IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

INTERCONTINENTAL TERMINALS CORPORATION, LLC	§	
Plaintiff,	§	
	§	
v.	§	**C.A. NO. 4:18-cv-3113**
	§	**RULE 9(h) - ADMIRALTY**
AFRAMAX RIVER MARINE CO., EXECUTIVE SHIP MANAGEMENT PTE LTD., M/T AFRAMAX RIVER	§	
Defendants / Third-Party Plaintiffs,	§	
	§	
v.	§	
	§	
SUDERMAN & YOUNG TOWING COMPANY, G&H TOWING COMPANY And SEABULK TOWING SERVICES, INC.	§	
Third-Party Defendants.	§	

FINDINGS OF FACT AND CONCLUSIONS OF LAW-

FINDINGS OF FACT

This case came on for a bench trial on Feb. 6, 2023 and concluded on Feb. 15, 2023. All the Parties were present at trial. The Court has carefully considered the testimony of the witnesses, the exhibits entered into evidence, and the entire record, and hereby enters the following conclusions of fact. To the extent any conclusion of fact may be construed as a conclusion of law (or vice versa), the Court hereby adopts it as such.

I. THE PARTIES, VESSELS, AND KEY INDIVIDUALS

A. Houston Fuel Oil, ITC and Vopak

1. Non-party Houston Fuel Oil ("HFO") operates a large tank facility on the north side of the Houston Ship Channel ("Channel") across from ITC. HFO has four docks at

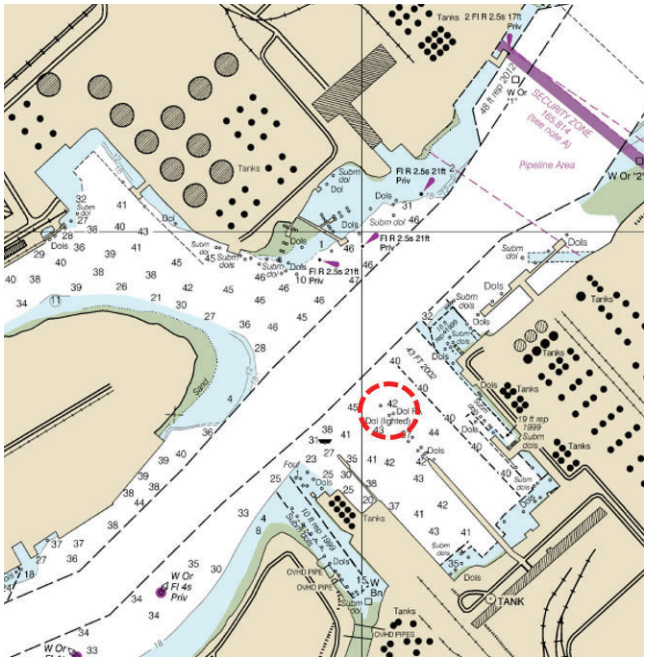
its facility ("HFO Docks 1-4") for receiving crude oil cargoes from inbound tanker vessels.

2. Intercontinental Terminals Company ("ITC") operates a large tank facility located on the south side of the Channel across from HFO. ITC owns two monopile mooring dolphins there named 78A and 78B (the "Dolphins"), which are located outside the southern limits of the federally-designated Channel lane. ITC was the original plaintiff in this action, but it eventually settled its claim with Aframax River Marine Co. ("ARM") prior to trial.

3. A Google map of the area at issue is included below, for general reference. HFO's facility (on the north side of the Channel) is designated with an orange border. The ITC and Vopak facilities (on the south side of the Channel) are demarcated with a yellow border.

4. The exemplary photo below separately depicts the Dolphins looking S/SE from HFO:

5. The Dolphins are also clearly marked on the official navigational chart for the Channel, and can be seen positioned outside the dashed-limits of the Channel's navigational lane, as follows :



B. ESM and the AFRAMAX

6. ARM is a foreign corporation with its place of business in Athens, Greece, and is the owner of the vessel AFRAMAX. The Court will at times refer to ARM and the parties affiliated with it collectively as "the Aframax Interests."

7. The AFRAMAX is an 809 ft. long x 137 ft. abeam oceangoing crude oil tanker of over 107,132 Metric Tons with a large diesel engine capable of generating 17,400 Horsepower. A picture of the AFRAMAX is included below as Ex. 6, for general reference:

8. The AFRAMAX was delivered to her original owner on Sept. 12, 2002. The AFRAMAX was later purchased by ARM in 2011.

9. Defendant Executive Ship Management Pte. Ltd. ("ESM") is a foreign corporation with its principal place of business in Singapore. ESM began serving as the technical manager of the AFRAMAX in 2011. ESM manages the day-to-day technical management of the Vessel.

10. At all relevant times, the AFRAMAX was under the command of Master Arvind Kumar ("Master Kumar"), and her engine room was under the control of Chief Engineer Muzaffer Ali ("C/E Ali").

11. Pursuant to ARM's Bridge Management Manual, Master Kumar had the overriding authority and responsibility to make all decisions regarding safety during any movement of the Vessel, including the authority to override assisting pilots, if necessary.

C. G&H Towing and the Tug GASPARILLA

12. Third-Party Defendant G&H Towing ("G&H") is a Texas towing company with its principal place of business in Galveston, Texas. At all times relevant herein, G&H was the bareboat-charterer of the tugboat GASPARILLA.

13. The GASPARILLA is a 96 foot x 34 foot abeam tractor tug of 281 Gross Registered Tons. The GASPARILLA has two 360° rotating azimuth propellers capable of generating engine thrust in any direction, with 5,150 Horsepower. A picture of the GASPARILLA is included below for general reference:

14. At all relevant times, the GASPARILLA was under the control of Capt. Douglas Scott; Capt. Scott is a veteran of the U.S. Coast Guard, and has worked in the U.S. towing industry since 1989. He has served as a Tug Master with G&H for over twenty years, and holds endorsements as a 1600-ton Master, Near Coastal and 1600-ton Mate Oceans / Master of Towing Vessel upon Oceans on his Merchant Mariner Credential issued by the United States Coast Guard.

D. S&Y Towing and the Tug JESS NEWTON

15. Suderman & Young Towing Company ("S&Y") is a Texas tugboat company with its principal place of business in Houston, Texas. S&Y is the owner of the tugboat

JESS NEWTON. At all times relevant herein, the JESS NEWTON was operated by G&H. When appropriate, the Court will refer to S&Y and G&H collectively as "the Tug Interests."

16. The JESS NEWTON is a 96 ft. long x 38 ft. abeam tractor tug of 246 Gross Registered Tons. The JESS NEWTON has two 360° rotating azimuth propellers capable of generating engine thrust in any direction with 4,300 Horsepower. A picture of the JESS NEWTON is included below for general reference.

17. At all relevant times, the JESS NEWTON was being personally operated by Capt. Charles Arduengo. Capt. Arduengo is a U.S. Navy veteran, where he served for approx. eight - nine years (five of which were as a navigator aboard frigate ships and four as military police officer). He then served with the Military Sealift Command, where he worked as a deckhand and eventually as a Third Mate. He ultimately served aboard over six MSC tanker vessels. During that period he obtained his Third-Mate Unlimited Oceans, Second Mate of less than 2,000 GRT upon Oceans, with a completed Towing Officer Assessment Record. He joined G&H in 2008, and in 2011 obtained his 1600 GRT Masters endorsement upon

Inland Waters Record on his Merchant Mariner Credential issued by the United States Coast Guard.

18. By the date of the incident, Capt. Arduengo had substantial experience operating tugs in the Houston Ship Channel. He had served aboard ten to fifteen different G&H tugs between 2008 and the Sept. 2016 incident and had over 300 days as a G&H-qualified master before the event. Capt. Arduengo testified to doing the departure evolution at issue "probably close to a hundred times" in terms of assisting a vessel like AFRAMAX during a departure from HFO No. 3. He was otherwise very comfortable in operating the JESS NEWTON. He stressed that during such harbor-assist operations, the pilot is in overall command of the flotilla, and that the tugs are to follow the pilot's orders and not take any action beyond those orders, as the pilot has a better perspective of the entire operation.

19. Capt. William Curry was serving as the Master of the JESS NEWTON at the time of the incident. He began working for G&H in 1989, and became a Master in 1993. He had served as a master of numerous G&H tugs in the decades prior to the incident, and had navigated the area in question "thousands and thousands" of times before the incident. He had also undocked vessels from HFO No. 3 "hundreds of times" prior to the incident. He was operating the tug when it was initially tied off to the port quarter of the AFRAMAX, but he was off watch during the first portion of the maneuver. He was called to the JESS NEWTON's wheelhouse shortly before the allision, as described in greater detail below.

E. The Commercial Role of the Tugs

20. Capt. Steven Huttman was serving as the Vice President of Operations for G&H at the time of the incident. He spent twenty-one years serving with the U.S. Coast

Guard, and retired as a Master-Chief before joining G&H in 1997. Capt. Huttman thereafter served as the Master or Relief-Master of over twenty-one different G&H tugs, including the JESS NEWTON. He has also performed thousands of ship-assist jobs in the Houston Ship Channel, as well as having assisted with approximately fifty departures of vessels from the berth at issue. At the time of the incident, he served as the Chairman of the U.S. Towing Safety Advisory Committee.

21. Tugs such as the GASPARILLA and JESS NEWTON are dispatched by G&H to various vessels in accordance with G&H's 24-hour operations center, as well as per a "pilot matrix" utilized by the Houston Pilots. The tugs could be assigned to perform a variety of different roles for various tug-related services in the Houston Ship Channel, but on the date of the incident both tugs were specifically serving as "harbor assist" tugs as opposed to escort or towing tugs. In such instances, it is G&H company policy for tug captains to follow the orders from the Vessel's master or the state harbor pilot assisting the master during harbor-assist operations.

22. Capt. Huttman testified that the GASPARILLA and JESS NEWTON were actually "in excess" of the commercial requirements required by a "pilot matrix" for this particular harbor-assist maneuver involving the AFRAMAX.

23. GASPARILLA and JESS NEWTON were not required to provide firefighting services to the AFRAMAX on the night in question.

24. In any event, Capt. Huttman testified that "the standard matrix for the Houston Pilots for sailing off of Houston Fuel oil in ballast was two large tugs, which would have been two conventional tugs, and that would not have indicated a need for any additional firefighting equipment." Capt. Huttman also testified that while the

GASPARILLA and JESS NEWTON had firefighting equipment aboard "to protect the towing vessel itself," there was "no regulatory requirement for a towing vessel to provide external firefighting services to anybody in a commercial environment."

25. On the night at issue, the tugs were not hired to provide firefighting services to the AFRAMAX, as the job only involved the commercial undocking of that Vessel. Capt. Huttman testified that "[c]ommercially towing vessels are not obligated, nor do we sell our services to provide firefighting equipment to any of the commercial customers on the Houston Ship Channel." He otherwise confirmed that firefighting gear was not a Coast Guard regulatory requirement for performing tug harbor-assist work.

F. Houston Harbor Pilots Michael McGee and Michael Phillips

26. Houston Pilots Michael McGee and Michael Phillips were serving as compulsory State of Texas harbor pilots aboard the AFRAMAX and working under the supervision of Master Kumar at the time of the incident.

27. Pilot McGee began working as a mariner aboard harbor tugs in the mid-1980s. By coincidence, he worked for G&H from approx. 1986-1997, and was promoted to Master during that timeframe, after which he worked aboard many G&H tugboats. He recalled performing several evolutions as a G&H tug Master in berthing and unberthing large vessels similar to AFRAMAX at the HFO facility before becoming a Houston harbor pilot.

28. Pilot McGee joined the Houston Pilots in 1997 and had been serving as a full branch Pilot for almost 18 years by the time of the incident at issue in 2016. He had performed "several thousands" of transits as a Houston Pilot in the Houston Ship Channel prior to the incident at issue, with approximately half of those transits

aboard vessels of similar shape, size and class to the AFRAMAX. He testified to having "a lot of experience" in unberthing vessels such as AFRAMAX from the area in question. On the day of the incident, McGee served as the "Conning Pilot" who gave direct navigational recommendations and engine order requests to Master Kumar.

29. Second Pilot Phillips graduated from the U.S. Merchant Marine Academy in 1978, and then served at sea aboard various large oceangoing vessels for fourteen years. He joined the Houston Pilots the early 1990s, and became a full branch Pilot in 1994. He too was very familiar with the area at issue around HFO No. 3 and the adjoining portion of the Houston Ship Channel, and testified to having performed the exact departure maneuver in question approximately 150-200 times prior to the incident. He was very familiar with the departure evolution. On the day of the incident, Pilot Phillips served as the "Second Pilot" to Conning Pilot McGee, and was positioned on the AFRAMAX's port bridge wing.

II. THE AFRAMAX's ENGINE AND GOVERNOR ACTUATOR SYSTEM

A. The AFRAMAX's Engine

30. The AFRAMAX is propelled by a 7RTA 62 Diesel United engine (the "Engine") capable of generating over 12,800 Kilowatts of power / 17,403 Horsepower. Her Engine is connected to a single right-handed propeller.

31. The Vessel's Engine can be set to "Bridge control" so that it can be electronically operated directly from her Bridge. When necessary, the Engine can also be controlled from within her Engine Room.

32. The AFRAMAX's Engine speed is controlled by an electronic governor, as opposed to a mechanical governor. The Engine's electronic governor is a NABCO

Ltd. model MG-800 Governor System, (collectively referred to as the "Governor System").

33. Nabtesco Corporation ("Nabtesco") is NABCO's service provider for the AFRAMAX's Governor System.

34. The Governor System links the Engine to an Engine Order Telegraph ("EOT"), one of which is located topside on the Bridge of the AFRAMAX and the other located in her Engine Control Room (a small room in her Engine Room, referred to herein as the "ECR").

35. The EOT is similar to a throttle, and has a lever which can be positioned for various speed orders. By physically positioning the lever on the EOT at specific speed order, it is possible to make the AFRAMAX's Engine turn the propeller at a number of different speeds ahead or astern.

36. Once a specific EOT speed order is selected, it is electronically logged onto an EOT Tape Logger ("EOT Logger") which records the approximate time of the requested EOT order to within 30 seconds of the request. However, the EOT Logger does not separately confirm that the Engine has in fact *met* the requested EOT order; it simply records the approximate time when the command is issued.

37. Specifically, the EOT may be set to the following Engine orders and corresponding propeller Rotations Per Minute ("RPMs"):

EOT Lever Position	RPMs
Navigating Full Ahead	-
Full Ahead	62
Half Ahead	55
Slow Ahead	38
Dead Slow Ahead	30
STOP	STOP
Dead Slow Astern	30
Slow Astern	38

Half Astern	55
Full Astern	62
Emergency Full Astern	70

38. As noted above, the EOT is not specifically designed to go beyond 70 RPMs astern. Her EOT placard listed the maximum Emergency Full Astern RPMs as 70 RPMs, and the Pilot Card listed the Full Astern speed as 62 RPMs.

39. Once a specific Engine order is set via the EOT, the AFRAMAX's RPMs can be monitored by her crew from multiple locations on the Vessel by observing visual RPM dials located within the Bridge, outside on the Bridge wings, and from within the Engine Control Room ("ECR").

40. In the event of an Engine malfunction or emergency, there are three separate "Emergency Stop" buttons which can be quickly activated from different locations within AFRAMAX. One Emergency Stop button is positioned on the Bridge next to the Bridge EOT, and another button is located in the ECR.

41. Once any "Emergency Stop" button is depressed, the Engine immediately goes offline. C/E Ali testified that the crew can then reactivate the Engine from the ECR within 30 seconds to one minute after the button is depressed. AFRAMAX Master Kumar was aware of the Emergency Stop button's location on the Bridge. Third Officer Emmanuel Sajeev ("3/0 Sajeev") was also aware of the Emergency Stop button's location, as he had signed "familiarization" forms to that effect.

B. The AFRAMAX's Relevant Governor System Components

42. NABCO created a "Maintenance / Inspection Manual" for the Governor System (the "NABCO Manual").

43. The NABCO Manual expressly states that "[t]o assure the system of desired performance and further of safe operations, it is necessary to securely perform the maintenance / inspection of the parts."

44. Nabtesco provided ARM with a "Maintenance List" for the Governor System. The Maintenance List for the Governor System specifically notes that two parts – the **Governor Actuator**, Part No. EAL-300B-L51 ("Governor Actuator") and **Printed Circuit Board**, Part No. PCB-MCA-601-01 ("PCB") were recommended to either be "replaced" or "overhaul[ed]" every 10 years.

45. The NABCO Manual also confirmed that the system's Governor Actuator had a "confirmation of operation" requirement every five years, and a "release inspection" by NABCO once every 10 years.

46. The AFRAMAX's maintenance manuals purportedly covered all equipment on the vessel – but they failed to include the 10-year renewal requirements for the Governor Actuator and power source cable.

III. THE RELEVANT ELECTRONIC DATA

47. At all relevant times, the AFRAMAX's movements and verbal bridge communications were being electronically recorded by ARM via the AFRAMAX's Voyage Data Recorder system (the "VDR"). The VDR is akin to an aircraft's "Black Box." Among other things, the VDR recorded the speed of the AFRAMAX, her heading, and also verbal communications on her Bridge. The VDR was set to GMT time, so for purposes of this statement of fact it has been adjusted to local Houston, Texas time for the dates in question, i.e. – 5 hours. The VDR starts at **04:57:02** GMT time on Sept. 6, 2016, which would translate to **23:57:02** in Houston on September 5, 2016.

48. At all relevant times, the AFRAMAX's movements were also being electronically recorded and depicted by the Vessel's Electronic Chart Display System ("ECDIS"), showing her speed over ground, course over ground, and heading. The Vessel's ECDIS is shown in real time, i.e. local Houston time. The ECDIS begins on Sept. 5, 2016 at 23:59:26, right before the unberthing evolution began.

49. At all relevant times, the verbal Channel 14 radio communications between Pilot McGee, Pilot Phillips, and the GASPARILLA and JESS NEWTON were being separately recorded by the Tug Interests via a voice-activated device called the Eventide NexLog Communication Recording System (the "Eventide Recording").

50. The VDR, ECDIS and Eventide Recordings each have slightly different times, as both systems were independent and not chronologically synchronized together. Moreover, there are other items of evidence which refer to different timeframes for the key aspects of the event, including certain third-party video footage from numerous ITC video cameras.

51. For ease of reference, all times pertaining to the AFRAMAX VDR will be referenced based upon local Houston time in bold in hour / minute / second format (ex: **00:00:00**). All times pertaining to the Eventide Recording times will be referenced with a "*" (ex: 00:00:00*). All other times indicated on other evidence will be referenced in normal font, based upon the time noted in that specific piece of evidence (ex: 00:00:00).

IV. THE INCIDENT

A. The AFRAMAX Arrives in Houston

52. The AFRAMAX arrived in the port of Houston on Sept. 4, 2016 under the command of Master Kumar without incident.

53. Upon arrival, the AFRAMAX moored midships along her starboard side at HFO Dock No. 3 with her bow facing land and her stern facing the Channel and the Dolphins, ITC and Vopak facilities.

54. In this position, the AFRAMAX's stern was only 430 meters (1,410 feet) from the Dolphins, a distance of less than two ship's lengths (considering the AFRAMAX's length of 809 feet). Master Kumar confirmed that the distance between the AFRAMAX's stern and the Dolphins was no greater than approximately two ship's lengths.

B. The AFRAMAX Prepares to Depart Houston on Sept. 5, 2016.

55. On Sept. 5, 2016 at about 21:30:00 Hours the AFRAMAX completed discharging her cargo, and soon thereafter her crew began making arrangements to depart HFO Dock 3 and sail outbound with the ship in ballast ("empty") condition. Master Kumar was on watch that evening, as well as Officer of the Watch / Third Officer Emmanuel Sajeev ("3/0 Sajeev"). The AFRAMAX's Engine was under the supervision of Chief Engineer Muzaffer Ali and Second Engineer ("2/E") Rameshkumar Vijayaramamoorti.

56. At all relevant times before and during the departure, there were other vessels berthed at all docks in the immediate surrounding area of the Channel.

57. The EAGLE ANAHEIM was berthed nearby at HFO Dock 1, with her bow facing the starboard side of AFRAMAX at a 90-degree angle.

58. The plan was for the AFRAMAX to depart HFO Dock 3 shortly after midnight on Sept. 6, 2016 (i.e., at around 00:00:01).

59. Visibility was clear. Weather, tide and sea conditions were normal that evening, and did not play a part in the incident.

60. During the late evening of Sept. 5, 2016, the AFRAMAX crew tested her steering and Engine systems prior to departure. Her steering gear was tested at 22:42:00. Her Engine was switched from "Standby" mode to "Bridge" mode at approximately 23:36:00. Her Engine was then briefly tested at Dead Slow Ahead at 23:36:00, and Dead Slow Astern at 23:36:50, and it responded accordingly. These systems were each found to be "satisfactory" and in good working order at the time of testing just before departure.

C. Pilots McGee and Phillips Board the AFRAMAX and Hold a Master-Pilot Conference with Master Kumar and 3/0 Sajeev

61. At approximately 23:06:00 that evening, Conning Pilot McGee and Second Pilot Michael Phillips boarded the AFRAMAX to assist Master Kumar with the Vessel's departure from the Port. Pilots McGee and Phillips, Master Kumar, and 3/0 Sajeev then held a pre-departure conference to discuss the intended departure evolution for positioning the AFRAMAX into the Houston Ship Channel for her outbound departure.

i. The Pilots' Departure Plan

62. Generally speaking, the plan for departure was to use the AFRAMAX's Engine to first maneuver at Dead Slow Astern at no more than 30 RPMs, during which time the GASPARILLA and JESS NEWTON would be positioned on the port side of the Vessel to assist the AFRAMAX with backing away from the Dock and clearing Dock No. 1. Once the Vessel was safely in the middle of the Channel with her engine stopped and after her bow had cleared her berth, the plan was for GASPARILLA to push the Vessel's port bow while the JESS NEWTON pulled the Vessel's stern quarter, resulting in a slow, clockwise turn of the AFRAMAX.

Following the proposed turn, she was to align with the center of the Channel, maneuver ahead, and then proceed ahead along a northeast departure route in the Channel.

63. During this process, Pilot McGee would give engine order commands for the AFRAMAX to Capt. Kumar, who would then relay such commands via radio to 3/0 Sajeev (who was positioned inside the Bridge next to the EOT). 3/0 Sajeev would then use his radio to confirm that the requested engine order had been received.

64. Master Kumar and Pilot McGee both testified that the Tugs could not begin turning the Vessel until the bow of the AFRAMAX cleared the jetties surrounding HFO Dock 3 (as otherwise the AFRAMAX would have hit that berth). Master Kumar conceded that the tugs would not act on their own, and that the timing of the AFRAMAX's turn would depend upon when such orders were issued by the pilots to the tugs.

65. For purposes of the departure, Pilot McGee was provided with a "Pilot Card" by the AFRAMAX crew that gave basic information regarding the AFRAMAX's physical and maneuvering characteristics. No deficiencies were listed. The Pilot Card also reconfirmed AFRAMAX's RPM ranges for all Engine orders, including Dead Slow Astern at 30 RPMs. Master Kumar, 3/0 Sajeev, and Pilot McGee signed the pilot card.

66. The Pilots were also provided a "Master Pilot Information Exchange" by Master Kumar which also confirmed that the "maximum speed allowed" for the AFRAMAX's departure from the berth was 02 knots. The Master / Pilot Exchange

form was signed by Master Kumar, 3/O Sajeev and Pilot Phillips at 23:24:00. In turn, the ARM Report confirmed that the maximum departure speed for the clearing her berth that evening was 2.0 knots astern, a point conceded by Master Kumar during trial.

67. The Master / Pilot Information Exchange form was not provided to the crews of either the GASPARILLA or JESS NEWTON at any time leading up to, during, or after the incident that day.

ii. ***The Pilots' Positioning of the GASPARILLA and JESS NEWTON on the AFRAMAX's Port Side***

68. The GASPARILLA and JESS NEWTON were engaged to serve as assist tugs to the AFRAMAX during her outbound departure.

69. The GASPARILLA and JESS NEWTON were sent to the AFRAMAX through dispatchers, based upon the physical characteristics of the AFRAMAX. Pilot McGee had no concerns regarding the use of either the GASPARILLA or the JESS NEWTON for this particular departure evolution. Pilot McGee had worked with the captains of both the GASPARILLA and JESS NEWTON prior to this incident.

70. At around 23:36:00, the GASPARILLA and JESS NEWTON arrived along the port side of AFRAMAX. Pilot McGee communicated directly with the Tugs via a handheld radio set to VHF/FM Channel 14.

iii. ***The GASPARILLA's Positioning Alongside AFRAMAX***

71. Pilot McGee ordered the GASPARILLA to connect to the AFRAMAX's port bow, and he visually observed her in that position prior to departure and had no issues with her location, which was common for such an evolution.

72. GASPARILLA Capt. Scott testified this was a "standard maneuver." In connection with this order, the GASPARILLA attached to the AFRAMAX's port bow "conventionally" via a headline on her H-Bitt instead of using her bow escort winch, which was at the time out of service for repair. Harbor-assist tugs such as the GASPARILLA commonly "make up" to vessels without using their winches, and such makeups are not an unsafe maneuver. The winch aboard the GASPARILLA was not statutorily required to be operational in order to do the harbor-assist work specifically for the AFRAMAX. Pilot McGee testified that he was aware from speaking with GASPARILLA Capt. Scott that the GASPARILLA was going to be made up to the AFRAMAX conventionally, and he had "no concerns whatsoever" regarding that makeup for this job.

iv. The JESS NEWTON's Positioning Alongside AFRAMAX

73. Pilot McGee ordered the JESS NEWTON to position along the AFRAMAX's port quarter. He visually observed the position of the JESS NEWTON prior to departure, and recalled she was located "right in line with the [AFRAMAX's] accommodation." Pilot McGee had no issues whatsoever with the JESS NEWTON's position at that location at any time during the incident.

74. JESS NEWTON Capt. Steve Curry was on watch at the time the JESS NEWTON made up to the AFRAMAX shortly before midnight on Sept. 5, 2016. He recalled being ordered by Pilot McGee to make fast to the AFRAMAX's port quarter, and Capt. Curry positioned the JESS NEWTON under a chock aboard the AFRAMAX that was just forward of her port-side wheelhouse / accommodation, which he described as a common place for such maneuver. The JESS NEWTON's winch

was used to extend the tug's towing hawser up to the AFRAMAX via a messenger line sent from the Vessel.

75. Capt. Curry testified that the JESS NEWTON's location next to the port side of the AFRAMAX's accommodation was a "perfect position to sail the ship," and that no none aboard the AFRAMAX complained about the JESS NEWTON's location at any time that evening. He added that he would not have placed the JESS NEWTON further aft of the AFRAMAX's accommodation (i.e., closer to her stern) because the AFRAMAX was in ballast, and positioning the tug further aft would place her in the area where the AFRAMAX's hull tapered inwards astern over her propeller (called the "counter"), which would be an unsafe location for a tug. JESS NEWTON Capt. Arduengo (who was operating the tug at the time of the incident) agreed that it would not have been safe to place the tug further aft of the accommodation, given the AFRAMAX's counter and the fact that her propeller was "almost sticking out of the water" that evening.

v. The JESS NEWTON's Hawser Winch

76. The JESS NEWTON's hawser winch uses a hydraulic motor that can be activated from within the wheelhouse via joystick to rotate the winch drum clockwise (or counterclockwise) within the vertical flanges in order to extend (or retrieve) the hawser. Once the hawser is positioned, the winch uses a separate pneumatic air system activated from within the wheelhouse to activate the drum-brake, which then firmly locks and secures the drum in place and prevents it from rotating. When activated, the winch's brake ram arm can be visually observed from the JESS NEWTON's wheelhouse.

77. The JESS NEWTON assisted over four different vessels using its winch without incident in the 24 hours before assisting the AFRAMAX on Sept. 6, 2016. Her winch was checked on the date of the incident as part of the Tug's standard vessel equipment inspection, and it was found to be in good working order.

78. Neither Capt. Curry nor Capt. Arduengo experienced any problems with the JESS NEWTON's winch at any time prior to Sept. 6, 2016.

79. Capt. Curry went off-watch just before the departure evolution began, at which time Mate Arduengo took the conn of the JESS NEWTON.

80. Master Kumar testified that, with respect to his conference with Pilots McGee and Phillips, he intended the aft tug JESS NEWTON to be positioned further aft of the AFRAMAX's accommodation house, but he testified that he was aware before the departure that the JESS NEWTON was made up just forward of the Vessel's accommodation. Master Kumar made no attempt to tell the tugs to change position. In relation to the positioning of the tugs, he confirmed that the pilots were the "local experts. They are doing operations so many times. They know their jobs very well". Master Kumar never received any complaints about the positioning of the tugs from the AFRAMAX crew, and despite being aware of each Tug's position, he did not complain about the Tugs' positioning to the pilots. Capt. Kumar also testified that he would not have departed the berth that evening if he felt the positioning of the tugs was unsafe for the evolution.

81. Pilot Phillips could also see both the GASPARILLA and the JESS NEWTON from his position on the AFRAMAX's port bridge wing at all times during the evolution, as well as the Dolphins on the far side of the Channel. Pilot Phillips testified that in his opinion,

both the GASPARILLA and JESS NEWTON were appropriately positioned along the port side of the AFRAMAX, and that the JESS NEWTON would have been "in danger" to be placed further aft alongside the AFRAMAX, given the proximity to the AFRAMAX's counter and propeller.

D. The AFRAMAX Suffers a Malfunctioning Runaway Engine Shortly After Departure

82. Shortly after departure AFRAMAX encountered an Engine malfunction, as will be discussed in further detail below.

83. After the Master / Pilot conference, Pilot McGee took his position with Master Kumar on the far end of AFRAMAX's starboard bridge wing, and Pilot Phillips took his position on the far end of AFRAMAX's port bridge wing.

84. Pilot McGee was aware of the Dolphins' location prior to the departure, given his experience with the area at issue. The GASPARILLA and JESS NEWTON's positions were also referenced in Pilot McGee's "PPU" computer, which visually depicted the tugs and Vessel in relation to each other on a digital map of the area at issue.

85. Master Kumar also confirmed that he was also aware of the dolphins on the opposite side of the Channel prior to departure.

86. The AFRAMAX released her lines from Dock 3 shortly before midnight on Sept. 5, 2016 with her rudder amidships. The main propulsion system of the AFRAMAX was to be used to back the Vessel out of the berth. Pilot McGee then issued certain initial orders to the GASPARILLA and JESS NEWTON to pull the AFRAMAX off of her berth, which was done without incident.

87. The AFRAMAX's rudder remained at amidships during the entire departure evolution through allision; no separate rudder commands were issued by Pilot McGee or Master Kumar.

88. At approximately **23:59:19** hours on September 5, 2016, Pilot McGee (through Master Kumar) gave the initial order to set the Engine at "Dead Slow Astern." Tug Ex 54, VDR. Master Kumar issued the order to 3/0 Sajeev at that same time. 3/0 Sajeev then acknowledged to Master Kumar that the Engine was "going at Dead Slow Astern" at **23:59:39**. The Vessel then began proceeding astern away from HFO Dock 3. 3/0 Sajeev then turned away from monitoring the RPMs to do "record keeping."

89. "After about 1 minute of the main engine operation," C/E Ali (positioned in the ECR) "realized that the engine RPM had exceed the designated RPM associated with the Dead Slow Astern and had reached 80 on the tachometer." This 80 RPM observation would have been around approx. **00:00:39** on Sept. 6, 2016 (i.e., approximately one minute after **23:59:39** when the Engine was confirmed by 3/0 Sajeev to have been going Dead Slow Astern). From his position in the AFRAMAX's Engine Control Room, C/E Ali instructed 2/E Ramamoorthi "to verify this observation in the wheelhouse" by calling the Bridge. The AFRAMAX's ECDIS confirms that, as of **00:00:39**, the Vessel had not yet cleared her berth at HFO No. 3.

90. 80 RPMs is beyond Emergency Full Speed Astern for the AFRAMAX (which only references astern speeds up to 70 RPMs). 80 RPMs is otherwise 50 RPMS greater than Pilot McGee's requested RPMs for Dead Slow Astern (i.e., 30 RPMs).

91. Master Kumar testified that he did not anticipate the AFRAMAX's RPMs going beyond 30 RPMs astern during the departure evolution. He noted that there was a "big difference" between going 30 RPMs astern and 80 RPMs astern. Indeed, he confirmed that in terms of engine propeller thrust, 80 RPMs would be over the thrust of emergency full-speed astern. In turn, Pilot McGee also confirmed that he only asked for 30 RPMs astern during the departure, and that he had no expectation whatsoever that the AFRAMAX's Engine would reach 80 RPMs of thrust astern.

92. 2/E Ramamoorthi called 3/0 Sajeev and asked him to verify the bridge's RPM readout. This telephone call can be heard on the VDR at **00:00:53** on Sept. 6, 2016, at which time 3/0 Sajeev can be heard telling the ECR that the Vessel's EOT was set at "Dead Slow Astern." However, at the time of this call, and "[d]ue to the hour of darkness and the location of the tachometer with respect to the location of the ship's phone, [3/0 Sajeev] had to disconnect the phone line and had to move closer to the location of the tachometer to observe the reading on it." 3/0 Sajeev disconnected the phone to move closer to the Bridge RPM Tachometer; during this timeframe (i.e., while the phone was disconnected) 2/E Ramamoorthi noticed from within the ECR that the Engine's water temperatures were rising – which would "be an indication of a runaway engine."

93. After disconnecting the Bridge phone, 3/0 Sajeev made his way to the Bridge tachometer, and confirmed that it too read 80 RPMs. He then reconnected the phone line to alert the Engine Room, "but the line was engaged, as both the Bridge and Engine Room were attempting to call each other at the same time."

94. 3/0 Sajeev did not inform Master Kumar of 2/E Ramamoorthi's **00:00:53** call regarding the increased RPMs, "thinking that the 2nd Engineer was aware of this abnormal situation and was taking necessary action to restore normal operation."

95. The AFRAMAX exceeded her intended maximum astern departure speed of 2 knots at **00:01:57**, per the VDR.

96. At **00:02:26**, 3/0 Sajeev can be overheard on the Bridge stating to the ECR in Hindi "this showing 80 RPMs." By **00:02:26**, the AFRAMAX's astern speed had increased to 2.6 Knots (i.e., 0.6 knots above the intended speed for the evolution). After receiving this confirmation, 2/E Ramamoorthi "feared that there [was] a malfunction in the wheelhouse controls and requested that the engine be stopped immediately and the controls to be shifted to the Engine Room."

97. Master Kumar was never informed of the 80 RPM observation that 3/0 Sajeev was observing on the AFRAMAX's bridge, but 3/0 Sajeev had a duty to inform him of such an important development. At the time of 3/0 Sajeev's **00:02:26** VDR comment that the AFRAMAX's Engine was "showing 80 RPMs", the Vessel had not yet cleared her berth, per the ECDIS.

98. Pilot McGee and Master Kumar also noticed the AFRAMAX's unintended increasing astern speed from their position outside on the AFRAMAX's starboard Bridge Wing. When questioned as to how long after his **23:59:19** order for Dead Slow Astern did he first notice that things "were not going according to plan," Pilot McGee summarized his perception as follows:

> Well, it was within a couple of minutes. You have got to back out of there, and it takes a little time to build up speed. But it was probably a couple of minutes before I realized it was going too fast. And then I asked the captain, you know,

> to stop the engine. And then the third officer in relaying to him that we were – he had put the engine in stop position and it wasn't stopping.

99. Pilot McGee added that during this two-minute timeframe:

> You could feel it vibrating and the wheels turning faster. I hadn't asked for anything other than dead slow, so that's why I asked him to stop because we were going too fast …..it felt normal and what I was expecting at first. Then all of a sudden, you could feel it was digging in hard and harder, you know, and vibrating more and more.

100. He otherwise explained the sensation via the following analogy:

> It was kind of like the feeling of backing out of your parking lot and all of a sudden, you know, you are putting your foot on the brake and you are going a relatively slow speed, but you have done it a thousand times, right? All of a sudden your foot is on the throttle, on the gas pedal down to full, and all of a sudden everything is moving much faster, you know.

101. Master Kumar also admitted to feeling vibrations from the Engine as well, which indicated to him that the AFRAMAX was moving faster astern than anticipated.

102. Based upon the increasing astern speed of the AFRAMAX during this timeframe, Pilot McGee issued a "stop engine" order at **00:02:37**, because he felt the AFRAMAX was moving astern "too fast." He did not believe that the AFRAMAX had cleared the berth at this time, based upon his review of his Pilot PPU.

103. Master Kumar relayed Pilot McGee's "Stop Engine" order at **00:02:37,** which was acknowledged by 3/0 Sajeev at **00:02:38**. By this time, the AFRAMAX's speed had increased to 2.8 knots astern.

104. From approximately **00:02:48** to **00:03:38** on the VDR, Master Kumar testified that he attempted to communicate with 3/0 Sajeev via radio to confirm if the AFRAMAX's Engine had in fact stopped. In response, 3/0 Sajeev told Master

Kumar three times that the AFRAMAX's engine was not stopping. This occurred in the following sequence:

TIME	PERSON	COMMUNICATION
00:02:48	3/O Sajeev	Ah, Stop engine . . .
00:03:12	3/O Sajeev	It's not stopping…
00:03:13	Master Kumar	It hasn't stopped?
00:03:15	3/O Sajeev	Engine is stopped, but Engine is not stopped.
00:03:18	Master Kumar	Have you stopped or not?
00:03:24	Master Kumar	Hello sir, has Engine stopped?
00:03:28	3/O Sajeev	I stopped, but Engine has not stopped…

105. By **00:03:28**, Master Kumar testified that the Vessel was only within one ship's length of the Dolphins, per her ECDIS.

106. Pilot McGee testified that during this timeframe, he observed Master Kumar running back and forth between the starboard bridge wing and the Bridge in an attempt to determine if the AFRAMAX's Engine had stopped. He added that he had "quite a bit" of communication issues with Master Kumar during this timeframe, which he described as follows:

> ***Q*:** By two minutes, when you issued your stop command, at what point thereafter did you feel like you were now in emergency mode?
>
> **A:** When the ship was not responding to what we were asking it to do.
>
> **Q:** Would that have been right around two minutes when you issued the stop command?
>
> **A:** That was when the captain was running around into the wheelhouse, and I kept telling him, Stay with me, Make this work. So that's when we started getting crazy. I understand what he was trying to do, was find out what was wrong and if the third officer was actually doing what he asked him to

> do, you know, all of that kind of stuff. I don't know what he was doing.

107. Pilot McGee was very concerned at this point. He testified that by **00:03:28**, the speed of the AFRAMAX had reached 3.6 knots on his PPU, and that he never intended the Vessel to reach that amount of astern speed. Indeed, Capt. McGee stated that he had never experienced a departure that had occurred this fast before, noting:

> I can tell you that the fastest speed you are ever going to see is a ship that is almost stopped. So three and a half knots, 3.7, when you are 800 feet long is quite fast. If you are underway in the bay, that's one thing, but if you're backing out of a tight slip, you know, we have got…well over 1,000 feet to turn there, so we had plenty of room; it is just that we were going too fast to make it.

108. With the AFRAMAX's significant astern speed in mind, Pilot McGee reiterated that there was "a ship on every dock" around him, and that "everybody is running around like crazy and trying to get some sort of control of this ship. And all I could worry about was, you know, doing another Texas City disaster or something."[1] Given the ensuing emergency, he testified that his intention shifted from attempting to turn the AFRAMAX to stopping it in order to "minimize the damage at that point."

109. As the situation developed, Pilot McGee issued numerous orders to Master Kumar for various Engine ahead commands to counter the AFRAMAX's astern

[1] "The 1947 Texas City disaster was an industrial accident that occurred on April 16, 1947, in the Port of Texas City, Texas, at Galveston Bay. It was the deadliest industrial accident in United States history and one of history's largest non-nuclear explosions. A mid-morning fire started on board the French-registered vessel SS *Grandcamp* (docked in the port) and detonated her cargo of about 2,300 tons (about 2,100 metric tons) of ammonium nitrate. This started a chain reaction of fires and explosions in other ships and nearby oil-storage facilities, ultimately killing at least 581 people, including all but one member of the Texas City fire department." *See generally* *https://en.wikipedia.org/wiki/Texas_City_disaster*. (Internal citations omitted).

propulsion; these were relayed to 3/0 Sajeev who maneuvered the EOT. However, Pilot McGee testified that the Engine still failed to respond to any of his ahead commands through **00:05:33** ("none whatsoever"). He added that there was "a lot of confusion" and "hollering" between Master Kumar and 3/0 Sajeev leading up to this timeframe as to whether the AFRAMAX's Engine was responding to commands.

110. Pilot McGee's Engine Orders can all be overheard on the AFRAMAX's VDR at the following times between **00:03:33** and **00:05:00**

TIME	PERSON	COMMUNICATION
0:03:33	Pilot McGee	*Dead slow ahead*
0:03:34	Master Kumar	*Dead slow ahead*
0:03:35	3/O Sajeev	*Dead slow ahead, sir.*
0:03:47	Master Kumar	*Slow ahead.*
0:03:49	3/O Sajeev	*Vessel slow ahead*
0:03:52	Master Kumar	*Dead slow ahead, dead slow ahead!*
0:03:54	3/O Sajeev	*Dead slow ahead, sir . . .*
0:03:58	Pilot McGee	*Slow ahead.*
0:03:59	Master Kumar	*Slow ahead.*
0:04:00	3/O Sajeev	*Slow ahead, sir. . . main engine slow ahead…uh, slow ahead, slow ahead..*
0:04:25	Pilot McGee	*Come ahead, Captain. . . Come ahead on the ship!*
0:04:37	3/O Sajeev	[telephone] *Good Morning, Bridge…*
0:04:38	Master Kumar	[grabbing telephone] *Hello? Hello? (ECR calling to obtain control of Engine)*

111. At approximately 00:05:00 hours per the EOT Logger, C/E Ali independently activated the Engine's Emergency Stop button from within the ECR, which shut down the entire Engine.

112. Master Kumar conceded at trial that from the moment of departure (**23:59:39**) through **00:05:00** (the approximate time of the Emergency Stop activation), the

Engine was not responding to commands, and was "stuck" in astern direction. He further conceded that from **23:59:19** through **00:03:42** – four minutes and 23 seconds - the AFRAMAX increased in astern speed from 0.0 knots to 3.7 knots.

E. The Moment of Allision

113. The following remaining engine orders can be gleaned from the AFRAMAX's VDR recording, beginning at **00:05:00** and continuing through **00:06:06.**

TIME	PERSON	COMMUNICATION
0:05:07	2/O Amit	*The aft clearance from pile is 10 meters….*
0:05:11	Master Kumar	*[Telephone] Hello? Oooh gees!!!*
0:05:21	3/O Sajeev	*Dead slow ahead, sir.*
0:05:23	Master Kumar	*Ah, dead slow ahead. dead slow ahead good... dead slow ahead good…..*
0:05:33	Pilot McGee	*Come ahead on the ship Captain!*
0:05:34	Master Kumar	*Dead slow ahead.*
0:05:35	Pilot McGee	*Full ahead!*
0:05:36	Master Kumar	*Full ahead, full ahead.*
0:05:40	Master Kumar	*Bosun, prepare anchors... prepare anchors!*
0:05:45		[Large sound, commotion on bridge]
0:05:51	Master Kumar	*Drop anchor, drop anchor!*
0:05:51	Pilot McGee	*Drop both anchors, Captain. Drop the anchors, Captain!*
0:05:54	—	*Incomprehensible speech*
0:06:06	Pilot Phillips	*Hey we got a fire in ITC.*

114. Per the VDR, the AFRAMAX's allision with the dolphins likely occurred at approximately **00:05:45**. At that time, the AFRAMAX's speed reduced from 2.1 knots astern to 2.0 knots astern per the VDR.

115. The Court finds from the VDR audio evidence and trial testimony that:

a. Only approx. six minutes and six seconds happened between the time of the AFRAMAX's **23:59:39** "Dead Slow Astern" confirmation and the **00:05:45** allision.

b. The AFRAMAX's crew first became aware of the Engine's overspeeding issue as early as **00:00:39** Hours on Sept. 6, 2016, at which time the AFRAMAX's ECR contacted the Bridge to confirm that 80 RPMs that were being observed from the ECR. This would have been approx. four minutes and fifty-two seconds before the **00:05:45** allision.

c. Per the VDR, The AFRAMAX continued to *increase* in astern speed from **23:59:19** through **00:03:42**, when she reached a maximum astern speed of 3.7 knots. This increase occurred during the first four minutes and twenty-three seconds of the departure.

116. At the moment of allision and subsequent explosion, Pilot McGee was positioned on the starboard bridge wing and attempting to minimize damage. He recalled that the "flames were around 300 feet – it was like standing in your oven when it was on, so it was extremely hot." He stated the AFRAMAX was "sitting on top of all of this fuel, and we were going to literally burn to death." Regardless of this fear, Pilot McGee remained on the starboard bridge wing, and suffered burns on his forehead, face and hair while attempting to reposition the AFRAMAX.

117. Pilot McGee ultimately testified that in his opinion, the incident occurred due to the AFRAMAX's engine failure, its having reached 80 RPMs, and its subsequent failure to respond to his commands.

118. Capt. Kumar never documented any complaints regarding the Tugs' actions during the incident in the AFRAMAX's log books or the AFRAMAX's reports to the Coast Guard. He never issued a "Letter of Protest" to G&H after the incident. Nor did he

make any complaints to the Coast Guard or NTSB during his interview with such agencies.

The Allision Sequence from the Tugs' Perspective

119. Pilot McGee gave a series of maneuvering orders to the GASPARILLA and JESS NEWTON during the departure evolution. He testified that both tugs complied with all of the maneuvering orders that he issued to them that evening.

120. Pilot Phillips, who was positioned on the port bridge wing during the departure evolution, agreed with Pilot McGee's assessment of the Tug's actions that evening. He testified that he "was listening to Capt. McGee's instructions to the tugboats and I feel like they complied with his commands." He added that based upon his experience and observations:

> "[Y]ou would have had to get the vessel stopped before turning it. The vessel is not going to turn making that much sternway. It's physically impossible. We could have had five tugs on the aft end of the vessel. It would not have turned that vessel. Unless you got the ship stopped with putting the engines ahead, we couldn't have turned the ship that night."

121. GASPARILLA Capt. Scott followed all of Pilot McGee's orders during the entire departure evolution.

122. JESS NEWTON Capt. Arduengo confirmed that he followed a series of orders issued by Pilot McGee during the departure evolution leading up to the allision, including "All Stop / Slow Away" ; "Half;" "Three Quarters Away," and "Wind Her Up / Full Astern."

123. However, Capt. Arduengo testified that he did not believe any of these orders had any impact in turning the AFRAMAX. In fact, Capt. Arduengo explained that as

the AFRAMAX increased in speed, he had to dedicate "more and more" of the JESS NEWTON's azimuth thrust to keep the tug perpendicular to the AFRAMAX, which in his opinion impacted the Tug's ability to pull the Vessel. He also testified that, based upon his experience in working with the pilots, he could sense from their radio communications that a "situation" was developing, and he did not want to clutter communications in order to allow the pilots to work on the issue.

124. As the AFRAMAX continued to proceed across the Channel, Capt. Arduengo issued a series of warnings to Pilot McGee. He called Capt. Curry to the wheelhouse via the JESS NEWTON's General Alarm because he was concerned. Shortly before the allision, Capt. Arduengo told Pilot McGee that the AFRAMAX was "about 50 feet away from the pilings." He then informed Pilot McGee in the moments before the allision that he would "have to quit pulling on" the AFRAMAX because the pilings were passing between the AFRAMAX and JESS NEWTON, noting "the piling is right between the ship and me." A few seconds later, Pilot McGee requested the JESS NEWTON to then "come ahead," but Capt. Arduengo reiterated that, at this point, he could not come ahead, as to do so would have placed his tug in danger.

125. Capt. Arduengo set the JESS NEWTON's winch brake at the start of the departure, and he experienced no problems whatsoever with the winch prior to the explosion. At the moment of the explosion, Capt. Arduengo recalled that the JESS NEWTON's hawser was "tight," and he had not done anything to touch or release the winch brake, which was set. No alarms went off in the JESS NEWTON's wheelhouse prior to the explosion. JESS NEWTON Capt. Curry arrived in the

wheelhouse after the allision but just before the explosion, and he also personally observed that the winch was in the brake position, with the line taut.

126. Capt. Arduengo explained that at the moment of the explosion, he was focused on keeping the hawser from becoming entangled with the Dolphins (which were now between the JESS NEWTON and the AFRAMAX). He then appreciated that an explosion had occurred as he was transitioning the hawser up and over the Dolphins; "there was a fireball that took over everything." At that point, he became concerned for the safety of the JESS NEWTON's crew, which "became the predominant issue." He estimated that the fire was eight stories high, and he could feel the heat from his position in the wheelhouse. Even then, Capt. Arduengo confirmed that "after the fire started, my plan is now to stay connected to the ship, but get my vessel away from the fire. I also have to keep my line up out of the water because that's where the fire was. So I'm trying to stay, maintain my connection to the ship while backing up and putting my vessel in a safer location."

127. During this timeframe after the explosion, Capt. Arduengo released the winch brake to back away from the fire. Capt. Arduengo testified that even with the ensuing fire,

> I didn't want to give up on the ship as -- you know, just let it go. There was still a possibility that he still needs to pull that ship up and out. Either way, there's a fire; so he needs to move his ship from where it's at out into the Channel. And I didn't want to drop my line or anything like that, so I'm going to stay connected. I'm going to move forward because I have control of that line. I can pay it out. I can take it up as I need to. So this was the best method. Just stay attached, move forward and hope things get better.

128. However, at some point, the JESS NEWTON's hawser was melted through and severed as a result of the fire. JESS NEWTON Capt. Curry testified there was now a risk that the line could become fouled in the JESS NEWTON's thrusters and "stop the boat," which created a "big emergency."

129. Pilot McGee expressly commended the JESS NEWTON for acting "above and beyond" at the time of the explosion. He expressly testified that:

> …The tug line was on the ship, so both the GASPARILLA had his towline up there on the ship as well as the JESS NEWTON had his line. Once the ship caught fire, I had the JESS NEWTON literally moving alongside the ship where the stern moved back and forth to try and help me slow down, right? So it was at that point, I had realized we are not going to make this maneuver, so all I was trying to do -- I couldn't get the engine to respond for whatever reason, and then -- so I had that tugboat looking straight aft toward the stern of the ship and he is pulling forward trying to slow me down. And he stayed there until his line caught fire and literally parted -- broke in half with the fire. I cut his line……
>
> …..So he stayed there until we, you know -- it was -- at that point he was -- I mean, fire was all around us at that point, around him…At that point, it was quite hairy….
>
> ….The flames were unbelievable. They were near him. The ship was damaged from the side he was at, and the fuel was pouring out into the water and literally -- the ship literally exploded almost instantly with the allision. So he was in quite a bit of danger himself.
>
> And he stayed until the very end…. And he stayed until his line was cut from the fire.

130. Pilot McGee testified that based upon his experience as a Houston harbor pilot, he did not believe that the tugs caused or contributed to the AFRAMAX striking the Dolphins on the night in question. Pilot Phillips fully agreed with Pilot McGee's assessment that neither tug caused or contributed to the casualty in any way. The

JESS NEWTON's winch's hydraulic system experienced a ruptured o-ring as the tug was backing away to escape from the fire (i.e., after the allision). The Court finds from the testimony and evidence that this O-ring rupture played no part whatsoever in the evolution leading up to the allision, as the winch was at all times working properly during the departure. In any event, the apparent loss of hydraulic fluid after the O-ring's rupture had no impact upon the separate pneumatic brake system within the winch, which was at all times working properly.

131. Following the allision, the GASPARILLA and JESS NEWTON provided on-scene assistance to the AFRAMAX, and the fire raged for over one hour.

V. POST-ALLISION EVENTS

A. The Coast Guard Interviews All Key Eyewitnesses

132. The U.S. Coast Guard began an investigation of the allision on Sept. 6, 2016. The National Transportation Safety Board also investigated the incident as well.

133. G&H proactively requested to be designated as a "Party in Interest" to the investigation.

134. The Coast Guard did not ask G&H to submit a "2692" report in connection with the incident. Reciprocally, the Coast Guard did not cite G&H for failing to submit a 2692 report. The Coast Guard later interviewed various witnesses aboard the GASPARILLA and JESS NEWTON. During that process, G&H provided information to the Coast Guard and NTSB regarding the post-incident winch malfunction that occurred aboard the JESS NEWTON.

135. Ultimately, the Coast Guard and NTSB did not comment on, criticize or cite G&H, the GASPARILLA or JESS NEWTON for failing to take any action during the casualty involving the AFRAMAX.

136. In fact, on Feb. 10, 2017, Commander U.S. Coast Guard 8th District Rear Admiral David Callahan specifically issued Capt. Scott, Mate Arduengo, and the crews of the GASPARILLA and JESS NEWTON the Coast Guard Meritorious Public Service Award "for their prompt and effective response to a major marine casualty involving the 800 foot tank-ship AFRAMAX RIVER and the petroleum fire that ensued on September 6, 2016." The Award noted that there was an "imminent threat to life, property and the economic well-being of the Port," and that the tugs "remained on station made fast to the ship despite the imminent threat of flames and choking smoke." The Award concluded by stating that "[t]he professional mariners of G&H Towing are most heartily commended for their decisiveness, dedication, and courage, which is in keeping with the highest traditions of public service." G&H Capt. Huttman testified that the Award is "the second highest public service award that can be awarded by the United States Coast Guard…"

B. The ARM Report

137. ESM testified that it was a normal course of business practice to investigate incidents pertaining to ARM vessels, including the incident at issue.

138. On September 30, 2016, ARM issued a comprehensive 28-page internal "Investigation Report" (the ARM Incident Report) concerning ARM's investigation of the incident.

139. The ARM Report's contents are a business record that is accepted by the Court.

140. As outlined in the ARM Report, the Vessel Interests concluded that:

d. "the Main engine governor actuator momentarily mal-functioned. The positioner feedback sensor within the governor actuator relayed wrong signal and thereby, the actuator continued to release maximum fuel into the

main engine. Thus increasing the RPM to 80, instead of the telegraph command of 30."

e. The ahead order given at 003(34sec), while waiting for the engine revs to come up to "0" lost few precious seconds. If the ahead order was given earlier, immediately after the stop order at 002(41sec), the sternway of the vessel could have been reduced.

f. Immediate action by the Bridge team or the engine room team to stop the engine (activating emergency stop) when they noticed 80 revs in astern direction could not have allowed the vessel to gain high momentum and speed in astern direction. The telephonic order by Master to take control of the engine in the engine room caused chief engineer to activate the emergency stop, while the engine had started to turn in ahead direction. This did not help reduction in the sternway. Resetting the engine and giving ahead order once again, some precious seconds were lost.

g. The guidance provided in ARM's manuals was "found inadequate for situation involving cases of over revving and runaway engine."

h. The AFRAMAX's maintenance manuals purportedly covered all equipment on the vessel – but they failed to include the 10-year renewal requirements for the Governor Actuator and power source cable.

i. In connection with a review of emergency procedures, "[a] scenario of over revving of the main engine had not been envisaged."

j. There was an "inappropriate response" from Bridge Team member 3/O Sajeev, who failed to notify the Master or Pilots at the time he first

witnessed the 80 RPM speed on the Bridge because he thought the Engine Room was addressing the issue.

k. There was an "inappropriate response" from the entire Bridge Team in "reducing RPM or stopping the Main engine."

l. There was an "inappropriate response" by the Engine Room Teams in failing to take immediate action to bring the Engine under control. Moreover, the "Engineers did not take appropriate action on seeing the over-revving of the main engine."

m. The "[a]nchor was not dropped earlier. Soon as master noted excessive sternway he ordered to stop the engine."

141. The ARM Report assigns no fault at all to the Tugs.

C. The AFRAMAX Undergoes Repairs and is Returned to Service

142. The AFRAMAX transited to the Halter Marine Shipyard in Pascagoula, Mississippi after the incident for repairs, and arrived on Sept. 16, 2016. On or about October 3-4, 2016, the AFRAMAX completed repairs at the shipyard and was returned to service.

143. On October 4, 2016, ARM advised its oil major clients (including BP, Chevron, Total, Shell, P-66 and Citgo) that repairs to the vessel were complete. As early as October 6, 2016, Shell had confirmed that the vessel was eligible for potential Shell business.

VI. THE EXPERTS

A. Tug Hydrodynamic Expert Charles Munsch

144. Tug Interests' hydrodynamic expert Charles Munsch is a Full Professor of Engineering and Naval Architecture at the State University of New York Maritime

College. He has been teaching marine engineering at SUNY Maritime for the past 46 years, and he has also taught similar courses at the Pratt Institute and the United States Merchant Marine Academy. He has been a member of the Society of Naval Architects and Engineers since 1973.

145. Prof. Munsch explained that the science of hydrodynamics is a subspecies of naval architecture that involves "the movement of ships, boats, anything that floats on the water as far as its resistance and necessary propulsion to get through the water." The field of hydrodynamics also includes ship dynamics, maneuvering and control, resistance and propulsion. Prof. Munsch has taught hydrodynamics courses at the United States Merchant Marine Academy at Kings Point, and also a hydrodynamics review course for the Professional Engineers License for the Society of Naval Architects and Marine Engineers, which covers ship dynamics and hydrodynamics.

146. Prof. Munsch was asked to determine if the GASPARILLA and JESS NEWTON were capable of turning the AFRAMAX on the night in question, based upon the assumption that the AFRAMAX's Engine was overspeeding. In making this assessment, Prof. Munsch used the science of hydrodynamics, Newton's Laws, and vector-calculus to evaluate the resistance of the AFRAMAX versus the thrust that was developed by her propeller during the departure evolution.

147. As part of his assessment, Prof. Munsch reviewed the AFRAMAX's VDR speed and heading data, her ECDIS, the depositions of Pilots McGee and Phillips, the captains of the Tugs, the physical characteristics of all relevant vessels (such as their size, engine strength, and the bollard pull of the tugs), and other materials to gather data and observations from the incident. He also evaluated the speed and

heading of the AFRAMAX during the departure evolution as well. In connection with such evaluations, Prof. Munsch prepared a computer model of the AFRAMAX's hull to assist with his assessment of the hydrodynamic forces that were generated that evening, based upon the collated data.

148. From reviewing and harmonizing all of this data, Prof. Munsch was able to reach a number of conclusions. In the first instance, he determined that had the AFRAMAX remained at 30 RPMs, she would not have reached the astern speed of 3.7 knots during the timeframe at issue, which he calculated to be approx. 220 seconds from 0.0 knots to 3.7 knots. He then calculated that, based upon the various sources of evidence which indicated the AFRAMAX's Engine had reached 80 RPMs, she would have been delivering over 13,000 horsepower of thrust during this timeframe which resulted in a "much greater speed." Of note, Prof. Munsch explained that "right-handed" propellers (such as the one affixed to the AFRAMAX) will have a tendency to cause an astern-moving vessel to turn clockwise with the port-side favoring port. However, he added that from a hydrodynamic standpoint, this tendency of the vessel to turn to port "dissipates quickly" and is negated when a vessel quickly maneuvers up to a very high speed, which actually "straightens" the vessel out.

149. Prof. Munsch further explained that when the AFRAMAX began to later decelerate, it would still have taken "a while for that momentum to dissipate." He also concluded that the AFRAMAX's heading did not change significantly during the departure evolution. Moreover, he concluded that the AFRAMAX's "pivot point"

(the point where a vessel will turn) moved further astern as a result of the over-speeding.

150. In connection with the above, Prof. Munsch also evaluated whether the tugs would have had the requisite force to apply their bollard pull to turn the AFRAMAX during the departure evolution. He noted that:

> The stern movement of the AFRAMAX does affect the assisting tugboats in that part of their thrust cannot be used to turn the vessel. Part of this thrust has to be used to keep up with the vessel, okay? So the best thing is if you're stationary and each tug is perpendicular to the hull, one is pulling, the other is pushing; and that's the best. And now as you start to move aft, the tugboats have to vector their thrust off to the side so that you don't get the full thrust off to the side. Some of it is -- has to go into the tugboat to keep it moving with the sternward motion of the ship.

151. With this principle in mind, Prof. Munsch used algebra, geometry, trigonometry and vector calculus to assess what effect, if any, the AFRAMAX's increase in speed would have had on the effectiveness of the Tugs' thrust and ability for turning the AFRAMAX.

152. Prof. Munsch determined that at 3.7 knots, the GASPARILLA and JESS NEWTON's thrust effectiveness would have been reduced by over 70%. Ultimately, he concluded from his calculations that, if the AFRAMAX had maneuvered astern as expected, she would have only reached an astern speed of 1.2 knots, and there would have been "absolutely no problem with the JESS NEWTON and the GASPARILLA turning the AFRAMAX RIVER into the Channel once it hit the middle of the Channel." However, based upon the additional information that he reviewed which indicated an over-speeding of the AFRAMAX's Engine at 80 RPMs, he determined that:

> "with the over-speeding of the engine and reaching 3.7 knots and that 3.7 knots was achieved, once the AFRAMAX RIVER was completely to the opposite side of the Channel with a lot of momentum, it would be impossible for the JESS NEWTON and the GASPARILLA to turn the AFRAMAX RIVER because of the AFRAMAX RIVER's excessive speed."

153. The Court finds Prof. Munsch's scientific assessment to be very clear credible and convincing.

B. ARM Hydrodynamic Expert Costas Spyrou

154. Aframax Interests designated Prof. Costas Spyrou as their hydrodynamic expert in the case, and he was called via trial deposition. He is a Professor at the National Technical University of Athens at the School of Naval Architecture and Marine Engineering.

155. Prof. Spyrou was asked to determine whether the Tugs had the ability to turn the AFRAMAX on the night in question. He concluded that "the tugs did not contribute as expected to the turn of the vessel. I understand that there had been some uncertainty about vessel RPMs – the vessels' RPMs during the operation. Nevertheless, I didn't observe actually the speed going beyond acceptable limits." He then added "I would have expected that the tugs would have been able to turn the vessel safely."

156. With these general positions in mind, Prof. Spyrou conceded that he never made an assessment of the Tugs' positioning in his expert report. He made no simulations to evaluate the hydrodynamic forces that may have been generated that evening. He did not review the AFRAMAX's VDR. He did not read the depositions of Pilot McGee, Pilot Phillips, or the captains of the Tugs. He did not consider the RPMs of the AFRAMAX that evening, or her horsepower. He did not believe that it was

important to consider the AFRAMAX's thrust in reaching his conclusions. Nor did he consider the thrusts from the tugboats in relation to the timing of the pilot's orders during the departure sequence. He conceded that he performed no simulations to determine whether the tugs could have turned the AFRAMAX on the night in question at any level (let alone 80 RPMs). He also never reviewed the ARM Report in reaching his conclusions.

157. Based upon the above, the Court determines that Prof. Spyrou's opinions are not credible and are unhelpful to the Court's assessment of this case.

C. ARM Tug Expert Michail Chourdakis

158. Aframax Interests called Mr. Michail Chourdakis as an expert on "tugs, tug operations, tug handling, ship handling and salvage." He is a naval architect by trade, and works for a salvage company, as well as acting as a consultant in the salvage industry.

159. Mr. Chourdakis first concluded that the cause of the incident was due to the "positioning of the tugs with respect to the vessel and not acting promptly and timely when things were going—went not as planned, as was initially planned. But mainly because of the wrong positioning of the tugs on the vessel, the connecting points to the vessel and the tugs." He acknowledged that in performing his investigation, it was important to evaluate all aspects of the incident to reach an informed opinion in this instance. This he did not do.

160. Mr. Chourdakis was first impeached regarding his alleged experience in opining upon the "positioning" of tugs such as the GASPARILLA and JESS NEWTON alongside a vessel such as the AFRAMAX. He first conceded that this was not a salvage case. He has never served aboard a vessel as a crewmember, let alone a tug

or tanker. He has never held any licenses that would authorize him to do so. He has no expertise or knowledge on how tugs are selected are assigned for work in the Houston Ship Channel. He has no experience in dealing with vessels being unberthed from the Houston Ship Channel. He has never served as a consultant with respect to arranging assist tugs for an AFRAMAX-sized vessel with two tractor tugs alongside. And more specifically, he has never had experience serving as the master of a tugboat that is having to determine where the best and safest place is to moor alongside an 809-foot oil tanker that's about to depart a berth.

161. Indeed, Mr. Chourdakis conceded at trial that he would rely upon the pilots and the tug captains as to where to position the tugs, as they were the local experts in this instance. ("Pilot and tug masters, they know better than me in their area how to do and what to do"); ("I'm sure that the tug master and the pilot are very, very experienced. They're doing this job every day many times per day successfully"). He otherwise acknowledged that the timing of a pilot's orders to a tug and the requested amount of strength of such order would necessarily impact the timing of a Vessel's turn. Mr. Chourdakis also admitted that he never listened to the AFRAMAX's VDR before issuing his expert report opinions. He never read the eyewitness testimony from Master Kumar, Pilots McGee or Phillips, or tug Capts. Scott or McGee. He claims to have "taken into consideration" that the AFRAMAX's Engine reached 80 RPMs, but simply concluded that "I cannot accept that the vessel would increase so high RPM in so short time. Practically I think it is not possible." He was then confronted with the ARM Report - which he had not considered in his evaluation of the incident - and admitted that it would

have been important for him to consider to evaluate this case objectively. After being confronted with the ARM Report and the AFRAMAX's VDR, Mr. Chourdakis "accepted that RPM were increased." He agreed that this was not expected. He further conceded that the ARM Report's conclusions regarding the inappropriate responses to the situation by the AFRAMAX's crew would not be something that the tugs were responsible for.

162. Mr. Chourdakis also conceded that he did not make any calculations to determine if the AFRAMAX's increased speed could affect the Tugs' ability in turning the Vessel. However, he acknowledged that:

> "it's well known that increasing the speed will decrease the effectiveness of the tug, because moving at the higher speed, the tug is consuming more power to keep the particular direction in respect to the vessel. So it's less power to apply on the vessel., this why is decreasing the effectiveness of the tug."

163. In essence, Mr. Chourdakis' abovementioned acknowledgment is an affirmation of Prof. Munsch's separate conclusions (which were based upon scientific calculations of the relevant data) that the Tugs' ability to turn the AFRAMAX was significantly reduced because of the higher speeds caused by the AFRAMAX's malfunctioning Engine.

164. Mr. Chourdakis otherwise concluded that the "condition of the tugs" was a factor in the incident, but not the "primary cause" of the incident. He then claims that the winch aboard the JESS NEWTON suffered a hydraulic malfunction which, in his opinion, must have occurred prior to the allision.

165. The problem with Mr. Chourdakis' opinion is twofold. In the first instance, Mr. Chourdakis was not designated as an expert on winches. In any event, he never

inspected the JESS NEWTON's winch, and could not even identify its manufacturer. He had no information on the winch's mechanical structure, and simply assumed that it was "the same" as all other maritime winches. However, he conceded that he "cannot say exactly when" the malfunction occurred. Under the circumstances, Mr. Chourdakis' opinions on the timing of the JESS NEWTON's winch malfunction are speculative, and contrary to the separate evidence and sworn eyewitness testimony which to the Court confirms that the JESS NEWTON's winch suffered a hydraulic malfunction after the allision.

166. Based upon all the above, the Court determines that Mr. Chourdakis' opinions in this matter are not credible, unsupported, and not helpful with respect to the Court's assessment of the case.

D. Tug Interest Navigation Expert Capt. Gregg Nicholls

167. Capt. Gregg Nichols is a retired master mariner, former Texas harbor pilot, former tug operator, and marine consultant who was designated as a navigation expert by Tug Interests. He is a 1984 graduate of Texas A&M University's Maritime Academy. In 1993, he obtained a Master Mariner's Unlimited Tonnage license issued by the U.S. Coast Guard, which he held through 2017. Capt. Nichols also obtained a federal pilot's license for the Ports of Houston and Brownsville, Texas.

168. Capt. Nichols has served as an officer aboard a variety of commercial vessels during the course of his maritime career. From 1984 to 1995, he worked as a relief Mate aboard G&H tugs in the port of Houston and other Texas ports. During this period (from 1986 to 1992), he also served as an officer aboard oil tankers and worked in and around Houston and other Texas ports.

169. In 1995, Capt. Nichols became an offshore lightering mooring master, and he worked in that role through 2017. In 1999, Capt. Nichols became a harbor pilot for Port of Brownsville, Texas. He explained that a lightering mooring master assists with navigating oil tankers alongside larger tankers (positioned offshore) to receive parcels of petroleum cargo. During such operations, Capt. Nichols would act as the pilot. Of note, Capt. Nichols testified that he had piloted the AFRAMAX on one or two occasions during his career as a mooring master, as well as "hundreds and hundreds" of other tanker vessels.

170. In connection with such activities, Capt. Nichols regularly worked with two assist tugs for berthing and unberthing operations. Consistent with the testimony of Pilots McGee and Phillips, Capt. Nichols reiterated that harbor-assist tugs are expected to follow the orders of the conning pilot. He added that the tugs would not be expected to take independent action unless they were in an emergency situation that would impact the safety of their vessel.

171. Capt. Nichols reviewed a large amount of information pertaining to this incident in preparing his opinions, including the depositions of all eyewitnesses, the vessel particulars for the AFRAMAX, her VDR and screenshots of her ECDIS, and VHF recordings between the pilots and tug captains.

172. Consistent with the testimony of Pilots McGee and Phillips and the testimony of the tug captains, Capt. Nichols reiterated that the positioning of the GASPARILLA and JESS NEWTON alongside the AFRAMAX on the night in question was "pretty standard" for the departure. Capt. Nichols was provided with a general arrangement schematic of the AFRAMAX, and he explained that the JESS NEWTON was

positioned appropriately near Frame 45, just forward of the AFRAMAX's accommodation. He then confirmed the same position based upon a screen shot of the JESS NEWTON from a video obtained on the night in question. He further opined that a mark on the side of the AFRAMAX's hull was an indication of the appropriate place for a tug to be positioned. Capt. Nichols was also questioned on the AFRAMAX's ECDIS, Ex. 249. He testified that the ECDIS confirmed that the AFRAMAX's "predictor line" (which showed in this instance where the AFRAMAX would be after six minutes) indicated that the Vessel was predicted to travel across the Channel towards ITC during the entire departure evolution.

173. He was also shown the AFRAMAX's EOT Log tape. Capt. Nichols testified that the EOT Tape documented an Emergency Stop at around five minutes after midnight. He explained that issuing an "emergency stop" is a "highly unusual" order, as this button is not pushed unless an emergency is occurring on the Vessel. Capt. Nichols noted that during his entire sea career, he has never faced a situation where he has been forced to push an emergency stop button. He also stressed that when the AFRAMAX's crew did not obtain the initial Stop order, they had at least 2 ½ to 3 minutes to activate the emergency stop button. He opined that they should have – but did not – act fast enough given the circumstances, and that this delay was significant. He otherwise added that:

> "[t]he testimony is clear that they hit a stop bell and it did not stop regardless of the testimony of the captain. Because it would be no reason for the engine control room at five minutes after midnight to have hit the emergency stop if the engine had already stopped. I mean, you wouldn't do it."

174. Consistent with the trial testimony of Capt. McGee, he confirmed that once the AFRAMAX failed to stop after Pilot McGee's first stop order, the Vessel was facing an emergency situation and the goal was to "get the ship stopped" as opposed to turning the vessel. Based upon his review of the evidence and the testimony at trial, Capt. Nichols testified that the Tugs followed the commands of the pilots and did not do anything to cause or contribute to the incident.

175. The Court determines that Capt. Nichol's assessment to be very credible, clear and convincing.

E. ARM Navigation Expert Capt. Douglas Torborg

176. Aframax Interests designated Capt. Douglas Torborg as their navigation expert. Capt. Torborg was unable to attend trial, and the Court has allowed his June 22, 2021 discovery deposition to serve as his trial testimony.

177. Capt. Torborg is a 1964 graduate of the United States Merchant Marine Academy. He served aboard a variety of seagoing vessels as an officer until 1985, when he began serving as a consultant. He then intermittently worked aboard ships until around 1993, with one other shipboard assignment for two hours in 2003. He otherwise began serving as a maritime consultant from 1989 through present. In contrast to Capt. Nichols, Capt. Torborg has never served as a crew member of a tugboat or as a pilot.

178. At the start of his deposition, Capt. Torborg unilaterally withdrew (without any prompting from Tug Interests' counsel) all comments, conclusions and opinions in his July 17, 2020 expert report that the JESS NEWTON violated the U.S. Inland Navigational Rules of the Road, (the "Rules") Specifically, he stated:

> I would like to say one thing before we get started with the deposition, and that is I would like to correct or retract all my comments, conclusions and opinions in my report with regard to the mate on the Jess Newton, Mr. Arduengo, not following the rules of the road. And I have withdrawn that because of records and documents I've received since then which indicate that those were all incorrect.· So I would like to withdraw them.

179. Specifically, Capt. Torborg withdrew his prior opinion that:

> when the Jess Newton's Mate recognized that the ship was not turning as planned, that the ship was at risk of colliding with the mooring dolphins at ITC, the pilot had not given effective orders to avoid collision.· He failed to take positive action, independent action to avoid collision as required by the navigation rules.

180. He also withdrew his opinions that the GASPARILLA and JESS NEWTON violated Rules 2(a), 7(a), and 8(a) of the Rules. These concessions negate any argument that the tugs violated any navigational rules in this instance.

181. With these retractions in mind, Capt. Torborg could not recall what calculations, if any, he may have made to evaluate the speeds and distances pertaining to the incident.

182. He was otherwise confronted with the ARM Report, which was not provided to him in connection with his assessment of the case. Capt. Torborg conceded that he was unaware of what the ARM Report's findings were, but concluded "it probably wouldn't – it wouldn't have helped me. And just on assumptions, I would assume that most of it is engineering." He otherwise conceded to having no information to suggest that the tugs were not made up properly to the AFRAMAX on the night of the incident.

183. The remainder of Capt. Torborg's opinions were centered upon his contention that the Jess Newton's Mate - Capt. Arduengo - was lying about his compliance with Pilot McGee's orders during the departure evolution. He confirmed that he did not perform any calculations to determine whether or not the tugs were in fact complying with Pilot McGee's orders.

184. Based upon all the above, the Court determines that Capt. Torborg's opinions in this matter are unsupported, not credible and not helpful with respect to the Court's assessment of the case.

CONCLUSIONS OF LAW

JURISDICTION AND VENUE

1. The Court possesses subject matter jurisdiction pursuant to 33 U.S.C. §1333, and venue is proper pursuant to 28 U.S.C. § 1391(b)(2).

II. GOVERNING LAW

2. Because the events at issue occurred on navigable waters of the United States and involve traditional maritime activity that had a substantial impact on maritime commerce, the maritime law of the United States governs the parties' dispute. *Executive Jet Aviation, Inc. v. City of Cleveland*, 409 U.S. 249 (1972).

III. LEGAL STANDARDS

A. General Maritime Law Principles Regarding Unseaworthiness

3. As stated by the Supreme Court in *The Continental*, 81 U.S. 345, 354-355 (1871):

> When employed in navigation ships and vessels should be kept seaworthy and be well manned and equipped for the voyage, and in cases where they are not seaworthy or not well manned or equipped, and a collision ensues between such a vessel and one without fault in that respect, the owners of the vessel not seaworthy or not well manned and equipped cannot escape responsibility, if it appears that

> the unseaworthiness of the vessel or the want of a competent master or of a sufficient crew or of suitable tackle, sails, or other motive power, as the case may be, caused or contributed to the disaster; and as the owners of the vessel appoint the master and employ the crew, they are also held responsible for their conduct in the control and navigation of the vessel.

4. Liability for an unseaworthy condition does not in any way depend upon negligence or fault or blame. *Bommarito v. Penrod Drilling Corp*., 929 F.2d 186, 189-90 (5th Cir. 1991). A vessel is unseaworthy if it is not adequately prepared to successfully navigate foreseeable hazards or challenges it may face. *Walker v. Harris*, 335 F.2d 185, 191 (5th Cir. 1964).

5. A vessel's condition of unseaworthiness might arise from any number of circumstances. Her gear might be defective, or her appurtenances found to be in disrepair. *Kyzar v. Vale Do Ri Doce Navegacai, S.A*., 464 F.2d 285 (5th Cir. 1972). "Unseaworthiness may also result from improper maintenance of equipment or other related failures which make the vessel ill-suited for its duties at sea." *Hercules Carriers, Inc. v. Claimant State of Fla., Dep't of Transp*., 768 F.2d 1558, 1566 (11th Cir. 1985). In short, a "presumption of unseaworthiness exist[s] at the beginning of the voyage, where machinery, gear or appliances fail shortly after the beginning of the voyage without accident, stress of weather, or the like, furnishing an adequate explanation as a likely cause." *Ionion S.S. C. of Athens v. United Distillers of America, Inc*., 236 F.2d 78, 80 (5th Cir. 1956). The faulty operation of a vessel's engines constitutes unseaworthiness. *Andros Shipping Co. v. Panama Canal Zone*, 184 F. Supp. 246, 260 (D. Canal Zone May 9, 1960).

6. An incompetent or inexperienced crew can also potentially create an unseaworthy condition. *Orient Mid-East Lines, Inc. v. Shipment of Rice on Board S.S. Orient Transporter*, 496 F.2d 1032, 1040 (5th Cir. 1974). As noted in *In re Ta Chi Navigation (Panama) Corp. S.A*., 513 F. Supp. 148, 158 (E.D. La.), *aff'd*, 728 F.2d 699 (5th Cir.1984), "if incompetence results in navigational error which causes a collision, it is crew incompetence, and therefore the unseaworthiness of the vessel, which has caused the ... damage."

7. To establish unseaworthiness, the claimant must demonstrate that the vessel (or her crew) was not reasonably fit to perform or do the work at hand. See *Cont'l Ins. Co. v. L&L Marine Transportation Inc.*, 2017 WL 4844272, at *3 (E.D. La. Oct. 26, 2017) (quoting *Farrel Lines v. Jones*, 530 F.2d 7, 10 n.2 (5th Cir. 1976)). The party must also establish that the unseaworthy condition was the proximate cause of the injury or damages.

B. General Maritime Law Principles Regarding Negligence

8. The standard of care in maritime negligence cases is "reasonable care under existing circumstances." *Coumou v. United States*, 107 F.3d 290, 295-96 (5th Cir. 1997). "This standard necessarily can be applied only on a case by case basis considering the circumstances under which the casualty took place." Thomas J. Schoenbaum, ADMIRALTY & MARITIME LAW, §14:3, at 123 (3rd Ed. 2001).

9. To prevail on a maritime negligence claim, the plaintiff (in this instance, ARM) has the burden of proving by a preponderance of the evidence that: (1) the defendant owed a duty to the plaintiff; (2) the defendant breached that duty; (3) the breach actually and proximately caused the plaintiff's injury, and (4) the plaintiff sustained an injury. See *In re Great Lakes Dredge & Dock Co.*, 624 F.3d 201, 211 (5th Cir. 2010); *Canal Barge Co. v. Torco Oil Co.*, 220 F.3d 370, 376 (5th Cir. 2000).

10. Establishing breach of a duty and causation is critical to the abovementioned analysis. "Fault which produces liability must be a contributory and proximate cause of the collision, and not merely fault in the abstract." *Chembulk Houston Pte Ltd. v. M/V MONTE ALLEGRE*, 2018 WL 2731402 (S.D. Tex. Jun. 7, 2018) (Miller, J) (citing *Inter-Cities Nav. Corp v. United States*, 608 F.2d 1079, 1081 (5th Cir. 1979)). "To give rise to liability, a culpable act or omission must have been 'a substantial and material factor causing the collision.'" *Id*. (citing *Am. River Transp. Co. v. Kavo Kaliakra SS*, 148 F.3d 446, 450 (5th Cir. 1998)).

11. With these general maxims in mind, a fully-manned vessel, operating with the assistance of tugs pursuant to its orders and control, must be operated with due care and reasonable skill and attention to duties. *United States v. Jacksonville Forwarding Co*., 18 F.2d 39 (5th Cir. 1927). Moreover, a master of a vessel is ultimately responsible for the maneuvers of his ship, even when tugboats are involved and even though the Master's vessel is being navigated by a compulsory pilot as required by applicable state law. *See Bunge Corp. v. M/V Furness Bridge*, 558 F.2d 790, 798 (5th Cir. 1977).

12. "A compulsory pilot's decisions are not negligent if they are the decisions a competent compulsory pilot might reasonably have made under the same circumstances; thus, due care and skill is required of a compulsory pilot but not infallibility." *United Fruit Company v. Mobile Towing and Wrecking Company, Inc*., 177 F. Supp. at 302; *American Zinc Co. v. Foster*, 313 F. Supp. 671, 682 (S.D. Miss.1970). Moreover, "[i]t is the duty of the captain to interfere with a pilot's orders in cases of danger **which the pilot does not foresee** and in all cases of great necessity." *Kingfisher Shipping Co. Ltd. v. M/V Klarendon*, 651 F. Supp. 204, 207 (S.D. Tex. Dec. 23, 1986) (emphasis added), citing *The China*, 74 U.S. (7 Wall.) 53, 67–68 (1869).

13. Apportionment of fault in a collision case is based on comparative fault. *United States v. Reliable Transfer Co*., 421 U.S. 397, 411 (1975). However, "[t]he calibration of culpability simply is not susceptible to any real precision." *Stolt Achievement v. Dredge B. E. LINDHOLM*, 447 F.3d 360, 369 (5th Cir. 2006). In *Exxon Co., USA v. Sofec, Inc*., 517 U.S. 830, 836-39 (1996) the Supreme Court held that the common law negligence doctrines of proximate causation and superseding cause apply in admiralty, notwithstanding the adoption of comparative fault. Thus, even after *Reliable Transfer*, a Court may still specifically determine that one out of multiple alleged tortfeasors is fully at fault and 100% responsible for a particular maritime incident, depending on the facts of the case. *See also In Re Sea-Vista Newbuild I LLC, et al. v. MGI Marine, LLC, et al*., No. 4:19-CV-1487, 2022 WL 2074071 (S.D. Tex. Mar. 31, 2022).

C. The *Oregon* Rule

14. An "allision" is a collision between a moving vessel and a stationary object. *See e.g. Mike Hooks Dredging Co. v. Marquette Transp. Gulf-Inland, L.L.C*., 716 F.3d 886, 889 n.3 (5th Cir. 2013). The marine casualty that is the subject of the above-captioned litigation is classified as an allision, as there is no dispute the AFRAMAX struck the fixed ITC dolphins on Sept. 6, 2016.

15. Under the *Oregon* Rule, it is presumed that a moving vessel operating under its own power is at fault when it allides with a stationary object. *The Oregon*, 158 U.S. 186, 192-93 (1895). Where it applies, "*The Oregon* creates a presumption of fault that shifts the burden of production and persuasion to a moving vessel who, under her own power, allides with a stationary object." *Combo Maritime, Inc. vs. United Bulk Terminal*, 615 F.3d 599, 604 (5th Cir. 2010). A vessel may rebut the presumption by showing by a preponderance of the evidence that the allision was the fault of the stationary object, the vessel acted with reasonable care, or the allision was an unavoidable accident. *Bunge Corp. v. M/V Furness Bridge*, 558 F.2d 790, 795 (5th Cir. 1977). However, the Fifth Circuit has instructed that the *Oregon* Rule is only "designed to fill a factual vacuum." *In re Mid-South Towing Co*., 418 F.3d 526, 531 (5th Cir. 2005) (quoting *Rodi Yachts, Inc. v. Nat'l Marine, Inc*., 984 F.2d 880, 887 (7th Cir. 1993)). "[W]ith the presence of evidence of fault in the record, the need for presumptions [like the *Oregon* Rule] evaporates." *Combo Maritime*, 615 F.3d at 607.

16. In this instance, the Court determines that the presumption of the *Oregon* is unnecessary, given the clear evidence in the record of AFRAMAX's fault as described in greater detail below.

D. The *Pennsylvania* Rule and the U.S. Inland Navigation Rules

17. "Establishing liability in a collision case is eased by the *Pennsylvania* Rule, which provides that when a vessel is in violation of a statutory duty, the burden is on the offending vessel to prove that its conduct did not and could not have caused the collision." *Chembulk Houston Pte Ltd. v. M/V MONTE ALLEGRE*, No. 4:15-CV-714, 2018 WL 2731402, at *6 (S.D. Tex. Jun. 7, 2018) (Miller, J) (citing *The Pennsylvania*, 86 U.S. 125, 126 (1873)). "If [the violating party] is to escape liability for the loss, it must prove not just that its violation probably was not, but in fact could not have been a cause of the collision." *Pennzoil Prod. Co. v. Offshore Express, Inc.*, 943 F.3d 1465, 1472 (5th Cir. 1991). This Court has described the offending vessel's burden of proof as a "heavy" one. *Chembulk Houston*, 2018 WL 2731402 at *6; *see also Stolt Achievement, Ltd. v. Dredge B.E. LINDHOLM*, 447 F.3d 360, 364 (5th Cir. 2006) ("Even without a statutory violation, liability may be imposed simply where there is negligence").

18. Certain maritime regulations, such as the U.S. Inland Navigational Rules of the Road, (the "Rules") are relevant in evaluating the contours of the applicable standard of care in instances where they apply to the facts of the casualty.[2] *See SCF Waxler Marine LLC v. MV ARIS T*, 2019 WL 6174981, *18 (E.D. La. Nov. 19, 2019). There is no dispute that the Rules apply to the Houston Ship Channel. *See Chembulk Houston*, 2018 WL 2731402 at *6.

19. Rules 2, 6, 7 and 8 are relevant to this incident. These Rules state in pertinent part:

> **Rule 2: Responsibility**[3]
>
> (a) Nothing in these Rules shall exonerate any vessel, or the owner, master, or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required

[2]The Inland Navigational Rules Act of 1980, Pub. L. No. 96-591, which codified the Rules at 33. U.S.C. §§2001-2038, was repealed in 2010. The current Rules are set forth in Title 33 of the U.S. Code of Federal Regulations. See 33 C.F.R. §83 *et. seq*.
[3]33 C.F.R. §83.02.

by the ordinary practice of seamen, or by the special circumstances of the case.

(b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.

Rule 6 - Safe Speed[4]

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

(a) By all vessels:

i. the traffic density including concentration of fishing vessels or any other vessels;

ii. the maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;

Rule 7 - Risk of Collision[5]

(a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(b) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(c) In determining if risk of collision exists the following considerations shall be among those taken into consideration:

(i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change.

(ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

[4]33 C.F.R. §83.06.
[5]33 C.F.R. §83.07.

Rule 8 - Action to Avoid Collision[6]

(a) Any action taken to avoid collision shall be taken in accordance with the Rules of this subpart (Rules 4-19) . . . and shall, if the circumstances of the case admit, be positive, made in ample time and due regard to the observance of good seamanship.

. . .

(d) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

[6]33 C.F.R. §83.08.

E. The *In Extremis* Doctrine

20. The doctrine of *in extremis* has long been a part of admiralty law. In *The Blue Jacket*, 144 U.S. 371, 392 (1892), the doctrine was stated as follows: "[W]here one ship has, by wrong maneuvers, placed another ship in a position of extreme danger, that other ship will not be held to blame if she has done something wrong, and has not been maneuvered with perfect skill and presence of mind." Indeed, the Fifth Circuit has instructed that "a ship has no right to put another ship into a situation of extreme peril, and then charge that other ship with misconduct." *Union Oil of Cal. v. Tug Mary Malloy*, 414 F.2d 669, 674 (5th Cir. 1969). However, in *Bucolo, Inc. v. S/V Jaguar*, 428 F.2d 394, 396 (1st Cir. 1970), the Court stated the doctrine "is applicable only when the party asserting it was free from fault until the emergency arose."

IV. ANALYSIS

21. When the facts of the case are harmonized with the above-referenced legal principles, the Court finds that the AFRAMAX is solely liable for causing the allision with the ITC dolphins shortly after midnight on Sept. 6, 2016. That liability is based upon the unseaworthiness of the AFRAMAX's Governor System in accelerating during the departure evolution and failing to respond to Houston Harbor Pilot Michael McGee's commands, as well as multiple acts of negligence committed by the AFRAMAX's crew in promptly appreciating and then responding to the risk of allision, all of which result in a finding of sole liability against ARM interests.

22. Reciprocally, the Court determines that Tug Interests' actions played no part in the casualty at issue.

A. The AFRAMAX's Governor System was Unseaworthy and Its Malfunction was a Proximate Cause of the Allision

23. There is significant independent evidence in the record to conclude that the AFRAMAX's Governor System was unseaworthy, and that its defective state was a proximate, contributing cause of the incident.

24. The AFRAMAX was delivered to her original owner on Sept. 12, 2002. Her Governor System was so integral to the operation of the Vessel that its manufacturer Nabtesco created a manual to ensure that the components of the system were timely maintained on a scheduled basis. Nabtesco cautioned, with emphasis, that "[t]o **assure** the system of **desired performance** and further **safe operations**, it is **necessary** to securely perform the maintenance / inspection of the parts." These are not gentle recommendations, but affirmative required directives that establish a standard of care in properly maintaining such equipment.

25. In connection with such requirements, Nabtesco created a separate Maintenance List, which confirmed that two key parts – the Governor Actuator and PCB – were to be "replaced" or "overhauled" every ten years. In this instance, that replacement/overhaul would have been required by Sept. 12, 2012 (i.e., ten years after the Vessel's delivery).

26. A shipowner exercising ordinary prudence and care should have followed the Maintenance List to ensure that the Governor System would work properly, but ARM did not. Indeed, ARM admitted as much in their Sept. 30, 2016 ARM Incident Report (the "ARM Report"), when it concluded that ARM's maintenance manuals failed to include the 10-year renewal requirements for these two pieces of equipment. Under the circumstances, ARM's failure to properly maintain the Governor Actuator and PCB circuit board rendered these pieces of equipment unseaworthy, as they were almost four years overdue for replacement by the time of the Sept. 6, 2016 incident. The fact that these items were required to be replaced after the incident leads to the inference that they were both unseaworthy at the time of the incident.

27. Putting aside ARM's failure to abide by the Nabtesco Maintenance List and properly maintain and replace the parts at issue, there is significant additional evidence in the record to conclude that the Governor System (which included the Governor Actuator and PCB) failed during the incident, and that this failure was a proximate, contributing cause of the allision.

28. In the first instance, ARM has conceded in its Third-Party Complaint that "despite the command input of dead slow astern, the Vessel's engine over-sped for a short period and the Vessel's speed briefly increased."

29. The Court finds that these statements alone constitute direct admissions that the Governor System was not functioning properly at the time of the departure evolution – a fact later confirmed by the Nabtesco technician when noting that the Governor Actuator system encountered an "abnormality momentarily" and that "as a precautionary measure" the Governor Actuator and PCB required replacement. The Court finds that the Governor System was not in good working order and was unseaworthy at the time of the departure evolution.

30. Generally speaking, the plan for departure was to use the AFRAMAX's Engine to first maneuver at Dead Slow Astern at no more than 30 RPMs, during which time the GASPARILLA and JESS NEWTON would be positioned on the port side of the Vessel to assist the AFRAMAX with backing away from the Dock and clearing Dock No. 1. Once the Vessel was safely in the middle of the Channel with her engine stopped and after her bow had cleared her berth, the plan was for GASPARILLA to push the Vessel's port bow while the JESS NEWTON pulled the Vessel's stern quarter, resulting in a slow, clockwise turn of the AFRAMAX. Following the proposed turn, she was to align with the center of the Channel, maneuver ahead, and then proceed ahead along a northeast departure route in the Channel.

31. Master Kumar testified that he did not anticipate the AFRAMAX's RPMs going beyond 30 RPMs astern during the departure evolution. He noted that there was a "big difference" between going 30 RPMs astern and 80 RPMs astern. Pg. 33. Indeed, he confirmed that in terms of engine propeller thrust, 80 RPMs would be over the thrust of emergency full-speed astern.

32. In turn, Pilot McGee also confirmed that he only asked for 30 RPMs astern during the departure, and that he had no expectation whatsoever that the AFRAMAX's Engine would reach 80 RPMs of thrust astern. Feb. 9, 2023 TT (PM), Pilot McGee, Pgs. 99-100. Indeed, the Vessel's Engine was not even rated for 80 RPMs; her EOT placard listed the maximum Emergency Full Astern RPMs at 70 RPMs, and the Pilot Card listed the Full Astern speed at 62 RPMs

33. The boundaries of that intended slow speed were set for good reason – the AFRAMAX is over 809 feet long, 137 feet abeam, and capable of generating over 17,400 Horsepower with her massive Engine. The AFRAMAX's stern was only 430 meters (1,410 feet) from the Dolphins, a distance of less than two ship's lengths (considering the AFRAMAX's length of 809 feet). Master Kumar confirmed that the distance between the AFRAMAX's stern and the Dolphins was no greater than approximately two ship's lengths.

34. Given the size of the Vessel in relation to her surroundings, it was therefore critical for the departure evolution to occur slowly as intended and for the Vessel's Governor System to have been fully operable during this (and any other) evolution. But that did not occur.

35. At approximately **23:59:19** hours on September 5, 2016, Pilot McGee (through Master Kumar) gave the initial order to set the Engine at "Dead Slow Astern." Tug Ex 54, VDR. Master Kumar issued the order to 3/0 Sajeev at that same time. 3/0 Sajeev then acknowledged to Master Kumar that the Engine was "going at Dead Slow Astern" at 23:59:39. The Vessel then began proceeding astern away from HFO Dock 3.

36. This should have resulted in a maximum astern speed of 30 RPMs, which multiple sources of evidence confirm should not have exceeded 2.0 knots astern.

37. Stated another way, the AFRAMAX's Engine should not have proceeded beyond 30 RPMs astern or 2.0 knots at any time after **23:59:39**—but it clearly did.

38. Regardless of these directives, according to the ARM Report, "the Main engine governor actuator momentarily mal-functioned. The positioner feedback sensor within the governor actuator relayed the wrong signal and thereby, the actuator continued to release maximum fuel into the main engine. Thus increasing the RPM to 80, instead of the telegraph command of 30."

39. The Parties agree that the AFRAMAX allided with the Dolphins at **00:05:45** on Sept. 6, 2016. The Court determines from the VDR audio evidence and trial testimony that:

a. Only approx. six minutes and six seconds happened between the time of the AFRAMAX's **23:59:39** "Dead Slow Astern" confirmation and the **00:05:45** allision.

b. The AFRAMAX's crew first became aware of the Engine's overspeeding issue as early as **00:00:39** Hours on Sept. 6, 2016 (about one minute after the Engine was reported to be operating at "Dead Slow Astern"), at which time the AFRAMAX's ECR contacted the Bridge to confirm that 80 RPMs that were being observed from the ECR. Ex. 77, ARM Report, Pg. 16239. This would have been approx. four minutes and fifty-two seconds before the **00:05:45** allision.

c. Per the VDR, The AFRAMAX continued to increase in astern speed from 23:59:19 through 00:03:42, when she reached a maximum astern speed of 3.7 knots. This increase occurred during the first four minutes and twenty-three seconds of the departure.

40. Pilot McGee put the AFRAMAX's maximum astern speed of 3.7 knots in perspective:

> "I can tell you that the fastest speed you are ever going to see is a ship that is almost stopped. So three and a half knots, 3.7, when you are 800 feet long is quite fast. If you are underway in the bay, that's one thing, but if you're backing out of a tight slip, you know, we have got…well over 1,000 feet to turn there, so we had plenty of room; it is just that we were going too fast to make it."

41. Given the above, the fact that the Vessel accelerated far beyond her rated full astern speed is clear evidence that the Governor Actuator was in a defective condition.

42. As outlined herein, Tug Interests' hydrodynamic expert Prof. Charles Munsch evaluated the significance of the AFRAMAX's overspeeding in this instance. He determined that at 3.7 knots, the GASPARILLA and JESS NEWTON's thrust effectiveness to assist the AFRAMAX would have been reduced by over 70%. Ultimately, he concluded that, if the AFRAMAX had maneuvered astern as expected, she would have only reached an astern speed of 1.2 knots, and there would have been "absolutely no problem with the JESS NEWTON and the GASPARILLA turning the AFRAMAX RIVER into the Channel once it hit the middle of the Channel." However, based upon the additional information that he reviewed which indicated an over-speeding of the AFRAMAX's Engine at 80 RPMs, he determined that:

> "with the over-speeding of the engine and reaching 3.7 knots and that 3.7 knots was achieved, once the AFRAMAX RIVER was completely to the opposite side of the Channel with a lot of momentum, it would be impossible for the JESS NEWTON and the GASPARILLA to turn the AFRAMAX RIVER because of the AFRAMAX RIVER's excessive speed."

43. Thus, it is reasonable to assume from these facts that the 80 RPM over- speeding significantly increased the astern thrust of the AFRAMAX and was a proximate, contributing cause of the allision.

44. In addition to the over-speeding, the Governor System failed to respond to Pilot McGee and Master Kumar's additional engine order commands. At **00:02:37**, Pilot McGee issued a "Stop Engine" order. However, it is clear from the VDR evidence and trial testimony that the Governor System did not respond to that command, or any of Pilot McGee's other engine commands that he issued prior to the allision. Pilot McGee testified that the Engine still failed to respond to any of his ahead commands. ("I never got any kind of response"). Master Kumar separately conceded at trial that from the moment of departure (**23:59:39**) through **00:05:00** (the approximate time of the Emergency Stop activation), the Engine was not responding to commands, and was "stuck" in astern direction. He further conceded that from **23:59:19** through **00:03:42** – four minutes and 23 seconds - the AFRAMAX increased in astern speed from 0.0 knots to 3.7 knots.

45. Pilot McGee testified that they could feel the increasing speed of the AFRAMAX's Engine from all the way up on her Bridge that evening. When questioned as to how long after his **23:59:19** order for Dead Slow Astern did he first appreciate that things "were not going according to plan," Pilot McGee summarized his perception as follows:

> Well, it was within a couple of minutes. You have got to back out of there, and it takes a little time to build up speed. But it was probably a couple of minutes before I realized it was going too fast. And then I asked the captain, you know, to stop the engine. And then the third officer in relaying to him that we were – he had put the engine in stop position and it wasn't stopping.

46. Pilot McGee added that during this two-minute timeframe:

> You could feel it vibrating and the wheels turning faster. I hadn't asked for anything other than dead slow, so that's why I asked him to stop because we were going too

fast …..it felt normal and what I was expecting at first. Then all of a sudden, you could feel it was digging in hard and harder, you know, and vibrating more and more.

47. He otherwise explained the sensation via the following analogy:

It was kind of like the feeling of backing out of your parking lot and all of a sudden, you know, you are putting your foot on the brake and you are going a relatively slow speed, but you have done it a thousand times, right? All of a sudden your foot is on the throttle, on the gas pedal down to full, and all of a sudden everything is moving much faster, you know.

48. Master Kumar also admitted to feeling vibrations from the Engine as well, which indicated to him that the AFRAMAX was moving faster astern than anticipated.

49. The departure evolution contemplated that the AFRAMAX's Engine would respond to all commands and work properly throughout the entire sequence, but it did not. The engine was not fit for its intended purpose and was unseaworthy.

50. Based upon all of the above, the Court determines that the malfunction of the Governor System resulted in an unseaworthy condition that caused a dangerous over-speeding event that caused the AFRAMAX to accelerate far beyond her intended astern thrust and speed of dead slow astern (30 RPMs / 2.0 knots) to a thrust of over Emergency Full Speed Astern (80 RPMs / 3.7 knots). Moreover, the Governor System malfunction also caused the Engine to not respond to commands at any time after Pilot McGee's Dead Slow Astern order was first initiated through the moment of allision. These dual failures under the circumstances of the departure constitute "substantial and material factors" of unseaworthiness which proximately caused the AFRAMAX to transit across the Channel and allide with the Dolphins.

B. The AFRAMAX Violated Rules 6, 7, 8 and 2, Which Were All Proximate and Contributing Causes of the Allision

51. Aside from the unseaworthiness demonstrated herein, The AFRAMAX's crew violated the Rules as outlined below, all of which separately constitute negligence and result in a separate finding that these negligent acts all were proximate, contributing causes of the allision.

i. The AFRAMAX Violated Rule 6 Governing Safe Speed

52. Rule 6 deals with a vessel's requirement to "at all times proceed at a safe speed" so that she can take the necessary action to avoid collision and be stopped at an appropriate distance under the circumstances of the evolution. Notably, the phrase "safe speed" is not defined in the Rules, reflecting the principle that the determination of what constitutes a "safe speed" can only be decided on a case-by-case basis.

53. In the *Pennsylvania*, the Supreme Court cautioned (in construing Rule 6's predecessor) that what constitutes a moderate speed "may not be precisely definable," and continued: "[i]t must depend upon the circumstances of each case. That may be moderate and reasonable in some circumstances which would be quite immoderate in others." 86 U.S. 125, 133 (1873).

54. "Rule 6 of the Inland Rules clearly requires judgment and assessment of particular circumstances" in evaluating whether a particular speed is safe. *Slatten, LLC v. Royal Caribbean Cruises Ltd*., No. CIV.A. 13-673, 2014 WL 5500701, at *5 (E.D. La. Oct. 30, 2014). Rule 6's factors are "taken into account … [i]n determining a safe speed, including the state of visibility, traffic density, vessel maneuverability with special reference to stopping distance, and any constraints imposed by the radar range scale employed. This list is not exhaustive." *SCF Waxler Marine LLC v. M/V ARIS T*, 427 F. Supp. 3d 728, 760 (E.D. La. 2019). In the end, the "question of what constitutes "safe speed' is relative to the situation confronting the vessel at any given moment." *See Ching Sheng Fishery Co. v. United States*, 124 F. 3d 152, 159 (2nd Cir. 1997); *see also Polarus S. S. Co. v. T.S Sandefjord*, 236 F. 2d 270 (2nd Cir. 1956) (noting that "moderate speed" is "undoubtedly less than full speed," and is a "relative" term which "depends on the peculiar circumstances of each case").

55. ARM submits that because the AFRAMAX only reached a maximum speed of 3.7 knots, the speed was "safe." However, this argument ignores AFRAMAX's own directive set forth within the Vessel's "Master/Pilot Information Exchange" and signed by Master Kumar and Pilot McGee which listed the "maximum speed allowed" for departure as 2.0 knots astern. ARM's speed argument also misconstrues the scope of Rule 6; any speed of a Vessel can be potentially "unsafe" if the right conditions and facts are present. It was inappropriate under the "prevailing circumstances and conditions" for the AFRAMAX to have generated over 80 RPMS of astern thrust (resulting in a speed of 3.7 knots astern) in the Channel with less than two ship's lengths of maneuvering room. Indeed, Master Kumar testified that he has never departed a berth at full astern speed. He noted that there was a "big difference" between going 30 RPMs astern and 80 RPMs astern. Indeed, he confirmed that in terms of engine propeller thrust, 80 RPMs would be over the thrust of emergency full-speed astern. Pilot McGee also confirmed this point as well, as outlined above.

56. The closely analogous case of *Pelican Marine Carriers, Inc. v. City of Tampa*, 791 F. Supp. 845, 853 (M.D. Fla. 1992), *aff'd*, *Pelican Marine v. City of Tampa*, 4 F.3d 999 (11th Cir. 1993), illustrates this point. In *Pelican*, a 612-foot tanker vessel was under the command of a Tampa pilot and being assisted by two tugs in a 400-foot channel as she approached her berth. The Vessel was travelling at only 3 knots when she collided with a submerged object. The Court determined that the grounding was due to the loss of control of the vessel during its approach to the dock, and that a speed in excess of 2 knots was excessive under the circumstances in violation of Rule 6, especially due to the Vessel's close proximity to another vessel and berths. The Court specifically held that the Vessel owner could not overcome the *Pennsylvania* Rule presumption implicated by the Rule 6 violation.

57. An identical conclusion is warranted here. In this instance, the AFRAMAX violated Rule 6 by proceeding in excess of the intended maximum 2.0 knot astern speed limit and continuing up to 3.7 knots astern at significant thrust beyond the rated capacity for the Engine in an area of severely restricted maneuverability close to other vessels and berths. The AFRAMAX's own VDR demonstrates that she accelerated beyond the intended dead slow astern speed of 2.0 knots from approximately **00:01:57** (when she accelerated to 2.1 knots) until **00:05:45** (the approximate moment of allision, i.e., almost four full minutes). Moreover, the fact that the Vessel's Engine increased in speed to 80 RPMs (almost three times the intended astern speed at over Emergency Full Speed Astern) in a channel less than two ship's lengths away from the Dolphins placed her in a situation where she was unable to "take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions." Rule 6. That violation implicates the Pennsylvania Rule. Thus, AFRAMAX must prove that the unsafe speed violation did not, and could not, cause the allision. *Pennzoil Prod*. 943 F.3d at 1472. ARM failed to do so. Accordingly, the AFRAMAX is at fault for maneuvering astern at an unsafe speed during the departure evolution, and this violation was a proximate, contributing cause of the allision.

ii. The AFRAMAX Violated Rule 7 When Her Crew Failed to Determine that a Risk of Allision Existed as She Over-sped Across the Channel and Approached the ITC Dolphins and Ships Berthed at ITC / Vopak

58. Rule 7 addresses the things a vessel must do to ascertain whether a risk of collision exists. It requires that a vessel use all available means "appropriate to the prevailing circumstances and conditions" to determine if a risk of collision exists. There are multiple examples which demonstrate that the crew of the AFRAMAX violated Rule 7 by failing to determine that a risk of allision existed here until it was far too late.

59. In the first instance, there is no dispute that the AFRAMAX crew was aware of the location of the Dolphins at the start of the evolution; Master Kumar and Pilot McGee were both aware of their presence, and the AFRAMAX's Second Officer was positioned on the stern of the Vessel and reporting distances as the Vessel approached the other side of the Channel. As such, the AFRAMAX's crew was charged with knowledge of the Dolphin's locations from the beginning of the departure evolution.

60. At **23:59:39** on Sept. 5, 2016 3/0 Sajeev reported to Master Kumar that the Engine was maneuvering at Dead Slow Astern; however, he then turned away from monitoring the RPMs and "engaged himself into record keeping." As such, he failed to continuously monitor the RPM increase from the Bridge. 3/0 Sajeev's inattention in closely monitoring the RPMs and doing record keeping during the beginning of the departure evolution was a violation of Rule 7 and a proximate, contributing cause of the allision.

61. The risk of allision with the Dolphins materialized as early as **00:00:39** on Sept. 6, 2016 when the Engine Room Control (ERC) team first became aware that the AFRAMAX's Engine was significantly over-speeding at 80 RPMs; this issue was reported to the bridge at **00:00:53** when 2/E Ramamoorthi (in the ERC) called 3/0 Sajeev (on the bridge). Master Kumar conceded at trial that he was never informed of the 80 RPM observation that 3/0 Sajeev was observing on the AFRAMAX's bridge, but that 3/0 Sajeev had a duty to inform him of such an important development. In fact, ARM's own Incident Report states that 3/0 Sajeev "noted excessive rpm of the engine but failed to report the matter to the master. He did not do so thinking that 2/eng was now aware of this abnormal situation and was taking necessary action to restore normal operation." This was an "inappropriate response." 3/0 Sajeev's failure to report the over-speeding issue to Master Kumar and promptly communicate with the ECR was a proximate, contributing cause of the allision and a separate violation of Rule 7.

62. A separate failure of Rule 7 occurred when the AFRAMAX crew attempted to stop the engine. Master Kumar ordered the Engine to "Stop" at **00:02:37**. But between that time and **00:03:28**, 3/0 Sajeev confirmed to Master Kumar three times that the Engine was not responding to commands. The repeated failure of the Vessel to respond to Master Kumar's "Stop" order should have also alerted him to a different emergency situation, i.e. that the Vessel's EOT was not responding to commands.

63. The Court determines that a prudent master using good seamanship should have appreciated after three warnings that the failure of his Vessel's engine to respond to commands created a clear risk of allision, given the proximity of the Vessel to other ships and known structures in the channel. ARM's owner Report essentially reaches the same conclusions. The Court determines that Master Kumar's failure to promptly appreciate the risk of allision after receiving such warnings was a violation of Rule 7 and a proximate and contributing cause of the allision.

64. The abovementioned Rule 7 violations implicate the *Pennsylvania* Rule. Thus, AFRAMAX must prove that the failure to properly ascertain whether a risk of allision existed did not, and could not, cause the allision. *Pennzoil Prod*. 943 F. 3d at 1472. ARM failed to do so. Accordingly, the AFRAMAX is at fault for failing to promptly appreciate that a risk of allision existed, and this violation was a proximate, contributing cause of the allision.

iii. The AFRAMAX Violated Rule 8 by Failing to Timely Take Action to Avoid Allision

65. The AFRAMAX crew's failures in appreciating the unfolding risk of allision with the Dolphins apply equally to their failures to take timely action to avoid the allision. As outlined above, a risk of allision certainly existed as early as **00:00:39** when it became apparent to the Vessel's Engine Room crew that the Engine's RPMs had more than doubled in revolutions to 80 RPMs; a very serious issue for any Vessel, let alone an 809-foot tanker with only two ship's lengths of astern clearance. The AFRAMAX's VDR confirms that the Engine Room crew reported the 80 RPM acceleration to the Bridge at **00:00:53** by calling 3/0 Sajeev; that notification occurred over 4 minutes and 52 seconds before the allision (which occurred at approx. **00:05:45**). In fact, ARM's own Report faults the crew, stating that "[i]mmediate action by the Bridge Team or the engine room team to stop the engine (activating the emergency stop), when they noticed 80 revs in astern direction could not have allowed the vessel to gain high momentum and speed in astern direction." However, the AFRAMAX's crew did nothing to promptly address the problem.

66. The ARM Incident Report went on to fault the AFRAMAX crew for other "inappropriate response[s]" to the developing situation. These included:

- 3/0 Sajeev's failure to notify Master Kumar early on that the Engine had reached 80 RPMs.
- "No action was consider [sic] necessary or taken by the Bridge team in reducing RPM or stopping the Main engine."
- "Inappropriate response from engine room teams to an abnormal situation, after observing the unusually high RPM they did not take immediate action to bring the engine under control."
- "The Anchor was not dropped earlier."

67. In addition to these documented and admitted failures, the Court finds that as late as **00:03:28**, Master Kumar was separately aware (or should have been aware) that the AFRAMAX's Engine was not stopping or responding to commands when he was informed of this fact for the third time by 3/0 Sajeev. 3/0 Sajeev's third and final warning that the AFRAMAX's engine had "not stopped" occurred at **00:03:28**, which was 2 minutes and 17 seconds before the allision (which occurred at **00:05:45.** Still, Master Kumar failed to activate the Vessel's Emergency Stop button; it was only activated by C/E Ali at approximately 00:05:00 (approximately 45 seconds before the allision), far too late.

68. Capt. Gregg Nichols is a retired master mariner, former Texas harbor pilot, former tug operator, and marine consultant who was designated as a navigation expert by Tug Interests. Capt. Nichols testified that that when the AFRAMAX's crew did not obtain the initial Stop order, they had at least 2 ½ to 3 minutes to activate the emergency stop button. He opined that they should have – but did not – act fast enough given the circumstances, and that this delay was significant. He otherwise added that:

> "[t]he testimony is clear that they hit a stop bell and it did not stop regardless of the testimony of the captain. Because it would be no reason for the engine control room at five minutes after midnight to have hit the emergency stop if the engine had already stopped. I mean, you wouldn't do it."

69. Consistent with the trial testimony of Capt. McGee, Capt. Nichols confirmed that once the AFRAMAX failed to stop after Pilot McGee's first stop order, the Vessel was facing an emergency situation and the goal was to "get the ship stopped" as opposed to turning the vessel. The AFRAMAX's crew failed to do so.

70. All of these facts support the conclusion that the AFRAMAX's crew separately violated Rule 8 by failing to take positive action in ample time to avoid the allision. These Rule 8 violations implicate the *Pennsylvania* Rule. Thus, AFRAMAX must prove that the failure to take appropriate action to avoid allision did not, and could not, cause the allision. *Pennzoil Prod*. 943 F.3d at 1472. ARM failed to do so. Accordingly, the AFRAMAX is at fault for failing to avoid the allision, and this violation was a proximate, contributing cause of the allision.

iv. The AFRAMAX Crew failed to demonstrate Good Seamanship in Violation of Rule 2

71. The Court holds that all of the abovementioned infractions separately constitute clear violations of Rule 2, which independently obligated the AFRAMAX crew to abide by all precautions required by the ordinary practice of seamen, or by the special circumstances of the case. The ARM Report's own conclusions support this assessment.

72. Moreover, Capt. McGee further testified that he had "quite a bit" of communication issues with Master Kumar during this timeframe, which he described as follows:

> **Q:** By two minutes, when you issued your stop command, at what point thereafter did you feel like you were now in emergency mode?
>
> **A:** When the ship was not responding to what we were asking it to do.

Q: Would that have been right around two minutes when you issued the stop command?

A: That was when the captain was running around into the wheelhouse, and I kept telling him, Stay with me, Make this work. So that's when we started getting crazy. I understand what he was trying to do, was find out what was wrong and if the third officer was actually doing what he asked him to do, you know, all of that kind of stuff,. I don't know what he was doing."

73. In sum, Pilot McGee stated there was "a lot of confusion" and "hollering" between Capt. Kumar and 3/0 Sajeev during the unfolding emergency.

74. These actions (or inactions) and the others referenced above respectfully fall far below the ordinary practice of competent seamen and good seamanship, or otherwise created by the special circumstance of this case. These Rule 2 violations implicate the *Pennsylvania* Rule. Thus, AFRAMAX must prove that the failure to take appropriate action to avoid allision did not, and could not, cause the allision. *Pennzoil Prod*. 943 F.3d at 1472. ARM failed to do so. Accordingly, the AFRAMAX is at fault for failing to use good seamanship in responding to the incident, and this violation was a proximate, contributing cause of the allision.

C. The Actions of the Assist Tugs GASPARILLA and JESS NEWTON Did Not Cause or Contribute to the Allision

75. ARM asks this Court to ignore all the above-mentioned infractions and hold that Tug Interests separately breached a duty of care to the Vessel in allegedly "failing to turn" the AFRAMAX prior to the allision. However, the facts at trial demonstrated that Tug Interests did not breach their respective duties to the Vessel in any respect, and they are not responsible for the allision.

i. The Tug Crews Were Placed in the Appropriate Positions Alongside AFRAMAX

76. Aframax Interests first argue that the GASPARILLA and JESS NEWTON were "improperly positioned" by their respective crews at the start of the departure maneuver, and that this alleged mispositioning prevented the Vessel from turning as intended. The court disagrees with this argument for numerous reasons.

77. The GASPARILLA and JESS NEWTON were engaged to serve as assist tugs to the AFRAMAX during her outbound departure.

78. GASPARILLA Capt. Scott is a Veteran of the U.S. Coast Guard and has worked in the U.S. towing industry since 1989. He has served as a Tug Master with G&H for over twenty years.

79. JESS NEWTON Capt. William Curry was serving as the Master of the JESS NEWTON at the time of the incident, but was off watch at the beginning of the departure. He began working for G&H in 1989, and became a Master in 1993. He had served as a master of numerous G&H tugs in the decades prior to the incident, and had navigated the area in question "thousands and thousands" of times before the incident. He had also undocked vessels from HFO No. 3 "hundreds of times" prior to the incident.

80. JESS NEWTON Capt. Charles Arduengo was serving as a Mate aboard the JESS NEWTON, and was at her helm during the departure evolution. He is a Navy Veteran, and served aboard tankers with Military Sealift Command prior to joining G&H in 2008. By the date of the incident, Capt. Arduengo had substantial experience operating tugs in the Houston Ship Channel. He had served aboard ten to fifteen different G&H tugs between 2008 and the Sept. 2016 incident, and had over 300 days as a G&H-qualified master before the event. Capt. Arduengo testified to doing the departure evolution at issue "probably close to a hundred times" in terms of assisting a vessel like AFRAMAX during a departure from HFO No. 3.

81. Based upon the above, the Court determines from the evidence and testimony that the Captains of the GASPARILLA and JESS NEWTON each all had many years of prior training in performing this exact maneuver before the AFRAMAX departure.

82. Pilot McGee testified that he ordered the GASPARILLA to connect to the AFRAMAX's port bow, and that he visually observed her in that position prior to departure and had no issues with her location, which was common for such an evolution.

83. GASPARILLA Capt. Scott testified this was a "standard maneuver." He attached the GASPARILLA attached to the AFRAMAX's port bow "conventionally" via a headline on her H-Bitt instead of using her bow escort winch, which was at the time out of service for repair. G&H's then Vice-President, Capt. Steven Huttman, testified that harbor-assist tugs such as the GASPARILLA commonly "make up" to vessels conventionally without using their winches, and that such makeups are not an unsafe maneuver. He further testified that the winch aboard the GASPARILLA was not statutorily required to be operational in order to do the harbor-assist work specifically for the AFRAMAX. In turn, Pilot McGee testified that he was aware from speaking with GASPARILLA Capt. Scott that the GASPARILLA was going to be made up to the AFRAMAX conventionally, and he had "no concerns whatsoever" regarding that makeup for this job.

84. Pilot McGee testified that he ordered the JESS NEWTON to position along the AFRAMAX's port quarter. He visually observed the position of the JESS NEWTON prior to departure, and recalled she was located "right in line with the [AFRAMAX's] accommodation." Pilot McGee testified that he had no issues whatsoever with the JESS NEWTON's position at that location at any time during the incident.

85. JESS NEWTON Capt. Steve Curry was on watch at the time the JESS NEWTON made up to the AFRAMAX shortly before midnight on Sept. 5, 2016. He recalled being ordered by Pilot McGee to make fast to the AFRAMAX's port quarter, and Capt. Curry positioned the JESS NEWTON under a chock aboard the AFRAMAX that was just forward of her port-side wheelhouse / accommodation, which he described as a common place for such maneuver. The JESS NEWTON's winch was used to extend the tug's towing hawser up to the AFRAMAX via a messenger line sent from the Vessel.

86. Capt. Curry explained that the JESS NEWTON's location next to the port side of the AFRAMAX's accommodation was a "perfect position to sail the ship," and that no one aboard the AFRAMAX complained about the JESS NEWTON's location at any time that evening. He added that he would not have placed the JESS NEWTON further aft of the AFRAMAX's accommodation (i.e., closer to her stern) because the AFRAMAX was in ballast, and positioning the tug further aft would place her in the area where the AFRAMAX's hull tapered inwards astern over her propeller (called the "counter"), which would be an unsafe location for a tug. JESS NEWTON Capt. Arduengo (who was operating the tug at the time of the incident) agreed that it would not have been safe to place the tug further aft of the accommodation, given the AFRAMAX's counter and the fact that her propeller was "almost sticking out of the water" that evening.

87. Master Kumar testified that he was aware before the departure that the JESS NEWTON was made up just forward of the Vessel's accommodation. Master Kumar conceded at trial that he made no attempt to tell the tugs to change position. Indeed, in relation to the positioning of the tugs, he confirmed that the pilots were the "local experts. They are doing operations so many times. They know their jobs very well." He never received any complaints about the positioning of the tugs from the AFRAMAX crew, and despite being aware of each Tug's position, he did not complain about the Tugs' positioning to the pilots. Capt. Kumar further testified that he would not have departed the berth that evening if he felt the positioning of the tugs was unsafe for the evolution.

88. Pilot Phillips could also see both the GASPARILLA and the JESS NEWTON from his position on the AFRAMAX's port bridge wing at all times during the evolution, as well as the Dolphins on the far side of the Channel. Pilot Phillips testified that in his opinion, both the GASPARILLA and JESS NEWTON were appropriately positioned along the port side of the AFRAMAX, and that the JESS NEWTON would have been "in danger" to be placed further aft alongside the AFRAMAX, given the proximity to the AFRAMAX's counter and propeller.

89. Consistent with the testimony of Pilots McGee and Phillips and the testimony of the tug captains, G&H navigation expert Capt. Nichols reiterated that the positioning of the GASPARILLA and JESS NEWTON alongside the AFRAMAX on the night in question was "pretty standard" for the departure. Capt. Nichols was provided with a general arrangement schematic of the AFRAMAX, and he explained that the JESS NEWTON was positioned appropriately near Frame 45, just forward of the AFRAMAX's accommodation. He then confirmed the same position based upon a screen shot of the JESS NEWTON from a video obtained on the night in question. He further opined that a mark on the side of the AFRAMAX's hull was an indication of the appropriate place for a tug to be positioned.

90. Based upon the above, the evidence at trial established that the GASPARILLA and JESS NEWTON were both placed in the appropriate locations for assisting an 809-foot oil tanker in departing HFO Dock 3 with an intended speed of Dead-Slow-Astern.

91. Finally, it is unreasonable for ARM to suggest that either the JESS NEWTON or GASPARILLA were "improperly positioned" because they failed to anticipate the possibility that the Vessel might suffer a runaway engine and over-speed up to 80 RPMs almost three times beyond her intended speed from Dead Slow Astern to over Full Speed Astern. There is no evidence establishing that repositioning the Tugs in any alternative fashion before the incident would have enabled them to turn the Vessel given the unanticipated hydrodynamic conditions that were created solely by her runaway engine.

ii. The Tugs Followed All of Pilot McGee's Orders

92. The evidence at trial established that both the GASPARILLA and JESS NEWTON followed all of Pilot McGee's Orders.

93. The contours of a Tug's duty to a vessel under pilot are well-defined; the tug must "exercise such reasonable care and maritime skill as prudent navigators employ for the performance of similar service." *Stevens v. The White City*, 285 U.S. 195, 202 (1932). The burden rests with a plaintiff (in this instance ARM) to demonstrate that the damage to the vessel was caused by a breach of that duty.

94. "When a tug is merely providing the motive power to the towed ship, with the towed ship's personnel exclusively directing and controlling the movements of both vessels, then fault cannot be imputed to an otherwise non-negligent tug." *Osprey Ship Mgmt. Inc. v. Jackson Country Port Auth.*, No. 1:05-CV-390, 2007 WL 4287708, at *4 (S.D. Miss. Dec. 4, 2007) (citing *Moran Towing and Transp. Co. Inc. v. Empresa Hondurena de Vapores*, 194 F.2d 629, 632 (5th Cir. 1952)); *Old Time Molasses Co. v. New Orleans Coal & Bisso Towboat Co.*, 31 F.2d 963, 966 (5th Cir. 1929). Stated another way, "[w]hen a tug is assisting a vessel, the tug is the servant of and is required to obey the orders of the master of the vessel." *Spokane P. & S. Ry. Co. v. The Fairport*, 116 F. Supp. 549, 552 (D.Or. 1953). "Even though the master is in command of the vessel, the pilot is his technical advisor and, when the master and the pilot are on the bridge, the pilot's orders, acquiesced in by the master, are the orders of the master." *Id.* As Relief Pilot Capt. Phillips testified: "[T]he tugboats do what they're told; push, pull, or stop. They -- unless there's a close-quarters situation, unless there's kind of an extremis situation, they do what they're told."

95. Tugs are ultimately exonerated from liability for allisions when there is evidence they were directed by the harbor pilot on board the tow during the incident, and that the tug(s) properly obeyed such orders. *The Niels Finsen*, 1931 A.M.C. 1014, 52 F.2d 795 (S.D.N.Y. 1931); *see also Louisville & N. R. Co. v. The Commander*, 199 F. Supp. 217, 219 (S.D. Ala. 1961) (exonerating tugs "from liability because the tugs were not negligent. The tugs were operated under orders from the harbor pilot on board the tow in each instance. There is no evidence establishing that his orders were disobeyed or improperly carried out."); *accord United Fruit Co. v. Mobile Towing & Wrecking Co*., 177 F. Supp. 297 (S.D. Ala. Sept. 20, 1959).

96. In this instance, Pilot McGee testified that he gave a series of maneuvering orders to the GASPARILLA and JESS NEWTON during the departure evolution. He clearly testified that both tugs complied with all of the maneuvering orders that he issued to them that evening.

97. Pilot Phillips, who was positioned on the port bridge wing during the departure evolution, agreed with Pilot McGee's assessment of the Tug's actions that evening. He testified that he "was listening to Capt. McGee's instructions to the tugboats and I feel like they complied with his commands." He added that based upon his experience and observations:

> "[Y]ou would have had to get the vessel stopped before turning it. The vessel is not going to turn making that much sternway. It's physically impossible. We could have had five tugs on the after end of the vessel. It would not have turned that vessel. Unless you got the ship stopped with putting the engines ahead, we couldn't have turned the ship that night."

98. Capt. Arduengo testified that he did not believe any of the orders he received and followed that evening had any impact in turning the AFRAMAX.

99. Pilot McGee testified that based upon his experience as a Houston harbor pilot, he did not believe that the tugs caused or contributed to the AFRAMAX striking the Dolphins on the night in question. Pilot Phillips fully agreed with Pilot McGee's assessment that neither tug caused or contributed to the casualty in any way. Pilot McGee ultimately opined that in his opinion, the incident occurred due to the AFRAMAX's engine failure, its having reached 80 RPMs, and its subsequent failure to respond to his commands.

100. Pilot McGee expressly commended the JESS NEWTON for acting "above and beyond" at the time of the explosion. He testified that:

> …The tug line was on the ship, so both the GASPARILLA had his towline up there on the ship as well as the JESS NEWTON had his line. Once the ship caught fire, I had the JESS NEWTON literally moving alongside the ship where the stern moved back and forth to try and help me slow down, right? So it was at that point, I had realized we are not going to make this maneuver, so all I was trying to do -- I couldn't get the engine to respond for whatever reason, and then -- so I had that tugboat looking straight aft toward the stern of the ship and he is pulling forward trying to slow me down. And he stayed there until his line caught fire and literally parted -- broke in half with the fire. I cut his line……
>
> …..So he stayed there until we, you know -- it was -- at that point he was -- I mean, fire was all around us at that point, around him…At that point, it was quite hairy….
>
> ….The flames were unbelievable. They were near him. The ship was damaged from the side he was at, and the fuel was pouring out into the water and literally -- the ship literally exploded almost instantly with the allision. So he was in quite a bit of danger himself.
>
> And he stayed until the very end…. And he stayed until his line was cut from the fire.

101. Capt. Kumar never documented any complaints regarding the Tug's actions during the incident in the AFRAMAX's log books or the AFRAMAX's reports to the Coast Guard. He never issued a "Letter of Protest" to G&H after the incident. Nor did he make any complaints to the Coast Guard or NTSB during his interview with such agencies.

102. On Feb. 10, 2017, Commander U.S. Coast Guard 8th District Rear Admiral David Callahan specifically issued Capt. Scott, Mate Arduengo, and the crews of the GASPARILLA and JESS NEWTON the Coast Guard Meritorious Public Service Award "for their prompt and effective response to a major marine casualty involving the 800 foot tank-ship AFRAMAX RIVER and the petroleum fire that ensued on September 6, 2016." The Award noted that there was an "imminent threat to life, property and the economic well-being of the Port," and that the tugs "remained on station made fast to the ship despite the imminent threat of flames and choking smoke." The Award concluded by stating that "[t]he professional mariners of G&H Towing are most heartily commended for their decisiveness, dedication, and courage, which is in keeping with the highest traditions of public service." G&H Capt. Huttman testified that the Award is "the second highest public service award that can be awarded by the United States Coast Guard…"

103. Based upon the above, the Court determines that the GASPARILLA and JESS NEWTON each followed all orders issued by Pilot McGee during the entire departure evolution. Accordingly, Tug Interests did all that they were required to do for this evolution.

iii. The Tugs' Winches Played No Part in Causing the Allision

104. ARM argued at trial that the winches aboard the GASPARILLA and JESS NEWTON were "defective" and that this must have been the cause of the allision. The Court disagrees.

105. There is no dispute that the forward tug GASPARILLA's winch was not being used at the time of the incident; it was offline and awaiting repair. The GASPARILLA was not required to use its winch for this or any other towing evolution, and the testimony at trial from G&H Capt. Steven Huttman demonstrated that the Tug had numerous ways to safely assist vessels such as AFRAMAX sans winch. Moreover, the GASPARILLA successfully assisted over four other vessels using a "conventional" towing arrangement with the Tug's H-bitt prior to the AFRAMAX assignment, all without incident. This conventional towing arrangement, wherein the GASPARILLA's towing line was secured directly to her bow H-Bitt, was also used during the AFRAMAX move without incident. And as outlined above, Pilot McGee was aware that the GASPARILLA would be tied up to the AFRAMAX conventionally, and he had no issues with that makeup. Aframax Interests have failed to establish any facts suggesting that the lack of a working winch aboard the GASPARILLA played any part in the allision.

106. Moreover, the facts produced at trial revealed that the aft tug JESS NEWTON's winch experienced a mechanical failure after the allision and fireball explosion as Mate Arduengo was attempting to recover the remaining melted portion of the tug's towing pendant from the water. Multiple sources of evidence, including witness statements, U.S. Coast Guard Interviews, and the testimony of the JESS NEWTON's crew, all confirm that the JESS NEWTON followed all of Pilot McGee's orders and that the winch failure only occurred as the tug was backing away from the ensuing fire.

107. As such, The Court determines that the O-ring rupture that occurred within the JESS NEWTON winch's separate hydraulic system after the allision played no part in the incident.

iv. The AFRAMAX Significantly Hindered the Tugs' Performance as Result of the Over-speeding Engine

108. Tugs are also exonerated from liability in situations where, as here, the dominant vessel being towed actively hinders the tugs' performance. *See Lykes Bros. S.S. Co., Inc. v. Great Lakes Towing Co*., 719 F. Supp. 1449, 1458 (E.D. Wis. Mar. 10, 1989) (holding that there is no implied warranty of workmanlike service running from an assisting tug to a dominant vessel, and even if such a warranty did exist, its application would be barred if the vessel actively hindered the tug's performance). The court finds that is precisely what occurred here.

109. The court disagrees with ARM's argument that the Tugs failed to "follow the agreed and arranged plan for unmooring the vessel." The facts at trial established that the "agreed and arranged plan" for this evolution was to have the AFRAMAX maneuver at Dead Slow Astern at 30 RPMs / 2 knots. As admitted by Capt. Kumar, the "agreed and arranged plan for unmooring the vessel" was certainly not to maneuver astern at beyond Emergency Full Astern speed at 80 RPMs / 3.7 knots (with a corresponding thrust of over 13,000 Horsepower). Master Kumar and Pilot McGee both testified that the Tugs could not begin turning the Vessel until the bow of the AFRAMAX cleared the jetties surrounding HFO Dock 3 (as otherwise the AFRAMAX would have hit that berth). Master Kumar conceded that the tugs would not act on their own, and that the timing of the AFRAMAX's turn would depend upon when such orders were issued by the pilots to the tugs.

110. Tug Interests' hydrodynamic expert Prof. Charles Munsch evaluated whether the tugs would have had the requisite force to apply their bollard pull to turn the AFRAMAX during the departure evolution. He noted that:

> "The stern movement of the AFRAMAX does affect the assisting tugboats in that part of their thrust cannot be used to turn the vessel. Part of this thrust has to be used to keep up with the vessel, okay? So the best thing is if you're stationary and each tug is perpendicular to the hull, one is pulling, the other is pushing; and that's the best. And now as you start to move aft, the tugboats have to vector their thrust

> off to the side so that you don't get the full thrust off to the side. Some of it is -- has to go into the tugboat to keep it moving with the sternward motion of the ship."

111. Furthermore, even Aframax Interests' own alleged tug expert – Michail Chourdakis, testified that:

> "it's well known that increasing the speed will decrease the effectiveness of the tug, because moving at the higher speed, the tug is consuming more power to keep the particular direction in respect to the vessel. So it's less power to apply on the vessel., this why is decreasing the effectiveness of the tug."

112. As outlined above, Tug hydrodynamic expert Prof. Munsch concluded that the aft motion of the AFRAMAX caused the turning moment applied by the tugs to be significantly reduced by over 70% and less than expected, and that the reduction of the tugs' effective thrust during the departure evolution due to the over-speeding of the AFRAMAX's engine likely prevented the tugs from using the full measure of their thrust capabilities as intended.

113. The Court finds Prof. Munsch's testimony to be credible, and it supports the conclusion that the GASPARILLA and JESS NEWTON were prevented from accomplishing the intended turn as a direct result of the AFRAMAX's over-speeding Engine.

v. The GASPARILLA and JESS NEWTON Had No Duty to Intervene in Pilot McGee's Orchestration of the Departure Maneuver

114. ARM argued at trial that the GASPARILLA and JESS NEWTON should have each taken separate, independent actions to assist the AFRAMAX in potentially avoiding the allision. The court disagrees and find that AFRAMAX misconstrues the scope of the Tugs' duties in this unique vessel-assist situation.

115. In the first instance, the tugs were under no duty to offer their opinions to Pilot McGee during the departure evolution or even after it became apparent that a risk of allision was unfolding.

116. The case of *Virginia Intern. Terminals, Inc. v. M/V KATSURAGI*, 263 F. Supp. 2d 1025, 1038 (E.D. Va. 2003), illustrates this point. In *Virginia Terminals*, a pilot at the helm of a container ship was making arrangements to berth at a pier in Norfolk, Virginia with the assistance of two tugs. However, the vessel allided with a pier due to its speed. The vessel argued that the captain of the tug closest to the allision "should have communicated to the ship his concern that its speed was too fast." *Id.* The Court disagreed, and summarized the scope of the tug captain's general duty as follows:

> [I]t is not the tug captain's place to weigh in with his opinion regarding how the maneuver is being conducted. In fact, he is, generally, supposed to keep the line of communication clear to allow the captain to issue his orders. The tug captain is there, essentially, to follow orders, and he normally will not have the experience or perspective to judge when a maneuver is being improperly conducted. There were two observing experts on the bridge authorized to intervene at any time they felt the docking pilot was acting in an unsafe manner — the state pilot and the ship's captain. It is not incumbent upon a tugboat captain to warn of conditions that are known to the ship's officers and docking pilot, such as its speed. Finally, the evidence is unclear as to whether the KATSURAGI was even proceeding at an unreasonably excessive speed. No duty exists on the part of the assisting tugboat to inform the docking pilot of his opinions under the set of facts present in this case. *Id.*

This rationale can be directly applied here: the Court determines that neither the GASPARILLA nor JESS NEWTON were under any obligation or duty to do anything other than to follow Pilot McGee's orders during the departure evolution—which they did.

117. "Assist tugs are to follow the orders of others **rather than taking action on their own accord** . .." *See Crowley American Transport, Inc. v. Double Eagle Marine, Inc*., 208 F. Supp. 2d 1250, 1267 (S.D. Ala. Apr. 4, 2002) (with emphasis added). In fact, assist tugs can be held liable in instances where they "proceed on their own initiative." *See Great Lakes Towing Co. v. Am. S.S. Co*., 165 F.2d 368, 371 (6th Cir. 1948) (holding the ship liable for inadequately reporting the ship's proximity to a buoy, and the tug jointly liable because the tug "proceeded on its own initiative without requesting direction or furnishing an opportunity for direction to be given" thus towing the ship too fast astern.).

118. *Osprey Ship Management, Inc. v. Jackson County Port Authority*, No. 1:05-CV-390, 2007 WL 4287708 (S.D. Ala. Dec. 4, 2007) illustrates this point. In *Osprey*, a large heavy-lift vessel was making arrangements to berth in Pascagoula, Mississippi. Her pilot ordered two assist tugs to help with the berthing evolution. Both tugs connected to the vessel, but the flotilla later allided with a submerged object, damaging the vessel. Vessel interests sued the tugs, claiming among other things that they failed to properly perform their obligations in docking the vessel. In that regard, vessel interests argued that the tugs had a duty under both Rules 2 and 7 to "use all available means" to determine and avoid risk of collision, and that such an independent duty in the tug-assist scenario would be in accordance with "ordinary practices of good seamanship." *Id.* at *7. However, the Court disagreed, and noted that the vessel failed to offer "persuasive evidence or authority for the proposition that the responsibility for the navigation of a vessel should be shifted from the pilot and master of the vessel to tugboats that are simply following their orders." *Id.*

119. That conclusion fits here. The Court determines that under the unique facts and special circumstances of this particular case, Tug Interests were under no obligation to further notify AFRAMAX of the unfolding situation or to take distinct measures to avoid the allision.

vi. The Tugs Were Placed In Extremis As a Result of AFRAMAX's Malfunctioning Governor Actuator and her Crew's Failure to Promptly Respond to the Emergency

120. "Where, without prior negligence, a vessel is put in the very center of destructive natural forces and a hard choice between competing courses must be immediately made, the law requires that there be something more than mere mistake of judgment by the master in that decision in extremis." *Boudoin v. J. Ray McDermott & Co*., 281 F.2d 81, 84 (5th Cir. 1960). Under this principle, even if the Court were to determine that the GASPARILLA and /or JESS NEWTON committed a mistake of judgment (which is not the case), the Court would otherwise consider the actions of the Tugs to have been made in extremis due to the actions caused by the AFRAMAX in failing to take control of her over-speeding Engine.

121. As the AFRAMAX continued to proceed across the Channel, Capt. Arduengo issued a series of warnings to Pilot McGee. He called Capt. Curry to the wheelhouse via the JESS NEWTON's General Alarm because he was concerned. Shortly before the allision, Capt. Arduengo told Pilot McGee that the AFRAMAX was "about 50 feet away from the pilings." He then informed Pilot McGee in the moments before the allision that he would "have to quit pulling on" the AFRAMAX because the pilings were passing between the AFRAMAX and JESS NEWTON, noting "the piling is right between the ship and me." A few seconds later, Pilot McGee requested the JESS NEWTON to then "come ahead," but Capt. Arduengo reiterated that, at this point, he could not come ahead, as to do so would have placed his tug in danger.

122. Pilot McGee did not fault Mate Arduengo under the circumstances – as outlined above, he actually applauded Mate Arduengo's efforts during the entire departure sequence. The Court determines that Mate Arduengo's inability to respond to Pilot McGee's last request was not a contributing factor to the allision. It would otherwise be construed as *in extremis*. *See Puerto Rico Ports Auth. v. M/V MANHATTAN PRINCE*, 897 F.2d 1 (1st Cir. 1990) (holding in extremis doctrine applied to tug when it was forced to release lines from tanker to avoid being sandwiched between tanker and dock shortly before collision); *see also Compagnie Generale Transatlantique v. Venhorst*, 1973 WL 6392549 (S.D. N.Y. Sept. 18, 1973) ("It would be particularly unfair in this instance to fault the action of the tug's mate since it was the imprudence of the master of the ship which caused the tug and the ship to be faced with the critical situation in which the vessels and crew found themselves in at the time of the accident in question.").

D. No "Firefighting Duty" Exists

123. Aframax Interests have separately asserted in their pre-trial briefs and during their opening statement at trial that the Tugs breached an alleged duty to render assistance to the AFRAMAX after the explosion and engage in firefighting measures to extinguish the fire, and that the JESS NEWTON "cut and run" shortly after the AFRAMAX made contact with the mooring dolphins. The Court disagrees.

124. G&H representative Capt. Huttman clearly testified that G&H never commercially advertised or offered any of its tugs for "firefighting" services during the harbor-assist assignment at issue. He otherwise confirmed that firefighting gear was not a Coast Guard regulatory requirement for performing harbor-assist work.

125. Such unique services were not included on the "pilot matrix" chart that G&H and the pilots used for assigning tugs to specific harbor-assist jobs, such as the AFRAMAX. Houston Pilot Michael Phillips, who was serving as the relief pilot aboard the AFRAMAX on the evening in question, confirmed that the Houston Pilot Matrix does not include an option for requesting tugs with firefighting capabilities or otherwise for tugs specifically classed as firefighting vessels.

126. The evidence at trial established that the GASPARILLA and JESS NEWTON did **not** "cut and run" as alleged by Aframax Interests. The GASPARILLA remained alongside the AFRAMAX on the bow, and in fact used one of her fire monitors to spray water alongside the AFRAMAX.

127. Moreover, the evidence established that JESS NEWTON Mate Charles Arduengo remained alongside the AFRAMAX through the explosion, and that he intended to assist the stricken Vessel until the JESS NEWTON's towing hawser was melted through from the fire. He testified that:

> **I didn't want to give up on the ship as -- you know, just let it go.** There was still a possibility that he still needs to pull that ship up and out. Either way, there's a fire; so he needs to move his ship from where it's at out into the Channel. And I didn't want to drop my line or anything like that, so I'm going to stay connected. I'm going to move forward because I have control of that line. I can pay it out. I can take it up as I need to. So this was the best method. Just stay attached, move forward and hope things get better.

128. Pilot McGee expressly commended the JESS NEWTON for such efforts. And so did the United States Coast Guard, which issued the crew of the JESS NEWTON (and the GASPARILLA) the nation's second highest public service award for their heroic actions that evening. The Award expressly stated that "[t]he professional mariners of G&H Towing are most heartily commended for their decisiveness, dedication, and courage, which is in keeping with the highest traditions of public service."

129. The Fifth Circuit has recognized that private parties do not have a duty to render assistance to a vessel in distress. *In re American Oil*, 417 F.2d 164, 167 (5th Cir. 1969). Furthermore, the facts of this case stand in stark contrast to *The Clarita*, 90 U.S. 1 (1874), which was cited by Aframax Interests during their opening statement.

130. In *The Clarita*, a tug that expressly held itself out commercially as a firefighting vessel responded to an already-burning ferryboat in distress. This firefighting tug acted on her own accord to travel to and then render assistance to the stricken ferryboat. In connection with the rescue attempt, the firefighting tug attached a hemp hawser (as opposed to a metal chain) to the blazing ferryboat. Thereafter, the hemp hawser burned off, and the burning ferryboat allided with a moored vessel. The Supreme Court determined that the firefighting tug (which was "professedly engaged in the business of rescuing vessels from conditions of extraordinary peril, including fire aboard") was negligent in failing to use a chain for the rescue. Under the circumstances, the facts of *The Clarita* have no bearing on what occurred here, as the GASPARILLA and JESS NEWTON never held themselves out as firefighting tugs, nor did they negligently respond to a fire that was already in process.

V. CONCLUSION

131. Having considered the evidence, arguments of counsel at trial, and applicable law, the Court finds the AFRAMAX RIVER 100% responsible for the allision with the ITC Dolphins, and that the GASPARILLA and JESS NEWTON are not responsible for the allision. Accordingly, ARM is not entitled to recover any damages from Tug Interests.

132. The Court will enter a final judgment consistent with these findings of fact and conclusions of law.

SIGNED at Houston, Texas, on September 29, 2023.

George C. Hanks Jr.

GEORGE C. HANKS, JR.
UNITED STATES DISTRICT JUDGE