shell raises several issues on appeal. First, that the district court erred as a matter of law in determining that there was no general average act because the pre-trial order did not list this as a contested issue of either fact or law. Deutsche Shell further contends that, based on the uncontested evidence presented at trial, the district court's determination that there was no peril and hence no general average act was clearly erroneous. Deutsche Shell also contends that the district court's determinations that it failed to exercise due diligence and that such failure was the proximate cause of the grounding were clearly erroneous. In the cross-appeal, Placid contends that the district court erred in finding that Placid owned the crude oil on board the DIALA at the time of the grounding, and furthermore that Deutsche Shell should be held liable under the Pennsylvania Rule.[9]

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[8] See **Atlantic Richfield,** 640 F.2d at 761-62; see generally 2 BENEDICT ON ADMIRALTY §§ 181-188 (7th Ed. 1992); G. Gilmore & C. Black, The Law of Admiralty, ch. V, at 244-71 (2d Ed. 1975).

[9] See **The Pennsylvania**, 86 U.S. (19 Wall.) 125 (1874). Under the Pennsylvania Rule, "if a party violates a statute which

The determinations regarding peril, due diligence, and proximate cause are findings of fact which are upheld on appeal unless clearly erroneous.[10] "A finding is clearly erroneous only if the appellate court is left with the definite and firm conviction that a mistake has been made."[11]

I. The General Average Act

"There is a general average act when, and only when, any extraordinary sacrifice or expenditure is intentionally and reasonably made or incurred for the common safety for the purpose of preserving from peril the property involved in a common maritime adventure."[12] The district court found that Deutsche Shell failed to prove that a general average act occurred because the tanker was not in peril.[13] Deutsche Shell argues that the district court erred

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is designed to preclude an accident from occurring, that party bears the burden of proof in showing that its fault did not contribute to the accident." **Sheridan Transportation Co. v. United States**, 897 F.2d 795, 797 (5th Cir. 1990). Coast Guard regulations required the DIALA to have two independently operating radar systems. 33 CFR §§ 164.35(a) and 164.37(a). Placid argues that violation of this statute requires application of the Pennsylvania Rule.

[10] **Elevating Boats, Inc. v. Gulf Coast Marine**, 766 F.2d 195 (5th Cir. 1985); Fed.R.Civ.P. 52(a).

[11] **Elevating Boats**, 766 F.2d at 199.

[12] York/Antwerp Rule A (1974), reprinted in 2 BENEDICT ON ADMIRALTY § 181, at 13-1.

[13] The district court found as follows:

> With little more than a citation to York/Antwerp Rule A and the London adjustor's statement, Shell would have the Court

in raising the issue of peril *sua sponte* because the issue was never in dispute. The lists of contested issues of law and fact in the pretrial order contain no mention of a general average act.

Placid argues, on the other hand, that a general average act is a necessary element of Deutsche Shell's cause of action, and the burden is on Deutsche Shell to prove that it occurred.[14] The parties never explicitly stipulated that a general average act occurred. Because we uphold the district court's finding that Deutsche Shell failed to exercise due diligence to maintain the 3-cm radar, we need not decide whether the vessel was in peril nor whether the issue was raised properly.[15]

> gloss over the initial issue whether Shell's degrounding efforts constituted a general average act. Shell perhaps believes that the Court should find the existence of a general average act here merely because the DIALA was carrying millions of gallons of crude oil. The Court rejects this position and does not otherwise find circumstances sufficient for the Court to conclude that a general average act occurred here.

767 F.Supp. at 783.

[14] See York/Antwerp Rule E (1974):

> The onus of proof is upon the party claiming in General Average to show that the loss or expense claimed is properly allowable as General Average.

Reprinted in 2 BENEDICT ON ADMIRALTY § 181, at 13-2.

[15] We note, however, that peril is a flexible concept:

> While the courts in some cases have used expressions indicating that both in general average and in salvage cases it is essential that the property at risk be subject to an immediate impending danger, we think the 'imminency' of the peril is not the critical test. If the danger be real and substantial, a sacrifice or expenditure made in good faith

II. Lack of Due Diligence

The district court held that even if a general average act occurred, such act was caused by Deutsche Shell's failure to exercise due diligence to maintain the vessel's radar in seaworthy condition. The district court found that Deutsche Shell's inadequate maintenance practices contributed to the failure of the 3-cm radar.[16] The court concluded that the 3-cm radar failed for two reasons: (1) "water incursion into the antenna/waveguide components of the unit from Shell's improper maintenance;" and (2) "the T/R cell's having reached its actual useful life capacity, which far exceeded either T/R cell type's average minimum life expectancy."[17] Although we find the district court's conclusion regarding the T/R cell in error, we find no clear error in the court's findings that water incursion contributed to the vessel's grounding and that the water incursion was a result of Deutsche Shell's failure to exercise due diligence in maintaining the 3-cm radar.

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for the common interest is justified, even though the advent of any catastrophe may be distant or indeed unlikely.

Navigazione Generale Italiana v. Spencer Kellogg & Sons, Inc., 92 F.2d 41, 43 (2d Cir.), cert. denied, 302 U.S. 751 (1937). A tanker, fully laden with crude oil, unintentionally grounded in the Mississippi River at flood stages is quite likely to be in a perilous position.

[16] The district court found that the failure of the 10-cm radar was not caused by a lack of due diligence by Deutsche Shell.

[17] 767 F.Supp. at 788.

The Equipment

The DIALA was equipped with two independent radar units SQ a 10-cm unit and a 3-cm unit, both installed in 1973. Each unit has a 16-inch display screen on the bridge of the vessel which leads to an MTR (modulator/transmitter/receiver) unit in the next room. The 3-cm unit's MTR is connected to a hollow metal waveguide that leads to a 12-foot antenna array unit on the mast atop the bridge. The antenna array units are covered with fiberglass, and contain rotary ball bearings above and below the array so the antenna may make 360 degree sweeps.

The district court provided the following helpful "layman's explanation" of certain radar components:

> A modulator sends power to a magnetron, which converts the power to dense RF (radio frequency) energy for transmitting out the radar unit. This RF energy passes through a T/R (transmitter/receiver) cell and then, for the 3-cm unit, through a waveguide . . . to the antenna array, where the RF energy is transmitted into the atmosphere. A small fraction of this transmitted energy returns, or echoes, back to the antenna and back down the waveguide . . . again. The same T/R cell then directs this much weaker returning energy into receiver mixer crystals; the T/R cell is designed and is able, when functioning properly, to prevent the stronger, outgoing RF energy from passing through and thereby damaging these delicate mixer crystals. A klystron sends another, "base line" RF signal into the mixer crystals. "Mixing" these two incoming signals, the mixer crystals produce useful electronic information, which is finally sent to the display unit. The modulator, magnetron, T/R cell, mixer crystals, and klystron are all components of the MTR unit.[18]

The DIALA also was equipped with an interswitch device which

[18] 767 F. Supp. at 769-70.

permits the antenna and MTR unit of one radar system to be operated with the display unit of the other. Prior to the radar failures on June 5, 1983 no member of the DIALA crew had ever operated the interswitch device.

Symptoms of Radar Failure

When a radar malfunctions, a white spot may appear on the display screen and render the unit unfit for use. Among the sources for such malfunction are: "a defective magnetron, a defective modulator, blown or defective mixer crystals, possibly a defective klystron, or water ingress into the waveguide."[19] When a T/R cell fails, it allows the high power transmitting RF energy to go directly through the mixer crystals causing them to blow out. Such failure of the T/R cell and crystals also causes a small white spot in the center of the display screen and the loss of the rest of the display picture.

Water incursion generally does not directly effect the T/R cell. However, the presence of water in the waveguide may act as a close-range reflector of transmitting RF energy which may cause damage to the mixer crystals. In addition, a weak display picture may be caused either by a magnetron malfunction or water in the waveguide.[20]

Based upon the expert testimony at trial, the district court identified three ways in which water may get inside the waveguide:

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[19] 767 F.Supp. at 770.

[20] **Id.**

> through flanges or seams on the waveguide, through the front or edges of the fiberglass scanner array unit (to which the waveguide connects), and through the rotary ball bearing components just above or below the scanner. Because the antenna cover is continuously exposed to the harsh elements of the maritime environment, it may become soft and porous over time or otherwise in need of fiberglass recoating to prevent water leakage in the waveguide.[21]

The heat produced by transmitting RF energy may produce a "microwave" effect and dissipate or boil off small quantities of water that enter the waveguide, thus leaving little or no evidence of the water incursion.[22]

Maintenance Practices

Although the radar manufacturer recommended that a radar log be kept of all service to the radar units, Deutsche Shell did not do so. Instead, Deutsche Shell maintained a Gerätetagebuch, or equipment book, containing invoices from radar repair technicians. It also appears that no one regularly checked or followed up on the recommendations made by service technicians in the Gerätetagebuch. For example, a service report made on March 11, 1980 indicated that the upper antenna array's ball bearing needed to be replaced; there was no evidence in subsequent reports that this recommendation was ever followed. As further evidence of Deutsche Shell's poor record keeping, the Chief Officer's December 1982 quarterly report noted the condition of the radar as "keine Störungen seit der Werft" or "no problems since drydock," when the Gerätetagebuch showed three service calls regarding the radar during that period.

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[21] **Id.** at 771 (footnote and record citations omitted).

[22] 767 F.Supp. at 771.

The manufacturer's instructions advised that the antenna array should be removed and thoroughly overhauled every second year. The Gerätetagebuch's radar repair records bear no evidence that this was ever done during the entire ten years that the 3-cm radar had been installed on the DIALA.

Radar Repairs Made After the Grounding

At 2:00 a.m. the morning after the grounding, Ben Kempf, a radar technician came aboard the DIALA to work on the radar systems. He did not testify at trial, but his work order indicates the following regarding the 3-cm radar:

> [T]he transmitter is inoperative; all power supply voltages are normal; replaced blown receiver mixer crystals, but still no targets; replaced klystron with ship's spare; crystal current appears normal at this time but still unable to tune. [N]o other replacement parts are available. [S]uspect both klystrons 2K25 are defective, because it was necessary to decrease crystal attenuation to achieve any reading of receiver mixer crystal current. No t/r cell replacement aboard ship; suspect water in waveguide or in array. [D]isassembled waveguide at transmitter but no water there. [R]emoved waveguide from pedestal; but no evidence of water intrusion. [W]ill return tomorrow to finish repairs.

Later that same day, Michael St. Romain, another radar technician came to complete the radar repairs. His report indicated the following:

> Picture on radar showed signs of water in waveguide very weak picture and large spot in center. No evidence of water could be found below. Removed scanner and inspected upper assembly. Some slight evidence of water was shown from scanner. The front of scanner in dire nee[d of] recoating. It is very porous and could get water inside during a severe storm. Recommend recoating. Also noted that top ball bearing is badly worn and should be replaced. . . . After reassembling the waveguide parts a very slight improvement in picture was noted, but not enough. Changed defective TR cell and blown crystals. This improved picture further. Tuning of klystron cavity

> showed no change in picture. Changed klystron from ship's spares. This improved picture further, now out to 6 miles. Made several other checks in TR unit with no help in picture. Changed out klystron with one from our kit. Tuned up radar now to have targets 24 miles.

St. Romain also returned the next day and recoated both the 3-cm and 10-cm scanners.

A. Water Incursion

The district court found that the circumstances surrounding the failure of the 3-cm radar were most consistent with water incursion in the waveguide and scanner areas. This finding is amply supported by the evidence. First, a white dot appeared upon the screen just before the unit failed. This symptom suggests that there was water in the waveguide. In addition, the weak picture noticed by Captain Schätzel is also symptomatic of water incursion.[23] St. Romain, the radar service technician, also found evidence of water in the scanner.[24] While St. Romain found no water remaining in the waveguide, he did find some improvement of the

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[23] The district court noted that the only causes for a weak display picture are water in the waveguide or a defective magnetron, and there was no evidence of a defective magnetron in this case. T/R cell failure, alone, would not cause a weak picture. 767 F.Supp. at 788.

[24] Another service technician worked on the radars the night of the grounding, but his testimony was not presented at trial. His report indicates that he suspected water in the waveguide, but found no evidence of water. The district court discounted his failure to find traces of water based upon the facts that his inspection took place during evening hours and that he spent only 2 1/2 hours on the vessel to work on both radars, and spent most of his time repairing the 10-cm radar. The district court's determination regarding the reliability of the report is not clearly erroneous.

radar picture after disassembling and then reassembling the waveguide. From this the district court made the reasonable inference that in the process, St. Romain cleaned out any water that was in the waveguide. Finally, the failure of the 3-cm radar coincided with the ship hitting a squall, thus providing the opportunity for water incursion.

St. Romain discovered that the scanner array was extremely porous and in "dire nee[d of] recoating." He also found evidence of water in the scanner. Deutsche Shell's own expert, Mr. Stakelum, recognized that the extremely porous condition of the scanner array could not have suddenly manifested itself, but must have existed when the vessel left Sullom Voe.[25]

In addition, Deutsche Shell argues that any damage to the ball bearing could not have caused the water incursion because water was found only in the scanner and not in the waveguide where it would be if it entered through the ball bearing. We do not agree. The evidence demonstrated that water could enter the waveguide through a defective ball bearing. The district court found, consistent with the expert testimony, that "the effects of evaporation may explain the absence of more water."[26] Thus, the fact that no water was found in the waveguide after it failed, does not mean that

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[25] When asked if the porous condition existed when the DIALA left Sullom Voe, Stakelum testified: "Well the condition as Mr. St. Romain saw it in June of 1983 I think in effect existed the same way two weeks prior to that."

[26] 767 F.Supp. at 788.

water was not present at the time the radar failed.

The district court concluded that the water incursion was a result of Deutsche Shell's failure to exercise due diligence in maintaining the 3-cm radar unit.

> Where the standard of due diligence is applicable, it comprehends inspection and investigation, where prudent, to determine the existence of deficiencies before they become critical, and the failure to discover defects which examination would necessarily have disclosed is the very absence of due diligence.[27]

Deutsche Shell argues that regardless of whether water incursion occurred, they proved that the DIALA was seaworthy when it left Sullom Voe. We agree with the district court that Deutsche Shell focuses on too narrow a time frame.

The district court specifically rejected Deutsche Shell's effort to focus on the period between the drydocking in August 1982 and the grounding in June 1983. The antenna was not overhauled while the vessel was in drydock. While the vessel was in drydock in 1982, Jens Pedersen, then a young, inexperienced technician, spent only five hours on the vessel examining both radar units and the directional finding device. The radar also passed a German classification inspection. There was no indication, however, that the classification inspector conducted more than a cursory review. As the district court noted, "[i]f a shipowner is to enjoy the safe harbor of an inspector's okay, the shipowner must show that it

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[27] **Ionian Steamship Co. v. United Distillers**, 236 F.2d 78, 84 (5th Cir. 1956).

revealed sufficient facts to the inspector; Shell did not."[28] Accordingly, the district court gave little weight to the lack of problems detected by Pedersen or the German classification inspector.

The district court found, consistent with the evidence, that if Deutsche Shell had followed the manufacturer's recommendation to keep an accurate radar log and to overhaul the radar array every two years, Deutsche Shell would have avoided the surprises that led to the grounding in June 1983. Deutsche Shell's actions did not even approach the standard suggested by the radar manufacturer.[29] There was no evidence that either the 3-cm or the 10-cm radar underwent the recommended overhaul during the entire ten year period they were installed on the DIALA. During such an overhaul, the severe porosity problems, the defective ball bearing, and other opportunities for water incursion would have been remedied, thereby

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[28] 767 F.Supp. at 789.

[29] We find no merit in Deutsche Shell's argument that the district court improperly excluded evidence of actual practices within the industry. The district court refused to allow the corporate representative, Martin Buck, to testify as to statements made by other vessel owner's representatives regarding their maintenance practices. The district court correctly noted that the corporate representative had no personal expert knowledge on these matters, and that the statements of these undisclosed other vessel owners were inadmissible hearsay. Deutsche Shell contends that these statements were not offered for the truth of the matters asserted, but to demonstrate Deutsche Shell's understanding of the industry practices. We agree with the district court. Deutsche Shell's understanding of industry practices is irrelevant to the question of whether it exercised due diligence. Due diligence is an objective standard; therefore, to the extent that these statements attempted to demonstrate what that standard is, they are rank hearsay.

averting the failure of the 3-cm radar.

B. The T/R Cell

The district court indicated that "[t]he record contains no evidence that the 3-cm unit's T/R cell from 1973 had ever been replaced at any time." We agree with Deutsche Shell that this finding is not supported by the record. The radar repair invoices submitted by the defendants indicate that a VDX 1047s type T/R cell was replaced in June 1982,[30] one year before the radar failure which led to the grounding. This type of T/R cell is used in the 3-cm radar unit but not in the 10-cm unit.[31] These T/R cells have an average useful life expectancy of 2000-5000 hours; Deutsche Shell's radar expert, Mr. Stakelum, estimated that the average use of the 3-cm radar on a vessel such as the DIALA was 1500 to 2500 hours per year. The T/R cell in the 3-cm radar, having been replaced only one year before, was not so dangerously close to the end of its usefulness that it would have been a failure of due diligence not to replace it prior to the voyage. We find, however, that the water incursion contributed to the failure of the 3-cm radar and

[30] See Exhibit P24A.

[31] See Exhibit P26-B pp. 5-11. The source of the district court's error appears to have been the abstract of repair invoices admitted as Placid's exhibit D-3 which indicated that the VDX 1047s T/R cell was replaced in the 10-cm radar. Placid attempts to argue that Deutsche Shell stipulated to the contents of the abstract and therefore cannot now argue that the T/R cell in the 3-cm radar had been replaced. We find no such stipulation. Deutsche Shell agreed to the admissibility of the abstract, it did not stipulate to the accuracy of its contents particularly when the abstract contradicts the document from which it purports to abstract.

is sufficient to support the district court's judgment in favor of Placid.

III. Proximate Cause

Deutsche Shell also argues that even if the district court properly found that it failed to exercise due diligence in maintaining the 3-cm radar, the district court's conclusion that the grounding was proximately caused by that unseaworthy condition was clearly erroneous.

The district court found that the flood stages of the river, the pilot's decision not to continue the voyage without two reliable radar units, and the subsequent decision to anchor were all foreseeable events. These findings are not clearly erroneous. Certainly, grounding is one of the risks a vessel faces when its radar fails. The fact that the vessel was grounded while attempting to anchor does not make the result unforeseeable.

Finding no reversible error, we AFFIRM.