

REVISED - JULY 1, 1998

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

No. 96-30950

MARGATE SHIPPING COMPANY,

Plaintiff-Appellee,

versus

M/V JA ORGERON, her engines, tackle,
apparel, etc., in rem,

Defendant,

UNITED STATES OF AMERICA,

Third-Party Plaintiff-Appellant,

versus

CONTINENTAL UNDERWRITERS, LTD.

Third-Party Defendant.

MONTCO OFFSHORE, INC., Owner and
operator of the M/V JA ORGERON for
exoneration from or limitation of
liability,

Plaintiff,

versus

MARGATE SHIPPING CO., ET AL.,

Claimants,

MARGATE SHIPPING CO.,

Claimant-Appellee,

versus

UNITED STATES OF AMERICA,

Claimant-Appellant.

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

June 29, 1998

Before GARWOOD, JOLLY, and HIGGINBOTHAM, Circuit Judges.

E. GRADY JOLLY, Circuit Judge:

This appeal arises from the grant of what appears to be the largest maritime salvage award in recorded history. During a severe tropical storm off the Florida coast, the M/V Cherry Valley, an oil tanker belonging to Margate Shipping Co., rescued a barge containing a valuable external fuel tank for NASA's space shuttle. The district court awarded Margate approximately \$6.4 million in salvage. The United States appeals only as to the amount of the award. Based on the district court's mistaken valuation of the fuel tank, we reduce the award to \$4.125 million and render.

I

'Twas a dark and very stormy night, November 14-15, 1994, and the situation looked bleak for the barge Poseidon. Caught in the clutches of Tropical Storm Gordon, Poseidon and her escort, the J.A. Orgeron, were without power and adrift. Driven on the gales of the tempest, the flotilla was swiftly approaching the Bethel

Shoal; if they ran aground, the ships were sure to founder and be lost. Acutely aware of the danger, Orgeron's captain radioed for help. Alas, the Coast Guard was not in a position to mount a rescue. In despair, the captain made plans to release Poseidon and her valuable cargo, an external fuel tank for the space shuttle. Although this action would result in the certain loss of Poseidon and the tank, the captain hoped thereby to save Orgeron and her crew.

The voyage had begun some five days earlier. On November 10, Orgeron left New Orleans harbor with Poseidon in tow. Orgeron was an ocean-going tug being operated by Montco Offshore, Inc., under contract for NASA. Under that contract, Orgeron's principal task was to transport space shuttle fuel tanks from Martin Marietta's assembly plant in Michoud, Louisiana, around the Florida peninsula to Kennedy Space Center on Cape Canaveral. For this work, Orgeron used Poseidon, a NASA-owned ocean-going barge that had been specially fitted with a covered hangar large enough to contain a fuel tank. On this trip, Poseidon was loaded with the freshly manufactured tank designated ET-70 and an associated transport.

Shortly after leaving New Orleans, Orgeron's "jockey arm," a bar connecting its two rudders, broke, resulting in the complete disabling of the starboard rudder for the duration of the voyage. Rather than put in for repairs, however, Orgeron pressed on, relying on the still functional port rudder to see her through.

On November 13, as Orgeron and Poseidon rounded the southern tip of Florida, they began to encounter increasingly severe winds and heavy seas generated by Tropical Storm Gordon.¹ Concerned by the rapidly worsening weather, Orgeron's captain radioed Montco, asking for permission to seek refuge from the storm in Miami. Permission was denied, as reflected by the following notation in Orgeron's Weather Log: "Recommendation to put into Miami--NASA requested to continue on."

At approximately 2:00 a.m. on November 15, Orgeron lost the effective use of both her engines.² At the time, the flotilla was between ten and eighteen miles off Florida's Atlantic coast, somewhere between Fort Pierce and Cape Canaveral. Without Orgeron's engines, the tug and barge were left adrift, and began to be blown west towards shore.³ Orgeron immediately notified the Coast Guard of her predicament, and requested assistance. Because

¹The winds ranged from thirty-four to sixty knots, and the seas from fifteen to twenty feet.

²The port engine's gear box failed, rendering it completely inoperable. The starboard engine, which Orgeron had apparently not been using since the problem with the rudder arose, caught fire when it was started and quickly became completely disabled as well.

³Orgeron did, of course, have an anchor, which she deployed. This anchor was apparently not even remotely sufficient to hold the flotilla's position in the severe winds and heavy seas generated by the storm, however, and it was simply dragged across the seabed as the whims of the tempest dictated. There was an additional anchor on Poseidon that might have helped, but, unfortunately, it could only be deployed from Poseidon itself, and no one was on the barge at the time the engines failed, nor could anyone be transferred in the storm.

of the storm's ferocity, however, the Coast Guard was unable to help.

Without hope of rescue, Orgeron's captain considered his options. He surmised that the flotilla was being blown toward shore chiefly because of the sail effect of Poseidon's tall hangar. He concluded that Orgeron and her crew might be able to stave off grounding in the storm by releasing Poseidon and delivering the barge to her fate. Preparations were made, but before this contingency became necessary, the captain received word that help was on the way after all.

Orgeron's distress call had been picked up by the M/V Cherry Valley. Cherry Valley was a 688-foot oil tanker owned by Margate with a crew of 25 and a value of \$7.5 million. On November 15, the ship was fully laden with nine million gallons of heavy fuel oil and had a draft of about 35 feet. She was pursuing a course in deep water somewhat south of Orgeron's position when she picked up the distress call. Although under no obligation to assist, Cherry Valley's master, the suitably named Captain Strong,⁴ immediately altered course to rendezvous with the tug. In so doing, he took

⁴Captain Prentice Strong III was a graduate of the Maine Maritime Academy, and had been going to sea for over ten years at the time of the events in this case. It is a substantial testament to his ability that he reached the pinnacle of his profession, master of a large ocean-going tanker, at the remarkably youthful age of 32. Given this record, we are not surprised that Captain Strong displayed exemplary seamanship throughout this incident.

his relatively unmaneuverable craft into perilous shoal waters in direct violation of standing orders.

Cherry Valley arrived on the scene shortly after 4:00 a.m., whereupon Captain Strong decided to try to pass a line to Orgeron and tow the flotilla to safety. To do this, however, he would need to maneuver clumsy Cherry Valley directly alongside Orgeron in the churning seas. Time was short, as the vessels were rapidly approaching the Bethel Shoal; the Shoal had depths of six to seven fathoms in places, far too shallow for Cherry Valley, which required at least ten fathoms for safe operation in heavy seas. The flotilla had almost reached this depth when Cherry Valley arrived.

Captain Strong's plan was to pass close enough to Orgeron to send over a messenger line on a line-throwing rocket. This line could then be used to transfer larger mooring lines capable of sustaining the tow. Captain Strong ordered several crewmen onto deck to conduct the line-passing operation. Throughout the salvage operation, Cherry Valley's deck would be awash with green seas and extremely dangerous, even for experienced seamen.⁵

On Cherry Valley's first pass, the messenger line fell short, and Captain Strong was forced to bring the ship about for another attempt. This time, he passed even closer to Orgeron, and the

⁵Not terribly surprising, given that the vessels were in the midst of a tropical storm, a weather phenomenon only one step short of a hurricane.

messenger line was successfully transferred. It parted, however, before the deck crew was able to transfer a mooring line, and Captain Strong was compelled to bring Cherry Valley about once more.

Time was becoming increasingly critical. The vessels were now less than one mile from the Shoal, and the water was becoming quite shallow. If Cherry Valley ran aground in the storm, she would likely break up and cause a massive oil spill. In full awareness and express consideration of this danger, Captain Strong informed Orgeron that he would only make one more attempt.

Fortunately, the third effort was successful. Cherry Valley's deck crew managed to pass two hawsers⁶ to Orgeron, which were quickly made fast. During the transfer, however, Cherry Valley passed over the tow line running between Orgeron and Poseidon. Captain Strong held his breath waiting to know if the line would foul Cherry Valley's rudder or propeller. It did not. If it had, Cherry Valley likely would have found herself in the same predicament as Orgeron and Poseidon.

At 6:20 a.m., Cherry Valley finally was able to take the flotilla in tow. By this time, her propeller was churning mud and the fathometer indicated that there were less than ten feet between her keel and the bottom.

⁶Strong mooring or towing lines.

With Orgeron and Poseidon in tow, Cherry Valley steamed slowly southeast, back into deep water. The tow put great strain on the hawsers and chocks, however, which required constant attention in the form of "slushing."⁷ In addition to the inherent dangers of being on deck in the storm, slushing put Cherry Valley's deck crew in constant danger of being struck by a parting line; a hawser that parts under great strain can snap like a giant rubber band, causing severe injury to all nearby.

At 11:00 a.m., the tug South Bend arrived on the scene from Fort Pierce and attempted to assist. Because of the extreme sea and weather conditions, however, South Bend was unable to pass a line to Orgeron, or to put a crewman aboard Poseidon to operate her anchor. Unable to help and now fearful for his tug's own survival, South Bend's master decided to retreat. His fears were justified. While returning to port, South Bend was overcome by the seas and began to sink. She issued a mayday call, but no one could assist. She was just able to pass within the Fort Pierce harbor jetty, where her captain intentionally grounded her to avoid a total loss. It was the district court's undisputed finding that the actions of South Bend would have had no effect on the outcome for Orgeron and Poseidon in the absence of Cherry Valley, both because she would have arrived too late and because she would have been unable to render effective assistance in the storm.

⁷Basically, lubrication.

At this point, the tempest began to overcome even Cherry Valley. Because of the strain on the hawsers, she was not able to steam directly into the wind. As the storm worsened, she was pushed westward, back into the shallows. Out of options, Captain Strong decided to anchor and ride out the rest of the storm. Although this operation exposed the deck crew to additional risks, it was accomplished without incident at 5:00 p.m.

While anchored, one of the mooring lines parted. Cherry Valley's deck crew was able to replace and supplement it, and the flotilla remained intact.

The vessels remained at anchor throughout the night of November 15 and the following day, with Cherry Valley's deck crew constantly tending the lines. During that day, NASA was able to contract with the tug Dorothy Moran to relieve Orgeron and bring Poseidon into port. On the evening of November 16, Dorothy Moran arrived on the scene. Like South Bend, however, she was unable to pass a line to Orgeron or Poseidon, or to put a crewman aboard the barge. After several unsuccessful attempts, Dorothy Moran returned to Fort Pierce to await daybreak and better weather.

By midmorning of November 17, the storm had finally passed and Dorothy Moran and another tug were able to relieve Cherry Valley. Orgeron was towed to Fort Pierce, while Dorothy Moran completed Orgeron's contract and towed Poseidon to Port Canaveral. ET-70 was

delivered intact and completely unharmed, and was later used in a successful space shuttle launch.

ET-70 itself had been manufactured under a long-term contract between NASA and Martin Marietta. The contract provided for the production of sixty fuel tanks for a total price of \$3.4 billion, with the last tank to be delivered on September 29, 2000. Every tank was needed for NASA's planned series of missions. Under NASA's plan, however, a minimum of four tanks were slotted to be complete and available ("in circulation") at all times relevant to this case.

As part of NASA's standard procurement procedure, each tank produced under the contract was accompanied by a "Material Inspection and Receiving Report," otherwise known as a "DD-250." Among other things, the DD-250 contained an estimated production cost of the particular tank being delivered. In the case of ET-70, the DD-250 cost was \$53,834,000. The next tank in the production cycle, ET-71, had a DD-250 cost of \$51,387,000. The difference in price is basically attributable to the fact that, as the contract progressed, various overhead items declined in cost. There is no dispute that, had ET-70 been lost, ET-71 would likely have taken its place on the designated mission.

On December 21, 1992, acting on NASA's specific request, Martin Marietta gave the government an "option" on up to four additional tanks to be produced during the course of the contract

for a total additional cost of \$19,014,479 per tank. The option provided for a thirty-six month minimum lead time for the order of an additional tank, and although NASA provided no consideration for the option, Martin Marietta declared that its terms constituted a "firm price" offer. The government never accepted this offer, however, and it was eventually withdrawn, again at NASA's specific request, approximately six months before the events in this case.

II

On December 12, 1994, Margate filed an action for salvage against the J.A. Orgeron in the Federal District Court for the Eastern District of Louisiana. Montco answered, and then filed its own claim for limitation of liability. The United States, fearing an eventual salvage action against itself, filed a claim in the limitation action seeking indemnification from Montco. Margate then filed a cross-claim for salvage against the United States. Eventually, everything was settled except for Margate's cross-claim against the United States, which went to trial in July 1996 before District Judge Stanwood Duval.

On July 9, after a brief bench trial, Judge Duval read his findings of fact and conclusions of law into the record. In a reasoned oral ruling, he found that, based on the entirety of the evidence, Margate was entitled to a salvage award equal to 12.5% of the value of the salvaged property, Poseidon and ET-70.

In reaching this figure, Judge Duval relied on the six traditional salvage factors first announced⁸ in The Blackwall, 77 U.S. 1, 14 (1869). He determined that the facts of the case pointed to the highest possible award under each of the factors, and chose what he considered to be a high percentage of a high salvaged value to reflect this circumstance. Judge Duval also considered the application of a seventh factor, the "salvors' skill and effort in preventing or minimizing damage to the environment," as announced in Trico Marine Operators, Inc. v. Dow Chemical Co., 809 F. Supp. 440, 443 (E.D. La. 1992), but ultimately concluded that it was not applicable to the case. He did consider the risk of environmental liability incurred by Cherry Valley under the rubric of the traditional factors, however.

With regard to ET-70, Judge Duval determined that it was specialized property without a market value, and therefore most appropriately appraised at its "replacement cost." This value, he found, was the production cost of ET-71, \$51,387,000, because ET-71 was the likely "replacement" of ET-70. In making this finding, Judge Duval explicitly rejected the government's argument for a \$19 million replacement cost based on the withdrawn 1992 option,

⁸And, interestingly, last announced as well. The Blackwall contains the most recent bit of guidance that the Supreme Court has deigned to give on the subject of the calculation of salvage awards.

calling it "much too speculative." He also rejected Margate's argument for a \$92 million "cost-accounting" valuation.

Combining this \$51 million value for ET-70 with the \$2 million stipulated value of Poseidon, Judge Duval declared a total award of \$6,406,440 based on the 12.5% figure. He noted in the alternative that, even if the value of ET-70 were only \$19 million as the United States claimed, the award would be the same as he would adjust the percentage accordingly. On July 12, final judgment was entered for Margate in the amount of \$6,406,440. The United States appeals the amount of this award.

III

Because of the fact-specific nature of the calculation of a salvage award, "the amount allowed is to be decided by the district court in its sound discretion." Allseas Maritime, S.A. v. M/V Mimosa, 812 F.2d 243, 246 (5th Cir. 1987). "[A]n award will be altered only if it was based upon incorrect principles of law or misapprehension of the facts or it is either so excessive or so inadequate as to indicate an abuse of discretion." Id. This standard of appellate review is a time-honored and integral part of American maritime law, and has changed little since its infancy. See, e.g., Hobart v. Drogan, 35 U.S. (10 Pet.) 108, 119 (1836) (Story, J.) ("[T]his court is not in the habit of revising such decrees as to the amount of salvage, unless upon some clear and palpable mistake or gross over-allowance of the court below.");

Oelwerke Teutonia v. Erlanger & Galniger, 248 U.S. 521, 524 (1919) (Holmes, J.) (“Unless there has been some violation of principle or clear mistake, appeals to this Court concerning the amount of the allowance are not encouraged.”); 3A Martin J. Norris, Benedict on Admiralty § 311 (7th ed. 1997) (“An appellate court is, generally speaking, loath to change a salvage award.”). We keep this well-hewn principle firmly in mind as we embark upon the somewhat more intensive investigations necessitated by the instant case.

IV

An award of salvage is generally appropriate when property is successfully and voluntarily rescued from marine peril. The Sabine, 101 U.S. 384 (1880). As Justice Marshall noted long ago, this rule is peculiar to maritime law, and utterly at variance with terrene common law. Mason v. The Blaireau, 6 U.S. 240, 266 (1804) (Marshall, J.) (although it is true that, when property on land exposed to grave peril is saved by a volunteer, no remuneration is given, “[l]et precisely the same service, at precisely the same hazard, [b]e rendered at sea, and a very ample reward will be bestowed in the courts of justice”). Because of the peculiar dangers of sea travel, public policy has long been held to favor a legally enforced reward in this limited setting, to promote commerce and encourage the preservation of valuable resources for the good of society. See B.V. Bureau Wijsmuller v. United States, 702 F.2d 333, 337 (2d Cir. 1983) (“The law of salvage originated to

preserve property and promote commerce.") (citing Seven Coal Barges, 21 F. Cas. 1096, 1097 (C.C.D. Ind. 1870) (No. 12,677) ("The very object of the law of salvage is to promote commerce and trade, and the general interests of the country, by preventing the destruction of property.")).

In this case, there can obviously be no dispute that the basic elements supporting a salvage award are present, and the United States has expressly conceded that Margate is entitled to some award. As noted, the question for this court is simply how high that award should be.

The district court traditionally determines the amount of a salvage award according to the six Blackwall factors.⁹ Allseas, 812 F.2d at 246 & n.2. They are (in order of original listing):

1. The labor expended by the salvors in rendering the salvage service.
2. The promptitude, skill, and energy displayed in rendering the service and saving the property.
3. The value of the property employed by the salvors in rendering the service, and the danger to which such property was exposed.
4. The risk incurred by the salvors in securing the property from the impending peril.
5. The value of the property saved.
6. The degree of danger from which the property was rescued.

⁹At least in theory. Some commentators have said that the district court traditionally "pull[s] an arbitrary figure out of the air." Grant Gilmore & Charles L. Black, Jr., The Law of Admiralty 563 (Foundation 2d ed. 1975).

The Blackwall, 77 U.S. 1, 14 (1869) (Clifford, J.). Although old, "[t]hese guidelines have weathered the storms of the past century." St. Paul Marine Transport Corp. v. Cerro Sales Corp., 505 F.2d 1115, 1120 (9th Cir. 1974).

In this case, the district court made the following findings under the factors, listed here in order of the court's assessment of their importance to the calculation of an award:

1. (Blackwall 6.) Poseidon and ET-70 were in imminent danger of complete loss.
2. (Blackwall 5.) The combined value of Poseidon and ET-70 was \$53,387,000.
3. (Blackwall 4.) The salvors incurred extremely high risk in securing Poseidon and ET-70, both as to loss of their ship and lives and as to the creation of substantial environmental liability in the event of an oil spill.
4. (Blackwall 2.) The salvors displayed extremely high promptitude, skill, and energy in rescuing Poseidon and ET-70 by virtue of their daring and successful seamanship under very difficult conditions.
5. (Blackwall 3.) The value of Cherry Valley was \$7.5 million.
6. (Blackwall 1.) The salvors expended two and one-third days of labor in rendering the salvage service.

As noted, the district court determined that each factor indicated the highest possible award, and it chose 12.5% of the salvaged value as an appropriate figure.

The United States makes three basic challenges to the district court's analysis. First, it argues that the court erred in its general application of the Blackwall factors, by giving too much weight to the value of the salvaged property, by counting the potential for environmental liability as risk to the salvors, and by using a percentage of the salvaged value to fix ultimately the award. Second, even assuming that the district court made a correct legal interpretation of the factors, the United States argues that the district court clearly erred in its valuation of ET-70. Finally, even assuming that the district court made a correct legal interpretation of the Blackwall factors and properly valued ET-70, the United States argues that the court nonetheless abused its discretion in picking such a high percentage and generally making such a large award in this case. We address each argument in turn.

A

To address properly the United States's first contention, it is necessary to excavate the somewhat obscure foundations of the Blackwall rule. As many commentators have noted, the sense and contours of the factors are less than plainly engraved upon their face.¹⁰ In this case, however, the United States squarely asks us

¹⁰See, e.g., Gilmore & Black at 559 (noting that the traditional "recitation of Justice Clifford's six 'ingredients' [really just] serves the useful purpose of indicating that the variables are so many and so incapable of exact measurement that it will probably be fruitless for either party to take an appeal

to decide whether the particular interpretation and application adopted by the district court comports with the factors' essential meaning. In order for us to answer this question, we must first ascertain what purpose the factors serve.

1

Maritime salvage is as old and hoary a doctrine as may be found in the Anglo-American law. Since time immemorial, the mariner who acted voluntarily to save property from peril on the high seas has been entitled to a reward. This simple rule has been an integral part of maritime commerce in the western world since the western world was civilized.¹¹

merely on the ground that the award was incorrectly computed"). As we shall see, we ultimately take a somewhat more sanguine view of the rationality of the factors as a legal rule.

¹¹The earliest incarnation of the doctrine can be found in the celebrated maritime code of the island of Rhodes, from about 900 B.C. The Rhodian law is thought to have provided that "if a ship be surprised at sea with whirlwinds, or be shipwrecked, any person saving anything of the wreck, shall have one-fifth of what he saves." Norris § 5. Similarly, "[i]f the ropes break, and the boat goes adrift . . . [a]nd if any person finds the boat, and preserves it safe, he shall restore everything as he found it, and receive one-fifth part as a reward." Id.

The Rhodian law was adopted en masse by the Romans, who first enunciated the tradition that the law of the sea belonged to the *ius gentium*, and was thus outside of the legislative jurisdiction of any one people. Dig. 14.2.9 (Volusius Mæcianus, Ex Lege Rodia) (citing adoptions by Augustus and Antoninus).

Even after the Romans and Rhodians had become a faint memory on the italic peninsula, their doctrine of salvage remained. The Marine Ordinances of Trani, promulgated in 1063 A.D., provided that the finder of goods cast upon the sea was entitled to retain half of them if the owner came forward within thirty days, and to the entirety if he did not. Ordinances and Custom of the Sea, Published by the Consuls of the City of Trani art. XIX (1063),

Simple in principle, in the many centuries of its existence, the law of salvage has become encrusted with a multitude of court-created doctrinal complexities; the Blackwall factors are merely the most prominent example of this phenomenon. As modern scholarship has taught us, these legal barnacles are the natural and desirable results of the common law process. Court by court and case by case, the law of salvage has been steadily honed to ever greater levels of efficiency over the years, with the resultant rules serving as a convenient shorthand for the complex calculations of compiled experience. In examining the underlying logic of the Blackwall factors, we do not take lightly their role in summarizing this most succinct and practical of legal processes.

reprinted with English translation in 4 Black Book of the Admiralty 522, 536-37 (Twiss ed. 1876).

Inspired by Trani and other like-minded port towns of the Mediterranean, the French dukedom of Guienne adopted a similar law some two centuries later:

If a vessel departing with her lading from Bordeaux, or any other place, happens in the course of her voyage, to be rendered unfit to proceed therein . . . [and] if the master can readily repair the vessel, he may do it . . . and if he has promised the people who helped him to save the ship the third, or the half part of the goods for the danger they ran, the judicatures of the country should consider the pains and trouble they have been at, and reward them accordingly, without any regard to the promises made them.

Roll d'Oleron art. IV, reprinted in English translation with commentary in 30 F. Cas. 1171, 1172. When Richard I inherited Guienne from his mother, Duchess Eleanor, he introduced the doctrine of salvage (and the rest of the Laws of Oleron, as they came to be known) into the English law. 30 F. Cas. at 1171.

Still, in the light of the United States's challenge in the instant case, we think that this is an appropriate time for the underlying rationale of Justice Clifford's venerable factors to be formally recognized.

2

Fortunately, the principles underlying the Blackwall factors have not escaped the attention of our most prominent modern scholars. See William M. Landes & Richard A. Posner, Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism, 7 J. Leg. Stud. 83 (1978). Beginning with our first principle that the law of salvage seeks to preserve society's resources, they explain that "the purpose of [court-granted] salvage awards is to encourage rescues in settings of high transaction costs by simulating the conditions and outcomes of a competitive market." Id. at 100. In an ideal world, every meeting of salvor and salvee would result in a freely negotiated contract for salvage services priced at a competitive level.¹² Id. at 89. In the real world, however, most meetings of salvor and salvee cannot be resolved in this fashion.

To accommodate this reality, the law of salvage aims to create a post-hoc solution that will induce the parties to save the ship

¹²Provided, of course, that it makes sense for a salvage to happen at all. As explained in greater detail below, if the costs of performing a salvage are too high or the benefits to be derived too low, the parties might well agree to call it a day and let the sea claim its prize.

without first agreeing on terms. Id. at 100. As Justice Clifford himself noted, “[c]ompensation as salvage is . . . viewed by the admiralty courts . . . as a reward given for perilous services, voluntarily rendered, and as an inducement to seamen and others to embark in such undertakings to save life and property.” The Blackwall, 77 U.S. at 14 (emphasis added).

In order properly to induce the salvor (and salvee) to act, however, the law must provide for a proper and reasonable salvage award, one that gives neither the salvor too little incentive to do the salvage properly, nor the salvee too little reason to care if his property is saved. Landes & Posner, 7 J. Leg. Stud. at 102. By definition, this “efficient” fee is the one that would have been reached by the parties through voluntary negotiation in an open and competitive market, and its value will depend on a number of factual considerations. Id. By far the most important of these considerations, however, will be the cost¹³ to potential salvors of performing the service and the benefit to the salvee of it being performed; obviously, no voluntary salvor would be willing to perform a salvage for less than it would cost him to do it, just as no salvee would agree to pay more for a salvage than the loss he could thereby avoid. Id. In a voluntary agreement between salvor and salvee, therefore, as in any agreement between arm’s-length

¹³Including risk-based costs.

parties in any context, the twin considerations of cost and benefit will form the poles of negotiation between which any fair bargain must be struck. Should the gap between cost and benefit prove illusory, as when the costs of the service outweigh the benefits to be derived, then no agreement will be possible, and the parties must go their separate ways.

With this background in mind, it becomes immediately apparent that the Blackwall factors represent an explicit guide for the court to use in measuring these two most significant considerations for voluntary negotiation in the salvage context. Id. at 101-04; see also Allseas, 812 F.2d at 246 ("the[] factors guide the trial court in fulfilling the public policy behind salvage awards"). Labor expended by the salvors (1.), their promptitude and skill (2.), value of the salving property (3.), risk to the salvors (4.), and risk to the salved property (6.)¹⁴ are all direct or indirect measures of the actual cost to the salvor of performing the salvage in question, which should in turn be at least indicative of the costs that would have prevailed. Correspondingly, value of the

¹⁴Because the salvor gets nothing for an unsuccessful rescue, see The Sabine, 101 U.S. at 384, one of his legitimate costs is that risk. To even things out, the salvor will want to receive a premium in the instances where he is successful. See Landes & Posner, 7 J. Leg. Stud. at 101. Although not of particular relevance to this case, this circumstance is reflected in Justice Clifford's well known statement that salvage is *not* to be calculated "merely as pay, on the principle of a quantum meruit, or as a remuneration pro opere et labore." The Blackwall, 77 U.S. at 14.

salved property (5.) and risk to the salved property (6.) are measures of the benefit that the salvage has conferred on the salvee. By giving the court a framework in which to analyze cost and benefit in the salvage context, the Blackwall factors plainly intend to guide it in a rational process of determining and weighing the costs and benefits of the particular transaction so that the award chosen will give the proper inducement to the saving of life and property.

3

With this rationale in mind, we turn to the specifics of the United States's initial argument. There are three parts, all revolving around a core contention that the district court erred in its general assessment and application of the Blackwall factors. Essentially, the United States argues that the court erred: (a) by giving too much weight to the value of the salved property; (b) by counting the potential for environmental liability as risk to the salvors; and (c) by using a percentage of the salved value ultimately to fix the award. We address each point in turn.

(a)

The United States first complains that the district court gave too much weight to the fifth factor--value of the salved property--by ranking it second in its assessment of the considerations bearing upon an award. In the light of our just-concluded

explication of the function of that factor, this contention is readily seen to be wholly lacking in merit.

As the principal measure of the benefit of the salvage to the salvee, the fifth is clearly one of the most important of the Blackwall factors, and must be accorded substantial deference in the calculation of any award. As our above discussion begins to clarify, salvage awards are not based on the altruistic principle of good samaritanism--that virtue is its own inducement and its own reward. To paraphrase and distill its many distinguished commentators, the very object of the law of salvage is to provide an economic inducement to seamen and others to save property for the good of society by bestowing a fitting reward for their services in the courts of justice. It is profit, not principle, that is the driving force behind the law of salvage, and the question for the court is simply what amount of profit is fitting in the case before it. The general economic reality is simply that, the greater the value of the threatened property, the greater the potential loss, and, consequently, the more the salvee would be willing to pay to save that property from destruction. To approximate properly the incentive that the salvee himself would offer, it follows that the law of salvage must generally grant its highest awards where the property has highest value (assuming the

other factors remain constant).¹⁵ See Landes & Posner, 7 J. Leg. Stud. at 103-04.¹⁶

In setting the price for the salvage service, therefore, the court must consider--and consider primarily--the benefit that the service conferred on the recipient. In a case like the one before us, where the benefits of the salvage are numerically so far in excess of the costs--that is, the value of the property so high and the risk of loss so great--this primary consideration becomes dispositive. We are therefore confident that the district court did not overly emphasize the fifth factor in its analysis in this case, and are skeptical that an overemphasis would have been possible. See also Platoro Ltd. v. The Unidentified Remains of a Vessel, Her Cargo, Tackle, and Furniture, in Cause of Salvage,

¹⁵Indeed, the only one of the factors that can arguably be said to carry greater weight in this analysis is, as the district court correctly concluded, the sixth--risk to the salvaged property--for it is the other component of benefit conferred (i.e., the greater or lesser the threat of loss, the greater or lesser the benefit, and, consequently, the greater or lesser the price for the salvage service). Where, as here, the risk is essentially conceded to have been a 100 percent chance of total loss, the value of the salvaged property obviously takes on added significance in measuring benefit.

¹⁶To those who would generally emphasize the cost factors over benefit, we can only respond that no seller truly operates on the principle of selling at cost; a seller is induced to provide his goods or services by the opportunity for profit. The strong influence of benefit (as determined by the value of the property and the risk of loss) will often allow the salvor to extract a significant amount of profit in a voluntary transaction, and the law of salvage must reflect this circumstance, because it serves the very purpose of the law of salvage to provide the correct amount of incentive for the saving of property in every instance.

Civil and Maritime, 965 F.2d 893, 904 n.16 (5th Cir. 1983); Norris § 237; Gilmore & Black at 560 (all ranking the factors as the district court did here, with the sixth and fifth factors being the first and second most important, respectively).

(b)

The United States next argues that the district court erred by counting the risk of environmental liability as risk to the salvors under the fourth factor, when it should more properly have counted against them in some way. There is no merit to this contention either.

As just discussed, the fourth factor is intended to provide a direct measure of some of the salvor's actual salvage costs. In this context, there is no principled reason to distinguish between the costs imposed by the risk of injury or death, and those costs imposed by the risk of negligence liability or strict environmental damage liability. All are actual costs to the salvor, and he would presumably be unwilling to perform the salvage service without their recompense. For this reason, the risk of environmental liability was properly counted under the rubric of the fourth factor.¹⁷

¹⁷To the extent the United States is actually arguing that maritime law be altered to reduce the incentive for overeager salvors to wreck environmental havoc in pursuit of their prize, we note that there is no need for such a change in the law. As the United States itself admits, applicable law already made Margate strictly and completely liable for any oil spill that might have resulted from the salvage operation. See, e.g., 33 U.S.C.

This analysis is not altered by the fact that the district court did briefly consider the extra-Blackwall environmental protection factor announced in Trico. That case announced an additional factor, general protection of the environment by the salvors, see 809 F. Supp. at 443, which has never been endorsed by this court. In this case, the district court concluded that the salvors did not achieve any significant protection of the environment, and therefore it did not apply the factor. That decision did not preclude the court from properly considering all of the legal risks that Margate incurred, environmental or otherwise, under the rubric of the traditional factors.

(c)

Finally, and most significantly, the United States also complains that the district court erred by using a percentage of the salvaged value in its ultimate calculation of the salvage award. There is no merit to this contention either.

§ 2702(a) ("Notwithstanding any other provision or rule of law . . . , each responsible party for a vessel or a facility from which oil is discharged . . . into or upon the navigable waters or adjoining shorelines . . . is liable for the removal costs and damages . . . that result from such incident."); see also 33 U.S.C. § 2718(c). As such, the environment was and is adequately protected, and there is no need to conscript admiralty law for that purpose. Putting this concern to one side, Margate was entitled to the benefit of all the calculated risks it ran in the determination of its award. This is not to say, of course, that any amount of environmental risk could justify an award for more than the value of the salvaged property. The maximum limitations and general principles of salvage apply regardless.

We note at the outset that this court itself applied a percentage-based calculation in modifying an award in our most recent salvage case. See Allseas, 812 F.2d at 247. Furthermore, and as we just stated above, our analysis of the economic foundations of the Blackwall rule indicates that the value of the salvaged property is one of the most important of the factors. The most natural way to effectuate its salient character is simply to make the award a function of that value. See Landes & Posner, 7 J. Leg. Stud. at 103-04 (concluding that this is what courts have correctly done); accord Gilmore & Black at 563. Indeed, since the era of the Rhodian law itself,¹⁸ courts have applied percentages of salvaged value in calculating awards. Although Justice Clifford's opinion in The Blackwall itself heralded an end to the earlier practice of using a fixed percentage or "moiety" across all situations, see Gilmore & Black at 563; Jones v. Sea Tow Services Freeport NY Inc., 30 F.3d 360, 364 (2d Cir. 1994); The Kia Ora, 252 F. 507, 511 (4th Cir. 1918), we see no reason why the district court may not use the other five factors to set a customized percentage to be applied to the salvaged value for purposes of calculating an award in the case before it. See Compagnie Commerciale de Transport à Vapeur Francaise v. Charente Steamship Co., 60 F. 921 (5th Cir. 1893) (acknowledging the incorrectness of the fixed percentage method, yet upholding a customized percentage

¹⁸See note 11.

award). Based on our interpretation of the purpose of the Blackwall factors, we can indeed think of no more appropriate way to effectuate their goals.

Consistent with our earlier analysis of the factors, we therefore expressly state (to the extent that the issue may have been in doubt) that an approved method for calculating salvage awards is to use the first, second, third, fourth, and sixth factors to arrive at a percentage to be applied to the fifth factor, salvaged value, for purposes of establishing the award. In setting the percentage, some care should of course be taken to stay within the bounds of historical practice, see Section C, *supra*, and to account for all of the relevant circumstances of the specific salvage at issue. The predominant consideration, however, should always be to arrive at an award that reasonably reflects the price upon which the parties would have agreed. To the extent that the district court merely applied this formula and adopted a calculation based upon a percentage of salvaged value, it committed no abuse of discretion in this case.

(d)

Although none of the United States's own arguments with regard to interpretation of the factors bears any fruit, we feel compelled to raise one additional concern that has been fairly implicated, even if not squarely addressed.

For what the district court did in this case goes just a bit beyond the approach that we have outlined and approved. The court first held that the Blackwall factors indicated an award of 12.5% of the salved value in this case. So far, so good.¹⁹ After determining that the salved value was \$53 million, however, the court also noted that, even if the value were actually lower, as the United States argued, the dollar amount of the award would remain the same, as the court would adjust the percentage accordingly.

Based on our above interpretation of the Blackwall factors, we cannot approve this alternate holding. To do so would completely vitiate the effect of the fifth factor, and it is clear that such a holding would exceed the district court's discretion. Under our longstanding precedent, the district court is bound to apply all of the factors. Allseas, 812 F.2d at 246; Platoro, 695 F.2d at 903. Furthermore, as the often critical measure of the arm's-length salvage price that the Blackwall rule attempts to ascertain, it is clear that value of the salved property is one of the most important of the factors, and the one that truly cannot be ignored. To the extent that the district court attempted to evade the fifth factor by tying the percentage to a fixed dollar amount, we reverse that portion of its ruling. For the remainder of this opinion, we

¹⁹At least as to general approach. With regard to the specific percentage and overall amount, see Section C, *infra*.

may therefore restrict our discussion to the district court's primary holding that an award of 12.5% of the salvaged value was appropriate, and that this figure was approximately \$6.4 million.

To determine whether that holding may be allowed to stand, we must consider the United States's two remaining major complaints, i.e., that the value assigned to ET-70 was a clear error, and that the overall award was excessive both as to percentage and total dollar value. We address each in turn.

B

The United States's second major contention is that the district court clearly erred in its valuation of ET-70. In this complaint, we must agree.

1

At the outset, we note that "[i]n reviewing a district court's valuation . . . in a bench trial, we must accept all factual findings unless clearly erroneous." E.I. DuPont de Nemours & Co. v. Robin Hood Shifting & Fleeting Service, Inc., 899 F.2d 377, 379 (5th Cir. 1990). Nonetheless, where valuation is concerned, the district court's methodology must be based upon principles that reflect sound reasoning. See, e.g., Compagnie Commerciale, 60 F. at 923-25. In this case, it was not.

Generally, the value of property for salvage purposes is its market value as salvaged. See Norris § 263; Gilmore & Black at 561 n.89a; Nolan v. A.H. Basse Rederiaktieselskab, 267 F.2d 584, 588

(3d Cir. 1959). In the case of a unique good like a space shuttle fuel tank, however, this measure is clearly inapposite; as there is no market of any kind for space shuttle fuel tanks, there can be no market value.

In this situation, and bearing in mind that ET-70 remained in perfect condition despite the trials of the storm, the parties now agree that the most appropriate measure of value is "replacement cost." This conclusion accords with this circuit's decisions in other areas of maritime law. See, e.g., E.I. DuPont de Nemours & Co., 899 F.2d at 380 (in maritime tort context, "[w]hen no market value exists for a vessel, 'other evidence such as replacement cost . . . can also be considered'") (quoting King Fisher Marine Service, Inc. v. NP Sunbonnet, 724 F.2d 1181, 1185 (5th Cir. 1984)); cf. The F.I. Robinson, 2 F. Supp. 644, 645 (E.D.N.Y. 1933) (market value preeminent, but reproduction cost may be considered in its absence). The question becomes how replacement cost is to be determined.

The United States argues that the district court erred by using the DD-250 cost of ET-71 to measure the replacement cost of ET-70. It contends that the court should have based its valuation on what it would actually have cost NASA to purchase a replacement tank, and that this figure was conclusively established to be \$19 million by the 1992 option.

Based on our earlier discussion of the purposes of salvage law, we are convinced that the United States is quite correct, at least in part. The purpose of establishing the value of the salvaged property is to ascertain what benefit the salvage service conferred on the salvee; what we wish to know, in the end, is what the salvee was saved from so that we may establish what he reasonably would have paid for the benefit of the saving. Where the benefit to the salvee must be measured by the replacement cost of the salvaged property, that figure should reflect the contemporary price to the salvee of actual replacement. In this case, that price would simply be the amount that NASA would actually have had to pay Martin Marietta for them to make a new ET-70.

The district court made no effort to ascertain this figure, despite ample evidence in the record. Instead, it engaged in a semantic analysis of the literal meaning of the word "replacement," an analysis that failed to capture the economic reality of determining actual replacement costs. If a party has several of something, and one is destroyed, his substitution of a second thing from his inventory simply does not constitute a "replacement" of the destroyed item for valuation purposes, since the party owned the "replacement" all along. In this case, NASA would not have replaced ET-70 by using ET-71 on its designated mission; in the end, NASA would still have had one less tank in its inventory than it had before the storm. The question the district court should

have asked is what it would have cost NASA to get Martin Marietta to build another tank. This, in the end, was the replacement expense that NASA was saved from by Captain Strong's decisive action.

On this point, the evidence was absolutely undisputed that NASA could have purchased an additional tank for approximately \$19 million²⁰ in out of pocket expense at the time of the salvage. Martin Marietta had made a binding offer to produce up to four additional tanks for this price, and although the offer had been recently withdrawn, there was no evidence to suggest that it no longer accurately reflected what Martin Marietta would charge. True, the district court held that the "option" was too "speculative" to be relied on. This finding, however, was completely at odds with the record. In the light of all the evidence, we are convinced that it was in clear error.

We find this to be the case principally because the "option" was not really an option at all, but simply a firm offer. It represented Martin Marietta's unilateral offer to produce up to four additional tanks for a price certain, and was not in any

²⁰This lower price was the natural result of increased economies of scale and fixed overhead items that had already been paid for. It represented Martin Marietta's marginal cost of producing an additional tank, which was substantially lowered by the existence of NASA's ongoing contract for the original sixty tanks. Because NASA had already committed to that contract at the time of the salvage, the United States is well justified in claiming its benefits in this context, and we reject Margate's argument that this would somehow be unfair.

respect an option contract supported by separate consideration. As such, the fact that it had been technically withdrawn, at NASA's request, six months before the salvage is of no moment. The only thing that might have cast doubt on the accuracy of the option's price would have been evidence of changed circumstances in the intervening time period. As there was no evidence of such changed circumstances, the district court was bound to accept the implications of the option.²¹

3

Unfortunately for the United States, this holding does not quite end our inquiry. For although the "option" price was conclusive as to NASA's probable out of pocket expense in obtaining a replacement for ET-70, it did not address all of the probable replacement costs.

Any calculation of replacement cost must be based on a replacement that is comparable to the lost item in all material respects. E.I. DuPont de Nemours & Co., 899 F.2d at 382. In order truly to replace ET-70, Martin Marietta would have had to provide NASA with a new tank that incorporated all of the material features

²¹We note in passing that this holding is somewhat contrary to the Third Circuit's decision in Nolan, which held that the district court was allowed to rely on the "invoice" cost of a unique good for salvage purposes in the face of conflicting evidence of replacement cost. 267 F.2d at 588-89. We would suggest that the instant case is distinguishable in that it involves absolutely uncontradicted evidence of replacement cost. We also note, however, that much of the reasoning behind Nolan does not seem to be consistent with sound economic principles.

of the old one, both physical and temporal. Although payment of the option price would have been sufficient to obtain a new tank with all the requisite physical characteristics, that tank would have been somewhat faulty as a temporal matter in that it would only have become available for use three years after ET-70's designated mission. In a very real sense, ET-70's value to NASA was enhanced by the fact that it was a completed tank, available for immediate use.²² Although the record is clear that no mission need necessarily have been postponed by a delay in ET-70's replacement, it is also clear that for three years' time NASA would have had three usable tanks in circulation instead of its desired minimum of four. Because ET-70's existence avoided this three-year shortfall, any acceptable replacement plan would have had to address it as well. Because the tank available under the option could not have done so,²³ it would have been partially defective.

Where the available replacement is less than comparable in some material way, the court must take the defect into account in calculating the overall replacement cost. E.I. DuPont de Nemours & Co., 899 F.2d at 382 (where replacement cost of large unique

²²An assessment that is, we note, substantially supported by NASA's haste to have ET-70 delivered, as evidenced by its abject unwillingness to allow Orgeron to put into Miami to seek refuge from the storm.

²³We note that neither party seems to have introduced any evidence that there was a way to obtain a replacement tank any faster than under the terms of the option.

barge was partially based on multiple smaller replacement barges, district court should have taken the increased costs associated with multiple trips into account). To complete ET-70's valuation in this case, we must therefore calculate an appropriate addition to address NASA's probable costs in curing the temporal defect. To do so, the question this court must ask is exactly how much the avoidance of a three-year, one-tank shortfall in NASA's tank circulation plan would have been worth.

Convenient to our decision today, the evidence on that point was undisputed and conclusive, as it came directly from NASA itself. In setting a minimum circulation of four tanks, NASA determined that it was worthwhile to have four tanks in circulation at all times instead of three. The reasons for this judgment no doubt included a desire to allow for additional defects, a commitment to avoid all foreseeable delays, and a host of other factors irrelevant to the instant analysis. The important point is simply that to fulfill its goals NASA itself decided to immobilize approximately \$50 million²⁴ in additional capital every year to ensure that there were four tanks in circulation instead of three. In more colloquial terms, by keeping four tanks in circulation at all times instead of three, NASA was making a conscious choice to

²⁴I.e., the approximate amount that NASA actually paid for each additional tank during the relevant time period.

take \$50 million from its budget and put it on a shelf instead of spending it on other things.

Although the government is sometimes wont to think otherwise,²⁵ money is now well known to have a time value. See Atlantic Mutual Ins. Co. v. Commissioner of Internal Revenue, 118 S.Ct. 1413, 1415 (1998). The three-year treasury bill rate on November 15, 1994, was 7.41%, and we are confident that the cost to the United States of immobilizing \$50 million over the three years in question was approximately $(1.0741^3 - 1) \times \$50 \text{ million} = \12 million . Whatever risks and costs NASA would have incurred by having three tanks in circulation instead of four, NASA itself determined that these risks were worth about \$12 million to avoid. By rescuing ET-70, Captain Strong saved NASA from this \$12 million in additional risks and costs as well, and it must be counted towards a proper valuation of the tank.

Combining this additional \$12 million with the \$19,014,479 figure from the option, we arrive at a total replacement cost for ET-70 of approximately \$31 million. We therefore hold that the district court was clearly in error in valuing ET-70 at \$51,387,000, and that the correct value was \$31 million. Adding the \$2 million stipulated value of Poseidon, this leaves a total

²⁵See, e.g., Gore, Inc. v. Glickman, 137 F.3d 863, 869 (5th Cir. 1998).

value for the salvaged property of \$33 million.²⁶ Applying the district court's 12.5% salvage percentage, see Compagnie Commerciale, 60 F. at 924 (applying the district court's choice of customized salvage percentage to a corrected salvaged value in computing the ultimate modified award), we are left with a new salvage award of \$4.125 million.

C

With this new figure in hand, we may address the United States's final complaint. Essentially, the United States argues that, even assuming a correct and error-free assessment of the Blackwall factors, any award in excess of either \$2.5 million or 10% of the salvaged value constitutes an abuse of discretion in this case. The United States made this argument originally with respect to the district court's \$6.4 million/12.5% award. As it is equally applicable to our amended \$4.125 million/12.5% figure, we must briefly address it before we can bring this case to a close. For the reasons that follow, we hold that a \$4.125 million/12.5% award is not so excessive as to constitute an abuse of discretion in the context of this case.

Consistent with our earlier analysis of the economic principles underlying the law of salvage, the only hard numerical

²⁶In making this admittedly rough-and-ready valuation, we rely on the fact that the value of the salvaged property need not be determined with great precision in order to calculate an appropriate award, even under the customized percentage method. See Compagnie Commerciale, 60 F. at 924.

limitation that this court has ever placed on salvage awards is the full value of the salvaged property. Allseas, 812 F.2d at 246-47 (reducing an award of 150% of the value of the salvaged property to 67.5% thereof). As we have already said, no reasonable salvee would ever contract for the salvage of property at a price greater than its value.

For awards, like the current one, that are far below the absolute limit of Allseas, we have repeatedly emphasized that the determination of the particular amount (or percentage) is a factual inquiry best left to the sound discretion of the district court. See Allseas, 812 F.2d at 246; Platoro, 695 F.2d at 903; Compania Galeana, S.A. v. M/V Caribbean Mara, 565 F.2d 358, 360 (5th Cir. 1978). Where, as here, the district court has applied the Blackwall factors in an appropriate way with a correct understanding of their underlying purpose, the only useful review that this court can conduct of the ultimate award is a general comparison to similar decisions. Indeed, even this limited type of review has been criticized by some courts, see, e.g., B.V. Bureau Wijsmuller, 702 F.2d at 339, and we will conduct it in only the most deferential and general way.²⁷

²⁷Before embarking upon it, we do note, as have many others, that there are essentially two ranges for percentage-based salvage awards, one somewhat lower one for property of high value (as compared to the costs of the salvor), and one somewhat higher one for property of comparatively low value. See, e.g., Compagnie Commerciale, 60 F. at 924. Although not particularly relevant to this case, we note that this anomaly is not inconsistent with an

After some fairly extensive research, we have compiled a list of the nine largest federal salvage awards in comparable high-value, high-order cases since the advent of the Blackwall rule. All amounts have been adjusted to 1994 dollars on the basis of the relevant U.S. Consumer Price Index deflator. See John J. McCusker, How Much Is That in Real Money? A Historical Price Index for Use as a Deflator of Money Values in the Economy of the United States (American Antiquarian Society 1992).

economic theory of salvage. Where the salved value is particularly low compared to the costs of the salvor, the percentage of value awarded must be higher in order to assure that the salvor at least recovers his costs. For this reason, these low salved value cases correctly produce anomalously high percentage awards. See, e.g., Allseas, 812 F.2d at 246-47 (awarding 67.5% in the case of a relatively run-down and low-value salved vessel). For purposes of this case, we may obviously constrain our analysis to cases involving comparatively high salved values (and low percentage awards).

Total Award	Date of Salv	General Description	Labor	Skill, etc.	Value of Salvaging Property	Risk to Salvors	Value of Salvaged Property	Risk to Salvaged Property	Award as % of Salvaged
\$3.5m	1941	German merchant vessel scuttled and abandoned by crew; U.S. Navy boarding party repaired scuttling damage and navigated her into port. <u>The Omaha</u> , 71 F. Supp. 314 (D. P.R. 1947).	67 men 11 days	High	\$130.2m	Avg	\$22.7m	High and Imminent	15.4%
\$2.5m	1896	Large liner aground on New Jersey beach; professional salvors pulled her free. <u>The St. Paul</u> , 82 F. 104 (S.D.N.Y. 1897).	205 men 11 days	High	\$7.6m	Low	\$37.8m	High but not Imminent	6.6%
\$1.7m	1917	Vessel aground on remote coral reef; professional salvors travelled 360 miles and pulled her free. <u>The Kia Ora</u> , 252 F. 507 (4th Cir. 1918).	70 men 6 days	High	\$5.2m	Low	\$44.9m	High but not Imminent	3.8%
\$1.2m	1977	Vessel aground on rocky ledge; professional salvors removed fuel, laid out beaching gear, and refloated and towed her some distance. <u>B.V. Bureau Wijnsmuller v. United States</u> , 702 F.2d 333 (2d Cir. 1983).	\$245k	Avg	N/A	Low	\$15.9m	Avg	7.5%
\$1.1m	1942	Neutral tanker twice torpedoed and abandoned; U.S. Navy picked up crew and replaced on board. Crew navigated ship to port. <u>Usatorre v. Compania Argentina Navegacion Mihanovich, Ltda.</u> , 64 F. Supp. 370 (S.D.N.Y. 1945), reversed on other grounds, 172 F.2d 434 (2d Cir. 1949).	Minimal	Low	N/A	N/A	\$11.0m	High but not Imminent	10.0%
\$944k	1983	Vessel aground at remote location in high winds; nonprofessional salvors pulled her free. Vessel then fouled her own propeller while retrieving mooring line; salvors helped to clear. <u>Walter Kuhr, Sr. v. Sea-Alaska Products, Inc.</u> , 1986 A.M.C. 2299 (W.D. Wash. 1985).	1 ship 2 days	High	\$5.6m	High	\$10.8m	High but not Imminent	8.7%
\$825k	1968	Vessel afire and abandoned; nonprofessional salvors boarded and kept her from sinking, then made unsuccessful attempt to tow. <u>St. Paul Marine Trans. Corp. v. Cerro Sales Corp.</u> , 505 F.2d 1115 (9th Cir. 1974).	1 ship 26 hours	High	\$20.2m	Avg	\$7.8m	High and Imminent	10.6%
\$793k	1919	Large liner holed by collision and beached; professional salvors (and others) towed, beached, patched, refloated, and navigated her into port. <u>Merritt & Chapman Derrick & Wrecking Co. v. United States</u> , 63 Ct. Cl. 297 (1927).	186 men 63 hours	Low	\$2.1m	N/A	\$12.4m	High but not Imminent	6.4%
\$750k	1880	Vessel aground on Virginia beach; professional salvors pulled her free. <u>The Sandringham</u> , 10 F. 556 (E.D. Va. 1882).	100 men 7 days	High	N/A	Low	\$3.0m	High but not Imminent	25.0%

For this case, a comparable listing is:

Total Award	Date of Salv	General Description	Labor	Skill, etc.	Value of Salvaging Property	Risk to Salvors	Value of Salvaged Property	Risk to Salvaged Property	Award as % of Salvaged
\$4.125m	1994	Two vessels adrift and in imminent danger of grounding in severe storm. Nonprofessional salvors ventured into perilous shoal waters and towed vessels to safety.	2 1/3 days	High	\$7.5m	High	\$33.0m	High and Imminent	12.5%

In the context of these past awards, it is difficult to say that the reduced \$4.125 million/12.5% award here is wrong, much less an abuse of discretion. The range of percentages appears to run from about 4% to 25%,²⁸ and the percentage here is smack in the middle of that range. Furthermore, as the district court noted, it is rare that a salvage action would involve such high ratings on each of the factors as was the case here. The only case in the list that is fairly comparable in this respect is The Omaha, and there the salvors did not incur great risk to themselves. Furthermore, that case resulted in a *higher award* in percentage terms. Although the dollar amount of the award in this case would still appear to be the highest ever, even after our modification, in the light of all its factors, it simply does not look out of place in the context of high-value, high-order salvage cases. For

²⁸Which is consistent with the judgment of most modern commentators, see, e.g., Gilmore & Black at 563 (finding an upper limit of about 20% in high-value cases), and the practice of courts since the time of the Rhodian law itself, see note 11, *supra*.

this reason, it is not so excessive as to constitute an abuse of discretion.

V

CONCLUSION

In conclusion, we AFFIRM the district court's interpretation of the Blackwall factors and choice of salvage percentage. In particular, we AFFIRM and sanction the district court's decision to use the first, second, third, fourth, and sixth factors to calculate a percentage to be applied to the fifth factor, salved value, for purposes of fixing an award, because this practice is inherently consistent with the underlying purpose of salvage awards and the Blackwall factors (i.e., to simulate the price that the parties would have agreed to in a competitive negotiated setting). We also AFFIRM the district court's assessment of environmental liability as a risk properly considered under the rubric of the fourth factor. Finally, we also AFFIRM the district court's specific choice of percentage in this case, because it is consistent with the historical pattern in cases of similar nature, and therefore is not so excessive as to constitute an abuse of discretion. We REVERSE the judgment of the district court as to the value of the salved property, however, and must therefore MODIFY its ultimate salvage award. For the stated reasons, we REDUCE Margate's salvage award from \$6,406,440 to 4,125,000 and direct that judgment be entered in that amount.

AFFIRMED in part, REVERSED in part, award REDUCED, and RENDERED.