



UNITED STATES COAST GUARD

INVESTIGATION INTO THE CIRCUMSTANCES
SURROUNDING THE COLLISION BETWEEN THE

M/V BALSA 37

THE TUG SEAFARER AND

T/B OCEAN 255,

AND THE TUG CAPT. FRED

BOUCHARD AND T/B NO. 155

ON AUGUST 10, 1993, WITH NO LOSS OF LIFE



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Commandant's Action

on

The Marine Board of Investigation convened to investigate the circumstances surrounding the collision of the Balsa 37, Lloyd's number 8511794; the tug SEAFARER, O.N. 532672 and T/B OCEAN 255, O.N. 534910; and the tug CAPT FRED BOUCHARD, O.N. 644119 and T/B NO. 155, O.N. 603622 on 10 August 1993 with no loss of life

COMMENTS ON CONCLUSIONS

Conclusion 23: Recording the critical radio transmission made on channel 13 in the minutes leading up to the casualty would have assisted in this investigation. Specifically, had Channel 13 been recorded to correlate transmissions to the precise time of day, the process of reconstructing events leading up to the casualty would have been enhanced.

Comment : I concur with this conclusion. In ports where Vessel Traffic Services are located, Channel 13 is monitored and recorded. These recordings have proven useful in reconstructing events leading up to a marine casualty.

Conclusion 29: A Vessel Traffic Service (VTS) employing the latest technology might have assisted in the prevention of this casualty. It could have provided information as to the general vessel traffic situation including when, where and the type of vessel that would be met during the transit. A VTS could have determined that the three vessels would meet at the turn and that the Balsa 37 was proceeding down the center of the channel as it approached the turn. Radio transmissions could have been monitored raising the question as to the Balsa 37 pilot's awareness of the situation. Finally, a VTS could have initiated a call for emergency response at the instant it became apparent the collision was imminent.

Comment : I concur with this conclusion. A properly equipped VTS could have intervened to prevent this accident. VTS interacts with marine traffic by providing accurate and complete information to all mariners. VTS watchstanders in the vessel traffic center respond to developing situations in the waterway and advise mariners of potentially dangerous conditions. Watchstanders ensure that mariners have timely, relevant and accurate information to support their independent decision

making. If watchstanders determine that proper action is not being made to alleviate a dangerous situation, they are empowered to direct vessel movements. A "watchstanderless" system would not have the capability to interact with traffic or provide third party, independent assessment of the traffic situation. Independent assessment and monitoring of the waterway are critical elements in avoiding future accidents in Tampa Bay.

ACTION ON RECOMMENDATIONS

Recommendation 1: That Commandant develop and implement a merchant mariner's license and document revocation procedure based upon a history of confirmed improper actions and/or violations. A system of points should be assessed for violations of the Code of Federal Regulations, proved findings of charges in suspension and revocation proceedings, and civil and criminal convictions. When the accumulated points exceed a specified level, the Coast Guard should automatically initiate revocation proceedings. It is further recommended that the State of Florida develop a similar system for pilots under its jurisdiction.

Action: I concur with this recommendation. The Coast Guard will seek legislative authority to establish the recommended "points system." The Oil Pollution Act of 1990 (OPA 90) gave the Coast Guard additional authority which also addresses the intent of this recommendation. OPA 90 requires renewal of certificates of registry and merchant mariner's documents every five years, thus ensuring that the Coast Guard has interaction with the holders of credentials on a more frequent basis. OPA 90 also authorizes the Coast Guard to review the National Driver Register for vehicular offenses (including drug and alcohol involvements), to conduct criminal record checks, and to revoke the credentials of holders with criminal convictions or convictions of offenses of the National Driver Register Act of 1982. When these OPA 90 authorities are implemented in regulation, the Coast Guard will have significantly more interaction with mariners, will have access to more background information on them, and will be in a significantly better position to protect life, property, and the marine environment through oversight of merchant mariners.

Recommendation 2: That Commandant develop a new license and document application and renewal procedure which will determine and list all prior suspension and revocation actions, and other criminal convictions and Driving Under the Influence (DUI) convictions. If additional statutory authority is necessary to perform such checks, it should be sought.

Action: I concur with the intent of this recommendation. Although the existing application and renewal procedures allow for the consideration of prior suspension and revocation actions, criminal convictions, and DUI convictions, Commandant (G-MVP) has initiated several projects to improve the effectiveness of these procedures.

A regulatory initiative is underway to provide for verification of information that mariners provide on their applications regarding DUI convictions by obtaining information from the National Driver Register. Initiating spot checks of criminal records during license and Merchant Mariner Document renewals and upgrades will help verify information regarding criminal convictions and may serve as an added incentive to mariners to include all relevant information on their applications. Finally, implementation of the Merchant Mariner Licensing and Document system will allow for the review of an applicant's history of administrative actions reported by investigating officers and will help to verify the information that mariners provide on their applications.

Although the license application, Form CG-866, specifically requests information regarding suspensions and criminal convictions, Commandant (G-MVP) will revise and clarify portions of the application. The question regarding suspensions will be revised to include all types of administrative actions, not just suspensions. The question regarding criminal convictions will be reworded to emphasize that DUI convictions are serious offenses that must be included on the application.

Recommendation 3: That the Tampa Bay Pilots Association educate member pilots on the requirements for post-accident chemical testing.

Recommendation 4: That the Tampa Bay Pilots Association contract with a qualified facility to expedite the collection of samples for drug testing its members on a 24-hour basis.

Action: I concur with the intent of these recommendations. Existing regulations at 46 CFR 4.06.1(e) require marine employers to ensure that all individuals engaged on board a vessel are fully indoctrinated in the requirements of serious marine incident chemical testing, and 46 CFR 4.06-20(c) requires marine employers to ensure specimens for drug and alcohol testing are collected as soon as possible. Commandant (G-MMI) will forward a copy of this report to the Tampa Bay Pilots Association for their information and review, and will request a written response to these recommendations.

Recommendation 5: That the Marine Safety Office, Tampa Marine Fire Fighting Contingency Plan be reviewed and revised as necessary to improve communications during such emergencies.

Action : I concur with this recommendation. Review and revision of unit contingency plans following a major incident is standard procedure. The importance of the review and revision process will be emphasized in a revision to the Marine Safety Manual, Volume VI, Chapter 8.

Recommendation 6: That, nationwide, Commandant establish means for recording Channel 13, or the designated bridge-to-bridge channel, in critical waterways where such recording is not currently being done by VTS or other system. Such recordings frequently are of great value in casualty investigations.

Action : I concur with the intent of this recommendation. Recordings of the voice radio exchanges between vessels have proven valuable in reconstructing the events leading up to marine casualties. However, this benefit of monitoring and recording Channel 13 must be compared with the costs of incorporating the additional recording capability into the National Distress and Safety System. The cost of adding Channels 13 and 67 guard receivers, data links and recording capacity is appreciable. These costs are not readily justified when considering that the majority of bridge-to-bridge transmissions are "business transactions" between vessels and that shore stations have little need to communicate on bridge to bridge frequencies.

Recommendation 7: That Commandant explore alternative or additional noisemaking devices on Personal Flotation Devices whose operation would be unaffected by oil or chemicals in the water.

Action: I partially concur with this recommendation. Whistles are inexpensive, lightweight, inherently maintenance-free, and normally effective. The alternatives to whistles that are currently available involve some sort of power source and are significantly more bulky and expensive. Therefore, noisemaking devices other than whistles are unlikely to be practical. Whistle manufacturers often bring their products to the attention of the Coast Guard. As they do, we will alert them to the possible problems of fouling.

Recommendation 8: That Commandant initiate a review of the marine firefighting capability in the nations ports, on its waterways, and offshore. Included in a national review should be the consideration of the use of portable, high capacity foam equipment.

Monitors, prime movers, and foam stocks could be strategically located in port areas and transported by land, sea, or air to areas within a port, to remote waterway sites, or offshore. Within certain small ports, such equipment could substitute for fireboats, precluding a major capitol investment.

Readily deployable, high capacity, portable firefighting equipment could be the deciding factor in preventing or minimizing the further release of pollutants to the environment in any number of casualty scenarios.

Action: I concur with the intent of this recommendation. In its recent study Reassessment of the Marine Salvage Posture of the United States (1994), the Marine Board of the National Research Council (NRC) found that the marine firefighting capability of the United States has improved significantly since 1982. However, the NRC report also found that "... gaps still exist in marine firefighting experience and capability in certain port areas ...". Commandant (G-MPS) will initiate a study of the firefighting capabilities within the nations ports and harbors, and identify any port areas where the marine firefighting capability is deficient. Included in this study will be an analysis of any equipment needed to improve the firefighting capabilities for port areas. A

To support local authorities in meeting their responsibilities for marine firefighting, the Coast Guard participated in a joint USCG/National Fire Protection Association (NFPA) working committee to develop the publication NFPA 1405 "Guide for Landbased Fire Fighters Who Respond to Marine Vessel Fires 1990". This document not only addresses specific fire fighting safety concerns and techniques for vessel fires, it also discusses command and control functions which identify the local Captain of the Port (COPT)/Group Commander as the marine technical advisor to local fire departments responding to vessel fires. In offshore areas, it is the responsibility of the vessel's owner and/or operator to provide any necessary fire fighting capability.

During the development of the Area Contingency Plans (ACP's), COTP's/On Scene Commanders's (OSC's) include the firefighting resources available within their zone. The policy guidance on ACP development is being revised to include the requirement for an assessment of the marine firefighting capabilities within each COTP/OSC zone, the identification of any shortfalls in capabilities, and the development of procedures to deal with any deficiencies.

Also, as part of the Vessel Response Plans and Facility Response Plans review process, each response plan is evaluated to ensure resources and procedures are identified to mitigate or prevent any discharge in the event of a vessel or facility fire situation. If this information is not included, the plan is returned for revision.



14 November 1994

ROBERT E. KRAMEK
Admiral, U.S. Coast Guard
Commandant

FINDINGS OF FACT

SUMMARY

Before dawn on 10 August 1993, the tug CAPT. FRED BOUCHARD was pushing the petroleum laden barge B. NO. 155, and was inbound in Egmont Channel, Tampa Bay, Florida. An assist tug, the EDNA ST. PHILLIP, was made up to the B. NO. 155, as the CAPT. FRED BOUCHARD had suffered a starboard engine casualty. The Integrated Tug Barge SEAFARER and OCEAN 255, with a mixed cargo of petroleum products, was also inbound and following astern of the BOUCHARD tow. The M/V BALSAS 37, having departed Port Manatee, Florida was outbound in Mullet Key Channel carrying 6000 metric tons of phosphate product. Under fair skies, the wind was northeast at 12 knots and visibility was 10 to 12 miles. The tide was flooding at 0.7 knots.

The Egmont Channel and Mullet Key Channel meet at a turn just east of buoys 19 and 20. As the two inbound tows approached Mullet Key Channel, the SEAFARER tow commenced overtaking the BOUCHARD tow. The master of the SEAFARER did not communicate to the approaching BALSAS 37 his intentions to overtake. This overtaking would place all three vessels in close proximity near the turn. As the two inbound tows approached buoys 19 and 20, the SEAFARER tow was near the centerline of the channel with the BOUCHARD tow astern and to starboard.

The outbound BALSAS 37 steered a course placing it near the centerline of Mullet Key Channel. The BALSAS 37 and the SEAFARER tow had made a port-to-port meeting agreement. However, as the vessels approached, each came hard to port to avoid collision. At approximately 0545 (all times EDT unless otherwise noted), the starboard bow of the OCEAN 255 struck the starboard side of the BALSAS 37. The impact ruptured the No. 1 starboard tank of the OCEAN 255, igniting its cargo. The SEAFARER crew abandoned ship and was rescued by the Tampa Bay pilot boat MANATEE. The BALSAS 37 suffered extensive damage along its starboard side and cargo holds. The BALSAS 37 separated from the OCEAN 255 and then collided with the BOUCHARD tow less than one minute later, rupturing the B. NO. 155's No. 1 port tank. 5000 barrels of No. 6 oil were released. The collision damaged the bow of the BALSAS 37, rupturing its forepeak tank.

The SEAFARER tow grounded near Fort De Soto Park. Its No. 6 starboard tank exploded and the fire burned out of control until extinguished by the Tampa Fire Department that evening. The BALSAS 37 was grounded south of the channel near Egmont Key to prevent sinking. The BOUCHARD tow proceeded to anchorage near the Sunshine Skyway Bridge while continuing to release oil.

011.



Fire aboard the T/B OCEAN 255

VESSEL DATA

a. Name: OCEAN 255
Flag: U.S.
Official Number: D534910
Service: TANK BARGE
Gross Tons: 14679
Net Tons: 14679
Length: 166.5m (546.2')
Breadth (molded): 26.0m (85.2')
Depth (molded): 12.3m (40.5')
Home Port: PHILADELPHIA, PA
Date Built: 01 JAN 71
Place Built: BEAUMONT, TX
Built by: BETHLEHEM STEEL CORPORATION
Owner: MARITRANS OPERATING PARTNERS
300 DELAWARE AVE
SUITE 1130
WILMINGTON, DE 19801

Operator: SAME AS OWNER
Coast Guard Certificate of Inspection (COI) data:
Vessel Name: OCEAN 255
Biennial Inspection: 12 MAR 93
Expiration Date: 12 MAR 95
Inspection Zone: MOBILE, AL
Inspected for carriage of: GRADE A AND LOWER
AND OTHER HAZARDOUS CARGOES

Capacity: 255,000 BBLs
Route: OCEANS
Total Persons Allowed: 0
Last Inspection: BIENNIAL
Date of Inspection: 12 MAR 93
Inspection Zone: MOBILE, AL
Drydocked: 12 MAR 93
Inspection Zone: MOBILE, AL

b. Name: B. NO. 155
Flag: U.S.
Official Number: D603622
Service: TANK BARGE
Gross Tons: 9262
Net Tons: 9262
Length: 135.9m (446.0')
Breadth (molded): 22.6m (74.0')
Depth (molded): 10.0m (32.9')
Home Port: NEW YORK, NY
Date Built: 01 JAN 79
Built by: GRETNA MACHINE & IRON WORKS
Owner: HARVEY, LA
B. NO. 155 CORP.
77 NEWBRIDGE ROAD
HICKSVILLE, NY 11801

Operator: BOUCHARD TRANSPORTATION CO. INC.
77 NEWBRIDGE ROAD
HICKSVILLE, NY 11801

Coast Guard Certificate of Inspection (COI) data:

Vessel Name: B. NO. 155
Biennial Inspection: 02 APR 92
Expiration Date: 02 APR 94
Inspection Zone: MIAMI, FL
Inspected for carriage of: GRADE A AND LOWER
Capacity: 188,400 BLS
Route: OCEANS AND COASTWISE
Total Persons Allowed: 0
Last Inspection: REINSPECTION
Date of Inspection: 08 JUN 93
Inspection Zone: NEW ORLEANS, LA
Drydocked: 02 OCT 91
Inspection Zone: MOBILE, AL



Tug CAPT FRED BOUCHARD and the T/B NO. 155

c. Name:

BALSA 37
Flag: REPUBLIC OF THE PHILIPPINES
Official Number: L8511794
Call Sign: DUDJ
Service: FREIGHT SHIP
Gross Tons: 4337
Net Tons: 2479
Dead Weight Tons (DWT): 6596
Length: 105.2m (345.0')
Breadth (molded): 16.5m (54.1')
Depth (molded): 8.4m (27.6')
Propulsion: DIESEL DIRECT
Horsepower: 3400
Home Port: MANILA, PHILIPPINES
Date Built: 01 OCT 85
Built by: TAIHEI, KOGYO, JAPAN
Owner: TSACABA SHIPPING CO. INC.
2ND FLOOR, ENRIQUETA BUILDING
1676-77A MABINI ST. MALATE
MANILA, PHILIPPINES
Operator: DOWA LINE AMER. CO. INC.
THE DOWA BUILDING
476 HUDSON TERRACE
ENGLEWOOD CLIFFS, NJ 07632
Master: JOSE A. SALAMANCA



The M/V Balsa 37

d. Name: SEAFARER
Flag: U.S.
Official Number: D532672
Call Sign: WTQ7000
Service: TOWBOAT/TUGBOAT
Gross Tons: 179
Net Tons: 122
Length: 37.0m (121.5')
Breadth (molded): 10.5m (34.5')
Depth (molded): 4.0m (13.0')
Propulsion: DIESEL REDUCTION
Horsepower: 5600
Home Port: PHILADELPHIA, PA
Date Built: 1971
Built by: MAIN IRON WORKS, INC.
HOUMA, LA
Owner: MARITRANS OPERATING PARTNERS, L.P.
300 DELAWARE AVENUE
SUITE 1130
WILMINGTON, DE 19801
Operator: MARITRANS OPERATING PARTNERS, L.P.
Master: CHARLES C. CHAPMAN

e. Name: CAPT. FRED BOUCHARD
Flag: U.S.
Official Number: D644119
Call Sign: WRA5528
Service: TOWBOAT/TUGBOAT
Gross Tons: 199
Net Tons: 135
Length: 36.4m (119.5')
Breadth (molded): 11.3m (37.0')
Depth (molded): 4.5m (14.9')
Propulsion: DIESEL REDUCTION
Horsepower: 5700
Home Port: NEW YORK, NY

Date Built: 1982
 Built by: HALTER MARINE, INC.
 NEW ORLEANS, LA
 Owner: TUG CAPT FRED BOUCHARD, INC.
 77 NEWBRIDGE ROAD
 HICKSVILLE, NY 11801
 Operator: BOUCHARD TRANSPORT. CO., INC.
 77 NEWBRIDGE ROAD
 HICKSVILLE, NY 11801
 Master: ROBERT W. WEST

f. **Name:** EDNA ST. PHILLIP
 Flag: U.S.
 Official Number: D506454
 Call Sign: WX7860
 Service: TOWBOAT/TUGBOAT
 Gross Tons: 148
 Net Tons: 101
 Length: 29.0m (95.1')
 Breadth (molded): 8.2m (27.0')
 Depth (molded): 3.0m (9.7')
 Propulsion: DIESEL
 Horsepower: 2400
 Home Port: MIAMI, FL
 Date Built: 1966
 Built by: BAKER BARGE LINE
 LOCKPORT, LA
 Owner: GULF FLEET EQUIP. CO. INC.
 225 BARONNE STREET
 SUITE 600
 NEW ORLEANS, LA 70112
 Operator: BAY TRANSPORTATION CORP.
 1305 SHORELINE DRIVE
 P.O. BOX 5797
 TAMPA, FL 33675
 Master: CARROLL DALE

PRIMARY VESSEL PERSONNEL

<u>NAME</u>	<u>POSITION</u>	<u>VESSEL</u>
JOSE' A. SALAMANCA	MASTER	BALSA 37
THOMAS A. BAGGETT	STATE PILOT	BALSA 37
CHARLES C. CHAPMAN	MASTER/FEDERAL PILOT	SEAFARER
MICHAEL L. PANAGAKOS	MATE/FEDERAL PILOT	SEAFARER
ROBERT W. WEST	MASTER	CAPT. FRED BOUCHARD
JOHN M. WRASSE	FEDERAL PILOT	CAPT. FRED BOUCHARD
MICHAEL ALLEN	PILOT BOAT OPERATOR	PILOT BOAT EGMONT
STEPHEN JEAN	PILOT BOAT OPERATOR	PILOT BOAT MANATEE

PERSONNEL LICENSE DATA

Thomas A. Baggett: Master of ocean steam or motor vessels of not more than 500 gross tons also, first class pilot steam or motor vessels of any gross tons upon Galveston Bar and channels to Texas City, Galveston and turning basin, Houston, Texas; Lower Mississippi River from Baton Rouge, Louisiana Railroad and Highway Bridge (mi 234 AHP) to sea via South Pass; via main ship channels to Tampa, Port Tampa, Weedon Island and Port Manatee, Florida; Also, radar observer (unlimited) expires January 1997. Issue number 8-9. Issue date 9 April 1993, Miami, Florida.

Jose' A. Salamanca: Republic of the Phillipines Master Mariner License on merchant marine vessels of any gross tons upon the waters of any sea or ocean, Certificate number 3793 issued 26 May 1980

Charles C. Chapman: Master of near coastal steam or motor vessels of not more than 1600 gross tons; also, master of near coastal steam or motor vessels of less than 200 gross tons (restricted to uninspected towing vessels); also operator of uninspected towing vessels upon the Great Lakes and inland waters; also, first class pilot of tug/barge combinations of any gross tons, upon the waters of Port Everglades main ship channel, Ft. Lauderdale Florida; also, first class pilot of steam or motor vessels of any gross tons, upon the Mississippi Sound from the sea buoy Horn Island Pass via Pascagoula Channel to the junction of Bayou Casotte via Bayou Casotte to the turning basin; also, first class pilot of vessels of any gross tons upon the waters of Tampa Bay main ship channel from Egmont sea buoy to and including Sparkman/Ybor channels, also, from Cut "G" through Cut "K", Old Port Tampa, excluding Rattlesnake; also radar observer (unlimited) expires May 1994. Issue number 4-4. Issue date 1 August 1989, Miami, Florida.

Michael L. Panagakos: Mate oceans steam or motor vessels of not more than 1600 gross tons; also, first class pilot of vessels of any gross tons upon the waters of Tampa Bay main ship channel from Egmont Sea Buoy to and including Sparkmarl/Ybor channels; also from Cut "G" through Cut "K", Old Port Tampa, excluding Rattlesnake Channel; also radar observer (unlimited) expires May 1995

Issue number 2-2. Issue date 15 October 1990, Baltimore, Maryland.

Robert W. West: Operator of uninspected towing vessels upon near coastal routes. Issue 3-3. Issue date 7 July 1989, Baltimore Maryland.

John M. Wrasse: Chief mate of steam or motor vessels of not more than 1600 gross tons upon oceans; also, second mate of steam of motor vessels of any gross tons upon oceans; also, chief mate of ocean steam or motor vessels of any gross tons; also, first class pilot of steam or motor vessels of any gross tons upon the waters of Tampa Bay and its tributaries; also radar observer (unlimited) expires November 1995. Issue number 1-2. Issued 2 February 1987, Miami, Florida. (Note: license had expired at time of casualty).

NARRATIVE DESCRIPTIONS

a. Weather Conditions

The weather prevailing in lower Tampa Bay, Florida at the time of the collisions was clear, predawn darkness without fog, haze or other local environmental impairment to visibility. An anemometer located near the Sunshine Skyway Bridge indicated that the wind at the time of the accident was east northeast at 12 knots. Coast Guard surface and air rescue units made the following observations at the scene within 30 minutes of the accident:

Cloud	Clear 10 nautical
Cover:	miles None East
Visibility:	northeast at 10 to
Precipitation:	15 knots .3to
Wind:	lm(1to3ft)
Seas:	
Seawater	
Temperature:	87°F

Tidal currents in lower Tampa Bay are measured by a system of sensors maintained by the Greater Tampa Bay Marine Advisory Council's Physical Oceanographic RealTime System (PORTS). The system includes a tidal current sensor located on the bottom of the main ship channel below the northbound lane of the center span of the Sunshine Skyway Bridge. PORTS system data has been extrapolated to other locations in lower Tampa Bay, based on previous observations taken at these locations.

A tidal current of 0.8 knots towards 071°T was projected for Mullet Key Channel at 0500 on 10 August 1993. By 0600, the PORTS data projected a tidal current of 0.7 knots towards 070 T for Mullet Key Channel.

b. The Channel(See Fig. 1)

Egmont Channel's project width is 213 meters (700 feet) with a project depth of 14 meters (45 feet). It intersects Mullet Key Channel at an angle of 23 degrees. This junction occurs in the proximity of Mullet Key Channel Lighted Buoy 19 and Mullet Key Channel Lighted Bell Buoy 20. Mullet Key Channel has a project width of 183 meters (600 feet) and depth of 13 meters (43 feet).

To facilitate vessel traffic through the bend in the channel, the federal project provides for a widener on the channel's north side. Buoy 19 is located on the edge of the widener. This widener allows outbound vessels to provide additional sea room for inbound vessels to make the turn from Egmont Channel into Mullet Key Channel.

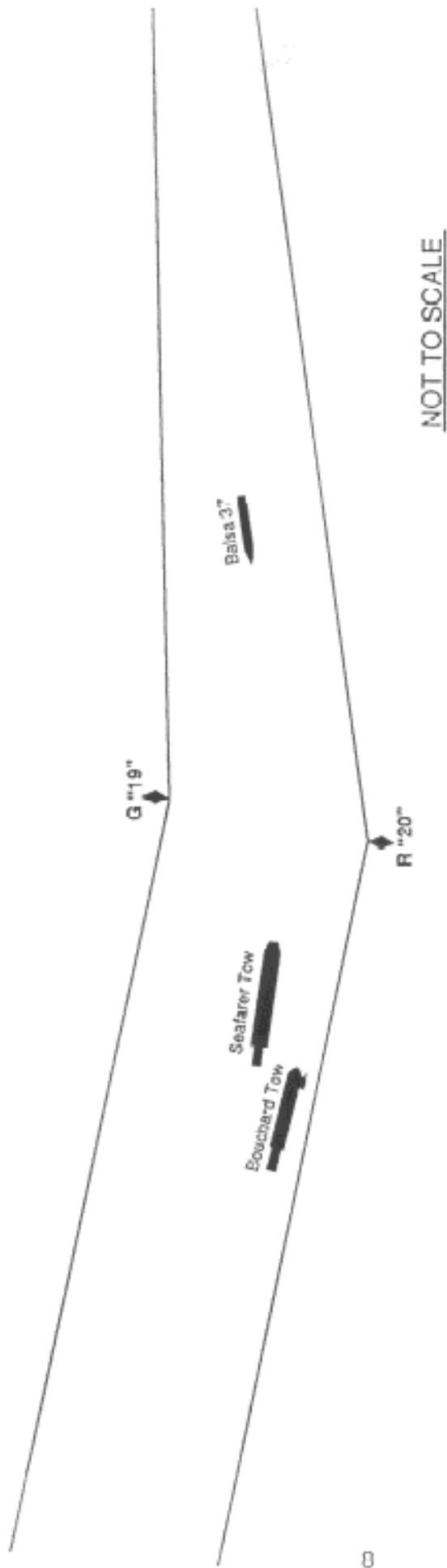
The charted positions of Mullet Key Channel Lighted Buoy 19 and Lighted Bell Buoy 20

have a tolerance radius of approximately 46 meters (150 feet). This provides for a nominal distance of approximately 305 meters (1,000 feet) between buoys 19 and 20, on a bearing of 193/013 T. Considering the watch circle of each buoy, the distance between the buoys could vary from approximately 230 meters (750 feet) to 410 meters (1,350 feet). However, those conditions that typically cause a buoy to move within its watch circle, wind and current, would act in the same relative direction, causing buoys 19 and 20 to move relative to each other and therefore maintain an approximate distance from each other of 300 meters (1,000 feet).

On 10 August 1993, following the casualty, the Aids to Navigation Team from Coast Guard Group St. Petersburg conducted position checks on Egmont Channel Lighted Buoy 17 (Light List #18560), Lighted Buoy 18 (Light List #18565), Mullet Key Channel Lighted Buoy 19 (Light List #18580), Lighted Bell Buoy 20 (Light List #18585), Lighted Buoy 21 (Light List #18600), Lighted Buoy 22 (Light List #18605), Lighted Buoy 23 (Light List #18610), Lighted Buoy 24 (Light List #18615), Mullet Key Range Front Light (Light List #18590) and Mullet Key Range Rear Light (Light List #18595). All aids were on station and watching properly.



Figure 1 - Portion of chart 11414 showing the area of the collision



APPROXIMATE POSITIONS AS
VESSELS APPROACHED TURN

Figure 2

c. The Voyage of the BALSAs 37

The M/V BALSAs 37 is a 105m (345'), 4,337 gross ton freightship with direct diesel propulsion. The ship is registered in the Philippines and has a Filipino crew.

The BALSAs 37 departed Port Manatee, Florida at 0445 on 10 August 1993 bound for Cartagena, Columbia laden with 6000 metric tons of phosphate products in bulk in holds No. 1 and 2. The mean draft was 6.7m (22'3") with no trim. All machinery, navigation equipment and navigation lights had been tested prior to departure and were working properly.

Pilot Baggett boarded the vessel at 0440. He held a master-pilot conference with Captain Salamanca to discuss the order in which lines would be released, since the vessel would be undocked without the assistance of a tugboat. Pilot Baggett was familiar with the handling characteristics of the BALSAs 37, having shifted the vessel the previous day. The last line was let go at 0445. Pilot Baggett, Captain Salamanca, the third mate and helmsman were present on the bridge as the BALSAs 37 got underway. The third mate was positioned at the engine order telegraph.

The BALSAs 37 passed under the Sunshine Skyway Bridge at 0524, and was proceeding at its sea speed of 11 knots. Captain Salamanca secured the anchor watch and ordered the chief mate to prepare the vessel for sea. Pilot Baggett advised Captain Salamanca that a bow look-out was not needed, because the visibility was good. Captain Salamanca secured the bow lookout and went below. At approximately 0535, the BALSAs 37 was near Buoy 23 and the chief mate relieved the third mate at the engine order telegraph.

The inbound M/V ATLANTIC STAR passed the BALSAs 37 between buoys 21 and 23. Pilot Baggett and the pilot of the ATLANTIC STAR both testified that the BALSAs 37 was to the north side of Mullet Key Channel at that time, passing within 100 feet of Buoy 21.

Passing abeam Buoy 21, the BALSAs 37 continued on its previous course of 261 T. However, Pilot Baggett believed he had ordered a change to 262 T. which would bring the ship closer to Buoy 19 at the turn.

With the BALSAs 37 in the vicinity of Buoy 21, Pilot Baggett looked at the radar and observed two vessels (the BOUCHARD and SEAFARER tows) with one following astern of the other near Buoy 18 in Egmont Channel. Pilot Baggett then visually observed the red sidelights of these vessels.

Two minutes after passing Buoy 21, Pilot Baggett received a radio call from Pilot Wrasse on the BOUCHARD tow proposing a port-to-port meeting. Pilot Baggett agreed. Approximately one minute later, Pilot Baggett was called by Captain Chapman on the SEAFARER, also proposing a port-to port meeting. Pilot Baggett again agreed.

Pilot Baggett apparently had not heard a radio conversation during which Captain Chapman informed Captain Wrasse that the SEAFARER tow was overtaking the BOUCHARD tow.

Midway down Mullet Key Channel, Pilot Baggett looked back at the Mullet Key range lights, which he observed to be open slightly to the north. He then made a radiocall to the pilot boat operator and arranged for his pickup from the BALSAs 37 and transfer to his next assignment. Pilot Baggett remained unaware that the SEAFARER tow was close to the center of Egmont Channel, and was overtaking the BOUCHARD tow.

Two minutes later, Pilot Baggett made a radio call asking whether one of the approaching vessels had an assist tug. Captain Baggett heard no reply and did not call again.

At approximately 0545, Pilot Baggett observed a green sidelight **crossing his bow**. The bows of the BALSAs 37 and the SEAFARER tow were about 305 meters to 425 meters (1000 to 1400) feet **apart and** closing at a relative rate of approximately 19 knots. Pilot Baggett immediately called on Channel 13 to determine the **intentions of the** SEAFARER tow. Captain Chapman replied that they had agreed to a port-to-port meeting. Pilot Baggett urgently replied that it needed to be starboard-to-starboard. Captain Chapman radioed he would attempt to turn to port.

Pilot Baggett first ordered the BALSAs 37 rudder left 10 degrees, followed by 20 degree. He directed the chief mate to call

the captain, and ordered the rudder hard to port and the engines full astern. The helmsman executed the helm commands but the chief mate did not pass the engine orders because he had exited the bridge to alert Captain Salamanca, who was below.

At approximately 0545, the starboard bow of the OCEAN 255 struck the starboard side of the BALSAs 37 at the break of the forecastle. The force of the impact caused the BALSAs 37 to sheer to port and then back to starboard. Sparks and flames erupted and continued as the Ocean 255 raked the starboard side of the BALSAs 37. Black smoke filled the pilothouse of the BALSAs 37, and the smoke detection system automatically activated the general alarm. After the vessels separated, the SEAFARER tow continued past the starboard quarter of the BALSAs 37. The collision caused extensive damage to the BALSAs 37's hull and superstructure.

As the SEAFARER tow moved away, Pilot Baggett observed that the BALSAs 37 was headed toward collision with the BOUCHARD tow. In an attempt to make a port-to-port passing, Pilot Baggett ordered the helm hard to starboard, but there was too little time to regain control.

Less than one minute after striking the OCEAN 255, the bow of the BALSAs 37 impacted the port bow of the B. NO. 155, creating a large notch in way of the No. 1 port cargo tank. The BALSAs 37 then came out of the notch and fell astern of the BOUCHARD tow. Captain Salamanca arrived on the bridge and ordered all hands to muster for the emergency and had Pilot Baggett take the ship to anchorage near Egmont Key. He then confirmed with Pilot Baggett that a distress call had been sent.

As the BALSAs 37 proceeded toward anchorage, the chief mate opened the cargo hatches and observed sea water in both cargo holds. Sounding also revealed water in the forepeak tank. Captain Salamanca, concerned for the vessel's stability, grounded the BALSAs 37 near Egmont Key.

The ship remained aground for several days until lightering and salvage operations could be completed. It was later moved to Port Manatee for damage survey and temporary repairs.

d. The Voyage of the SEAFARER Tow

The SEAFARER tow was an Integrated Tug Barge of the "dual mode" type, operating in the "push" mode (see Navigation and Vessel Inspection Circular 2-81 for definitions). It consisted of the SEAFARER, a 37.2m (122') tug with diesel reduction propulsion, and the tank barge OCEAN 255 with a length of 166m (546') and gross tonnage of 14,679. The tug-barge connection was an "Intercon System" (ram and ladder, electric-hydraulic) which provides a single degree of freedom allowing the tug to pitch about the transverse connection between the tug and barge. The OCEAN 255 had a sailing draft of 9.4m (31') forward and 9.1m (30') aft. The length overall of the integrated tow was 195.4m (6412).

The SEAFARER tow departed Pascagoula, Mississippi at 1524 CDT on 8 August 1993 carrying 236,000 barrels of petroleum products, including gasoline and Jet-A fuel, bound for GATX Terminal, Tampa, Florida. Mate Panagakos assumed the watch at 0145 the morning of 10 August. The SEAFARER tow was approximately 23 miles from the Tampa Bay sea buoy, approaching from west northwest at a speed of 9.7 knots. The weather was fair with northeasterly winds at 10 to 15 knots, seas in the Gulf northerly at two to three feet, and visibility of 10 miles. At 0300, tests of the SEAFARER's steering, whistle and radios were completed and logged. All propulsion machinery and navigation lights were functioning properly.

At 0406, the SEAFARER tow passed the sea buoy and Mate Panagakos called Tampa Bay Vessel Traffic Advisory to report his sea buoy time, Skyway Bridge ETA of 0610 and GATX Terminal ETA of 0930. The Vessel Traffic Advisory notified Mate Panagakos that the tanker M/V SPRAY would be outbound during the same period. Mate Panagakos then observed the BOUCHARD tow which was entering the channel inbound from the north. He also overheard radio conversations wherein the master of the BOUCHARD tow stated that his starboard main engine was shut down and that he intended to take an assist tug alongside. The SEAFARER tow met the SPRAY in a port-to-port meeting near buoys 5 and 6. At that time, the BOUCHARD tow was slightly less than two miles ahead, proceeding at a speed of approximately six knots. Mate Panagakos also determined from radio conversations

that the BALSAs 37 was outbound with Pilot Baggett aboard.

At approximately 0500, the SEAFARER tow passed buoys 9 and 10, with the BOUCHARD tow about 1.5 miles ahead. ATLANTIC STAR was approaching the SEAFARER tow from astern at a speed of approximately 15 knots. Mate Panagakos agreed to have the ATLANTIC STAR overtake the SEAFARER tow. When the SEAFARER tow was approximately one mile astern of the BOUCHARD tow, Mate Panagakos slowed. Pilot Wrasse called Mate Panagakos and asked if he intended to overtake. Mate Panagakos declined to overtake because he did not want to pull back in front of the faster ATLANTIC STAR.

Captain Chapman arrived in the lower pilothouse to relieve Mate Panagakos of the watch as the SEAFARER tow was being overtaken by the ATLANTIC STAR approximately three-quarters of a mile from buoys 15 and 16.

Mate Panagakos briefed Captain Chapman on the traffic situation. In a radio conversation with Pilot Wrasse, Mate Panagakos declined a second offer to overtake the BOUCHARD tow. Meanwhile, the distance between the BOUCHARD tow and the SEAFARER tow was closing to less than one-half mile.

At approximately 0539, Captain Chapman assumed the watch. Captain Chapman told Mate Panagakos to go below for breakfast and return, as it was his policy to have a second person with pilotage endorsements on the bridge when in pilotage waters. At Captain Chapman's command, Mate Panagakos advanced the throttles to full ahead as he left the pilothouse. Captain Chapman was at the helm (the "helm" is a hand-held device on a cable which allows the operator to move about the pilothouse) and was referring to buoys to navigate within the confines of the channel. Captain Chapman steered the SEAFARER tow toward the center of the channel to pass the BOUCHARD tow. He used small rudder movements to line his tow up with the port side of the B. NO. 155. The vessel's radar was operating in the "heads up" mode, 3 mile range, and was functioning properly. He estimated the SEAFARER's speed at eight knots and the speed of the BOUCHARD tow at six knots.

As the SEAFARER tow began to draw closer to the BOUCHARD tow, Captain Chapman overheard Pilot Wrasse call Pilot Baggett on the BALSAs 37 and arrange a port-to-port meeting. With the bow of the OCEAN 255 off the port quarter of the BOUCHARD tow, Captain Chapman called Pilot Wrasse and requested permission to overtake. Pilot Wrasse consented to the overtaking as long as it was agreeable with Pilot Baggett. Without unkeying the radio, Captain Chapman called Pilot Baggett who replied that a port-to-port meeting was agreeable. Captain Chapman did not communicate to Pilot Baggett that the SEAFARER tow was in the process of overtaking the BOUCHARD tow.

While the SEAFARER tow was passing the BOUCHARD tow, Captain Chapman estimated that the starboard side of the B. NO. 155 was 15.2m (50 feet) from the starboard side of the channel. He estimated the starboard side of the OCEAN 255 was a barge width (85 feet) from the port side of the B. NO. 155. Captain Chapman did not detect or consciously correct for any hydrodynamic interaction between the two tows.

When the bows of the two barges were nearly abeam, the tows were approximately six-tenths of a mile west of buoys 19 and 20, and the BALSAs 37 was approximately eight-tenths of a mile east of buoys 19 and 20. At this point, Captain Chapman heard Pilot Baggett call and inquire whether the SEAFARER tow had an assist tug. Captain Chapman replied he did not, but that the BOUCHARD tow did.

Mate Panagakos was below decks for approximately four minutes. When he returned, a few minutes prior to the collision, he could see the bow of the B. NO. 155 to starboard and slightly astern. He observed that the two tows were not parallel, with the B. NO. 155 oriented slightly towards the starboard (south) side of the channel. Captain Chapman was watching the approaching BALSAs 37. He intended to fall back in front of the BOUCHARD tow as he completed his turn into Mullet Key Channel. Both Captain Chapman and Mate Panagakos felt that the SEAFARER tow was steering a steady course.

Mate Panagakos checked the radar and visually observed the approaching

BALSA 37. He felt that the BOUCHARD tow had cleared astern. He and Captain Chapman observed that the BALSAs 37 was close to the point where it should start its turn into Egmont Channel. He asked Captain Chapman whether the approaching vessel was Pilot Baggett's ship. Captain Chapman replied that it was and they had agreed on a port-to-port meeting. Both men watched the BALSAs 37, anticipating its turn at any time. Captain Chapman was expecting the BALSAs 37 to make a hard turn into Egmont Channel. Mate Panagakos once again checked the radar. It was apparent that the BALSAs 37 had passed the point where it had to make its turn. While Captain Chapman was reaching for the radio, Pilot Baggett urgently called as to SEAFARER's intentions. Captain Chapman replied that they had agreed on a port-to-port meeting. By now the BALSAs 37 and the SEAFARER were beyond the point of "in extremis." Pilot Baggett replied that they would have to make it a starboard-to-starboard meeting. Captain Chapman replied that he would come to port.

Captain Chapman pulled the throttles to full astern and gave hard left rudder. He sounded the general alarm, however, the danger signal was not sounded. Seconds later, the SEAFARER tow collided with the BALSAs 37.

As the bow of the OCEAN 255 passed along the side of the BALSAs 37, tremendous heat and sparks were generated and fire erupted, fueled by cargo spilling from the OCEAN 255's ruptured No. 1 starboard tank. After separating from the BALSAs 37, a wall of fire rolled aft along the deck of the OCEAN 255 toward the SEAFARER. The BALSAs 37 passed off the starboard side and aft of the SEAFARER.

Captain Chapman attempted to get the SEAFARER out of the notch of the OCEAN 255. Using the wheelhouse controls, he was unsuccessful in withdrawing the rams which connect the tug and barge.

Captain Chapman could feel heat and hear crackling sounds from the flames approaching the pilothouse. Heavy black smoke encompassed the outside of the pilothouse. In an attempt to place the SEAFARER tow aground on the sandy bottom adjacent Mullet Key, Captain Chapman placed the throttles ahead slow. The rudder position remained hard left.

When the general alarm sounded, the crew of the SEAFARER gathered in the galley and donned their life jackets. They also carried survival suits. They were not able to gather at their designated muster station on the boat deck because of smoke.

Captain Chapman and Mate Panagakos left the wheelhouse, checked the upper decks, then found all personnel accounted for and waiting in the galley. Captain Chapman and Mate Panagakos decided to try one more time to get out of the notch. As they reached the last flight of stairs leading to the lower wheelhouse, Captain Chapman could see the wheelhouse lit up from the fire and could hear windows exploding and glass hitting the deck. The two men abandoned their attempt to enter the pilothouse and returned to the galley.

By now, the smoke had increased to the point that personnel at deck level were having difficulty seeing and breathing. The liferaft was inaccessible because of its location on the upper deck. Captain Chapman ordered the crew to abandon ship and they proceeded aft on the port side and jumped overboard. Captain Chapman was unsure whether the OCEAN 255 had yet grounded.

When the crew entered the water, they found that there was less smoke near the surface and breathing was easier. They could see smoke and flames above them. Captain Chapman heard a rumbling sound from the OCEAN 255 and two or three explosions. Approximately 2 to 14 minutes after the collision, Captain Chapman heard one loud explosion which was preceded by a loud "hissing" sound (this was assumed to be the explosion which blew the top off of the No. 6 starboard cargo tank).

The crew was later rescued by the pilot boat MANATEE. The OCEAN 255 grounded approximately 600 yards south southwest of the Fort De Soto pier on Mullet Key. The fire burned throughout the day until extinguished later that night by the Tampa Fire Department. The SEAFARER suffered extensive fire damage, and the OCEAN 255 was a constructive total loss.

e. The Voyage of the BOUCHARD Tow

The BOUCHARD tow consisted of the CAPT. FRED BOUCHARD, a 36.6m (120') tug with diesel reduction propulsion, and the

tank barge NO. 155 with a length of 135.9m (446') and gross tonnage of 9,262. The tug was made up with wires in the notch. The BOUCHARD tow had a length overall of 167.6m (550'). The B. NO. 155 had a sailing draft of 8.18m (26'6") forward and 8.18m (26'08") aft.

The BOUCHARD tow departed Good Hope, Louisiana at 0700 CDT, 7 August 1993, bound for Berth 9, Port Manatee, Florida, with a cargo of 120,000 barrels of No. 6 oil.

At approximately 1615 on 9 August, the engineer on watch shut down the starboard main engine due to a loss of crankcase vacuum

At 0315 on 10 August, the BOUCHARD tow was proceeding toward the entrance of Tampa Bay. As a result of the engine casualty, Captain West arranged for the assistance of the tug EDNA ST. PHILLIP during the transit to Port Manatee. The EDNA ST. PHILLIP made up to the starboard bow of the B. NO. 155.

At 0500, Pilot Wrasse boarded the BOUCHARD tow in the vicinity of Buoy 12 for the transit into Tampa Bay. Captain West remained at the helm throughout the transit while Pilot Wrasse managed the radios and advised Captain West with regard to navigation.

After hearing the pilot on the ATLANTIC STAR make arrangements to overtake the SEAFARER tow, Pilot Wrasse also made an arrangement to be overtaken by the ATLANTIC STAR.

Pilot Wrasse then called the SEAFARER tow and stated that the BOUCHARD tow was only making six knots, and the SEAFARER tow could overtake if desired. Mate Panagakos replied they weren't going much faster, approximately eight knots, and considering the heavy outbound vessel traffic ahead, they would not overtake.

The M/V ATLANTIC STAR overtook the BOUCHARD tow west of buoys 17 and 18. Pilot Wrasse once again called the SEAFARER tow and offered them the opportunity to overtake. Mate Panagakos replied they would not at that time, but would let the BOUCHARD tow know when they would be overtaking.

Just after the BOUCHARD tow had passed abeam Egmont Key Lighthouse, Pilot Wrasse called Pilot Baggett on the BALSAS 37 and arranged a port-to-port meeting. At approximately 0540, with the bow of the B. NO. 155 approximately eight-tenths of a mile from buoys 19 and 20, Captain West felt the interaction of the OCEAN 255, which was starting to overtake. Captain Chapman then called indicating his position off the BOUCHARD tow's port quarter and his desire to overtake. Pilot Wrasse consented to the overtaking as long as it was agreeable with Pilot Baggett. Pilot Wrasse heard Captain Chapman call Pilot Baggett on the BALSAS 37 immediately and arrange for a port-to-port meeting, but he heard no discussion of the overtaking in progress. Neither Captain West nor Pilot Wrasse initiated any subsequent communication with Pilot Baggett to alert him that the SEAFARER tow was in the process of overtaking the BOUCHARD tow.

Captain West and Pilot Wrasse estimated that the starboard side of the B. NO. 155 was approximately 23 to 30 meters (75 to 100 feet) from the channel boundary during the overtaking. They estimated that the OCEAN 255 was about a barge width (22.6 [74 feet]) from the B. NO. 155

As the stern of the OCEAN 255 came abeam of the bow of the B. NO. 155, Captain West detected and corrected for a hydrodynamic interaction that caused the B. NO. 155 to sheer toward Buoy 20. Pilot Wrasse observed that the distance between the barges was increasing.

At approximately 0544, with the bow of the B. NO. 155 approximately 400 meters (1,300 feet) from Buoy 20, Pilot Wrasse and Captain West overheard an urgent radio conversation between the SEAFARER tow and the BALSAS 37 altering their passing arrangement. Captain West and Pilot Wrasse could see the red sidelight and the range lights of the BALSAS 37. Pilot Wrasse observed the tug SEAFARER shudder. Both Wrasse and West then saw the range lights of the BALSAS 37 close, then open as the ship turned to port. Its red sidelight disappeared and its green sidelight came into view.

Seconds later, the BALSAS 37 and the SEAFARER tow collided. Captain West immediately sounded the danger signal and general alarm, and backed the port engine

full. He gave no commands to the tug EDNA ST. PHILIP. Struck on its starboard bow, the BALSA 37 yawed first to port, then abruptly to starboard as the bow of the OCEAN 255 moved along its side. The two vessels separated, and seconds later, the bow of the BALSA 37 impacted the port side of the B. NO. 155 in way of its No. 1 port cargo tank. Pilot Wrasse immediately made a distress call on Channel 16. Pilot Wrasse advised Captain West to make a course correction to keep the tow in the channel. He then called the pilot boat MANATEE and directed them toward the scene to pick up any survivors.

Following the two collisions, the EDNA ST. PHILIP initially let out 60 meters (200 feet) of line to move away from possible hazards. After determining it was safe, the master of the EDNA ST. PHILIP had his crew again make the tug fast alongside the B. NO. 155, where it remained until being released at 1020. Due to its protected location on the starboard side of the B. NO. 155, the EDNA ST. PHILIP was not damaged in the collisions.

The BOUCHARD tow later anchored approximately one and one-half miles west of the Sunshine Skyway Bridge.

The B. NO. 155 was later offloaded and taken to drydock in Tampa, Florida for damage survey and repairs.

f. Fire Fighting

Federal, state, county and municipal organizations joined forces in the firefighting efforts after Coast Guard Group St. Petersburg received the initial "Mayday" call at approximately 0548.

At 0615, 10 August 1993, the Tampa Fire Department was notified of the vessel collisions and subsequent fire aboard the OCEAN 255. The city of Tampa has responsibility for shipboard fires in Tampa Bay inside Egmont Key, including the channels leading to the Port of Tampa. Two fire department personnel were dispatched to Coast Guard Marine Safety Office Tampa to begin planning firefighting efforts. The Tampa Fire Department's 12 meter (42 foot) boat FIRE 1 was immediately dispatched.

Coast Guard vessels from Stations Cortez, St. Petersburg and Sand Key were dispatched to

search for survivors, assess vessel damage and assist with firefighting efforts. At about 0640, a Coast Guard helicopter confirmed that the OCEAN 255 was fully engulfed in flames near the southwest tip of Fort De Soto Park. By 0730, all three Coast Guard small boats were applying cooling water to the OCEAN 255. By 0745, Tampa Fire Department boats FIRE 1 and FIRE 2 were on scene, along with the three Coast Guard boats, and were applying firefighting water.

Within two hours of the initial collision and ignition of the OCEAN 255's cargo, the USCGC SITKINAK arrived as the Coast Guard's On Scene Commander (OSC). The SITKINAK coordinated Coast Guard assistance to the vessels involved in the collisions and fire. A four-man team from the SITKINAK was dispatched to the BALSA 37, which was taking on water and had a starboard list. Flooding was controlled and the BALSA 37 stabilized when the vessel was intentionally grounded east of Egmont Key. The BOUCHARD tow reported no injuries, but the B. NO. 155 continued to release cargo.

Initially, the OCEAN 255 was ablaze from stem to stern and there was fire on the water surrounding the vessel. Eventually the fire alongside the vessel burned out and the fires forward and aft of the No. 6 starboard cargo tank were extinguished. The fire in No. 6 starboard cargo tank presented the most significant problem to firefighters because the 16,098 barrels of Jet-A fuel were directly exposed to the atmosphere (the tank top having been blown off by an explosion).

At 0830, the USCG Captain of the Port Tampa closed the channel to all vessel traffic with a safety zone established within three miles of the burning OCEAN 255. The main ship channel was completely reopened at 0630, 12 August 1993.

Maritans officials contacted Gulfcoast Transit Corporation to ask for assistance in fighting the fire. When the casualty occurred, Gulfcoast Transit was in the process of installing a 2500 GPM firefighting system aboard the tugboat GULFCOAST. The installation was completed that morning by removing two fire monitors from former Tampa Fire Department fire boat and installing them aboard the GULFCOAST. At 121 the GULFCOAST departed Gulfcoast Transit's Big Bend facility with

two Tampa Fire Department firefighters aboard.

The Tampa Fire Department requested the Army Reserve's 231st Transportation Company to provide three landing craft (LCMs) to transport fire department equipment to the site. One 1000 GPM fire truck with an aerial nozzle unit (Engine Company 9) was loaded aboard one of the LCMs at Bayborough Harbor in St. Petersburg. A tractor trailer rig containing 69 drums (55 gallon) of AFFF was loaded aboard another LCM. A smaller truck containing 24 drums of AFFF was loaded aboard a third LCM. The process of loading Tampa Fire Department equipment onto the LCMs was not without difficulty in that the long trucks would not roll easily onto the vessels

Coast Guard, fire department and commercial resources continued to cool the OCEAN 255 throughout the morning and afternoon of 10 August. Firefighting efforts were temporarily secured at 1650 due to intense thunderstorms, and resumed at 1800. The USCGC DECISIVE arrived on scene at 1830 and relieved USCGC SITKINAK as OSC.

By 2100, approximately 15 hours after the fire began, the Tampa Fire Department was prepared to begin the primary assault on the cargo tank fire. The tug GULFCOAST and Engine Company 9 aboard the LCM provided two foam streams with a combined application rate of 1900 GPM.

The primary fire was extinguished at approximately 2145. At 2235, the Tampa Fire Department OSC reported that the fire on board the OCEAN 255 was limited to one "hot spot" in the forward port side.

At 0337 the OSC reported that there were still "hot pockets" on OCEAN 255. A reflash occurred at 0347 and was extinguished by the Tampa Fire Department boat on scene.

Tampa Fire Department officials reported that 4,040 gallons of AFFF were expended during the overall firefighting effort.

Just after daybreak on 11 August, personnel and equipment from Williams Fire Hazard & Control Inc., Mauriceville, Texas arrived on scene. They continued to maintain a foam blanket on the exposed cargo tank with

portable equipment which had been loaded on barge.

Photographs and news articles indicate that both Coast Guard and commercial crews fighting the fire on the OCEAN 255 may not have had proper or adequate personal protective equipment.

g. Lifesaving Equipment and Rescue

On the morning of 10 August 1993, Mr. Michael Allen was the operator of the Tampa Bay Pilot's Association 60-foot pilot boat EGMONT. The boat was ferrying pilots to and from their assigned vessels. At approximately 0545, with the EGMONT approximately one half mile east of the Egmont Key Lighthouse, Mr. Allen overheard urgent radio conversations on Channel 13. He looked toward buoys 19 and 20 to see two meeting vessels. He then observed a fire and explosions, and proceeded rapidly to the scene to render assistance.

Upon reaching the burning SEAFARER tow, Mr. Allen began searching for survivors. The water was covered with gasoline and heavy oil. He coordinated his search with the Tampa Bay pilot boat MANATEE, which arrived shortly after the EGMONT.

Mr. Stephen Jean, a pilot boat operator, was located at the pilot station on Egmont Key. At approximately 0545, Mr. Jean looked toward buoys 19 and 20 and noticed a glow followed immediately by an explosion and fireball. Mr. Jean placed the collision on a line between his position at the Egmont Key pilot station and the lights on the Mullet Key public fishing pier.

Mr. Jean and his deckhand, Mr. Layton, ran to the pilot station pier and got underway in the pilot boat MANATEE. They quickly covered the 1.6 miles to the SEAFARER tow which was engulfed in flames. Once on scene, they witnessed the explosion of the No. 6 cargo tank.

The MANATEE initially located nine survivors by the green chemical lights attached to their personal flotation devices (PFDs). Two additional survivors were quickly located from the illumination of their chemical lights. All survivors were recovered by the MANATEE and accounted for. At approximately 0615, the survivors

were taken to the pilot station at Egmont Key to wash the gasoline and other petroleum products from their skin and clothing. The time from the initial collision to the arrival at Egmont Key was approximately 30 minutes. Each survivor spent approximately 15 to 20 minutes in the 87 F water

All crewmembers from the SEAFARER donned available U.S. Coast Guard approved Type I PFDs prior to abandoning the vessel. The vessel's crewmembers found the PFDs to be generally effective. Two survivors, however, found the whistles attached to their PFDs had filled with fuel, making them unusable. One survivor said he could not activate his chemical light as it was located on the inside of his PFD. It is not known whether the PFD was put on inside-out, or if the chemical light was attached to the inside of the jacket. Another chemical light broke during activation, rendering it ineffective. Testimony indicated that the "Cyalume" chemical lights on the PFDs were instrumental in locating the survivors in the predawn darkness.

Mate Panagakos said that, while awaiting rescue, a wall of flame on the water's surface blew towards the survivors. He considered removing his PFD to dive under the approaching fire. As the wall of fire approached, a "break" in the flames appeared which eventually became 8 to 9 meters (25 to 30 feet) wide. The survivors swam toward the break, and the fire passed them on both sides.

h. Injuries

Because of the warm water temperature and relatively short exposure, none of the survivors suffered from hypothermia.

Survivors from the SEAFARER tow were taken to the Egmont Key pilot station, where they rinsed petroleum products from their skin and clothes. Several complained that the gasoline and other petroleum products were burning their skin and causing irritation.

Mr. Patrick Small, a SEAFARER crewmember, received second degree burns to a four inch diameter area of skin on his left forearm and wrist. He was treated at Tampa General Hospital at 1350 on 10 August 1993 and released.

Other than Mr. Small, there were no injuries reported aboard any of the other vessels involved in the collisions. Additionally, there were no injuries to personnel involved in the fire fighting effort.

i. Drug Testing

BALSA 37: Pilot Baggett departed the BALSA 37 at approximately 0830. He drove to St. Petersburg to a local clinic, but was refused admission without a doctor's order. He then drove to Medi-Physicals Inc., in Tampa. At 1030, he provided urine and blood samples for drug and alcohol testing. The drug tests were performed by Consulab/Cedars Medical Center, Miami, Florida. The test for alcohol was performed by the University of Florida, Diagnostic Ref. Lab, HSC, Gainesville, Florida. All tests were negative.

The BALSA 37 bridge crew departed the vessel at 1430, escorted by Coast Guard personnel to Station St. Petersburg. The chief mate, helmsman, and third mate provided blood and urine specimens to Medi-Physicals, Inc. between 2220 and 2315. The tests for alcohol and drugs were performed by Consulab/Cedars Medical Center. All tests were negative.

Captain Salamanca remained on the vessel and was tested on the afternoon of 10 August 1993 by a representative from MediPhysicals, Inc. He provided blood and urine samples at approximately 1845. The alcohol and drug tests were performed by Consulab/Cedars Medical Center. All tests were negative.

SEAFARER: The crew was sent to the Tampa General Hospital and tested at 1330 with each crewmember providing blood and urine specimens. Drug testing was performed by Nichols Institute, San Diego, California, and results were reported by a medical review office affiliated with Greystone Health Services Corp., La Mesa, California. Alcohol tests were performed by National Medical Services, Inc., Willow Grove, Pennsylvania. All tests were negative.

BOUCHARD: Captain West remained on board after the casualty. A representative from Examination Management Service, Inc., Tampa, boarded the tug, collected a urine sample and administered a breath test

for alcohol at 1930. Alcohol and drug testing was conducted by Compuchem Laboratories, Inc., Research Triangle Park, North Carolina. All tests were negative.

Captain Wrasse departed the CAPT. FRED BOUCHARD at approximately 0900. At 1200, he provided a urine sample for drug testing to Medi-Physicals, Inc. The tests for drugs were conducted by Consulab/Cedars Medical Center. The tests were negative. He did not provide a blood sample and no alcohol testing was conducted. Captain Wrasse was unaware that alcohol testing was required and did not request it.

All testing was conducted as required by 46 CFR 16.240 with the exception of the alcohol testing of Captain Wrasse. There was no evidence of the use of alcohol or intoxication on the part of Captain Wrasse.

j. Personnel Histories

The Board decided to review personnel histories to assist in evaluating the process by which a mariner's license is renewed. Also, several of the parties-in-interest submitted to the Board formal evidentiary requests for background information on certain mariners involved in the collisions. Finally, a high level of interest in personnel histories by the local media raised the issue of background checks and casualty histories of the mariners. The Board announced that it would obtain and examine various personnel documents of Pilot Baggett, Captain Chapman, Mate Panagakos, Captain West, and Pilot Wrasse.

Background investigations were completed, including National Criminal Information Center background checks, state driving records, original and renewal applications for Coast Guard license, Coast Guard civil penalty cases, Coast Guard suspension and revocation proceedings, and the State of Florida's Department of Business and Professional Regulation records for state pilots.

The background reviews revealed the following:

- Two mariners had no arrests or actions against their licenses.

- One mariner had two arrests and no action against his license. His federal license was properly renewed.

- One mariner had a DWI and no actions against his license. His federal license was properly renewed.

- One mariner had four DUIs, two refusals for alcohol testing (driving), two arrests, three federal mariner license suspensions, three federal civil penalties for negligent operation of a vessel, and two state pilot license suspensions.

Pilot Wrasse's chief mate license, with pilotage endorsement, expired on 27 February 1992.

k. Recording of Radio Communications

No decipherable recordings of Channel 13 VHF FM are known to exist. Coast Guard Group St. Petersburg was not recording Channel 13 the day of the casualty. A recording of Channel 13 by Gulfcoast Transit Corporation was examined by Federal Bureau of Investigation laboratories and revealed no decipherable bridge-to-bridge radio transmissions between the BALSAS 37, SEAFARER and CAPT. FRED BOUCHARD for the critical time period prior to the casualty. Gulfcoast Transit Corporation's receiver was located at their marine offices adjacent to the Tampa Electric Corporation's Big Bend Power Plant, however it was out of range of the collision site.

l. Marine Board Visits

On 12 August 1993, the Marine Board members visited the incident site during daylight hours, boarded the SEAFARER and OCEAN 255 for familiarization and later boarded the BALSAS 37. On 15 August, Board members visited the BALSAS 155 and the CAPT. FRED BOUCHARD. On 22 August, Board members again visited the BALSAS 37 to obtain further information. On 24 August, the Board made a nighttime transit of the casualty site on a Maritrans tow to view aids to navigation, observe tow running lights, and become familiar with the channel and accident site at night.

CONCLUSIONS

1. As the BALSAs 37 passed abeam Buoy 21, no course change was ordered by the pilot. However he had intended to order a course change to 262 T. Neither the helmsman nor the mate on watch heard or acknowledged such an order. The helmsman continued to steer his last ordered course of 261 UT. This course, even with a current drift of 0.7 knots and set of 070 T, carried the BALSAs 37 on a track further south in the channel than intended by the pilot, who believed he had ordered a course of 262 T. Further, the pilot failed to determine his position in the channel after passing Buoy 21 and while transiting toward the turn in the vicinity of buoys 19 and 20. When the pilot observed a vessel apparently crossing his bow, he was at a point approximately equidistant between, and just to the east of, buoys 19 and 20. However, he thought he was well to his starboard (north) side of the channel.

2. The SEAFARER tow was transiting Egmont Channel on a course of 101 T with Captain Chapman at the helm. At the instant the BALSAs 37 pilot observed the green light, or lights, of the SEAFARER tow apparently crossing his bow, the SEAFARER tow was just to the starboard (south) side of the channel's centerline and had nearly completed passing the BOUCHARD tow. The SEAFARER tow was at a point where it would have to commence its turn to port into Mullet Key Channel to avoid shallow water beyond Buoy 20 and to avoid possible interference with the BOUCHARD tow making its turn. The testimony of several witnesses, as well as analysis of the physical evidence, suggests that the SEAFARER tow had commenced a gradual turn into Mullet Key Channel as it approached buoys 19 and 20. Additionally, there was hydrodynamic interaction between the SEAFARER tow and the BOUCHARD tow as they passed. This interaction, coupled with the application of left rudder necessary to commence the turn, caused the SEAFARER tow to yaw to port. The SEAFARER tow thus presented a green light, or lights, to the pilot on the outbound BALSAs 37.

3. BALSAs 37 and the SEAFARER tow collided at a position approximately equidistant between buoys 19 and 20 and on, or just east of, a line drawn between these

buoys. This position was best determined by two Tampa Bay pilot boat operators. One pilot boat operator at the Egmont Key pilot station placed the collision on a line between the station and the lights of the Fort De Soto pier. A second operator, standing by in a pilot boat just east of Egmont Key Lighthouse, placed the collision between buoys 19 and 20. These operators, about to proceed to the scene to rescue survivors, would have carefully determined the collision site and were in a good position to do so. The BALSAs 37 and B. NO. 155 collided at a position approximately 91 meters (300 feet) northwest of Buoy 20.

4. The time of collision between the BALSAs 37 and the SEAFARER tow was approximately 0545. The collision between BALSAs 37 and the B. NO. 155 occurred less than a minute after the first collision.

5. The situation between the BALSAs 37 and SEAFARER tow was "in extremis" at approximately one minute prior to collision. Concern was voiced by both vessels at approximately 30 to 45 seconds prior to collision.

6. The angle of impact between the centerline of the BALSAs 37 and the centerline of the SEAFARER tow was approximately 25 degrees. The angle of impact between the centerline of the BALSAs 37 and the centerline of the BOUCHARD tow was approximately 40 degrees.

7. The decision by Captain Chapman to overtake the BOUCHARD tow as he approached buoys 19 and 20 in Egmont Channel was imprudent and unnecessary. It created a situation where two large tows and a deep-draft vessel would meet at or near a turn at night. Further, there was an approximate three knot speed differential between the two tows. By not overtaking, the SEAFARER tow would have been delayed only about one-half hour in reaching its final destination. Also, it was imprudent of Pilot Wrasse and Captain West to assent to the overtaking maneuver under these circumstances.

8. Once the overtaking commenced, all pilots and operators should have carefully

monitored the situation as the three vessels approached the turn at buoys 19 and 20. Further, assuming the situation was being monitored, it was incumbent upon each mariner to maintain close communication regarding their positions and intentions. When it appeared BALSAs 37 was approaching the turn at about mid-channel, doubt or alarm should have been raised well before the "in extremis" situation developed.

9. The apparent cause of this casualty was the failure of the pilots and operators of all three of the involved vessels to adequately communicate their intentions and actions, or failure to query as to the intentions and actions of other vessels, in that it was apparent they would meet at or near the turn at buoys 19 and 20.

10. There is evidence that Pilot Baggett:

- failed to effectively use the BALSAs 37 bridge crew and available visual and electronic aids to monitor vessel activity in Tampa Bay in the vicinity of Egmont and Mullet Key Channels (Inland Navigation Rule 7 (a) and (b));

- failed to keep the BALSAs 37 well to his starboard (north) side of Mullet Key Channel, when it was in fact safe and practicable to do so (Inland Navigation Rule 9(a));

- failed to maintain a proper look-out by all available means so as to make a full appraisal of the situation and of the risk of collision (Inland Navigation Rule 5);

- failed to adequately monitor Channel 13 (Bridge-to-Bridge Radiotelephony Act);

- failed to recognize that more than two vessels approaching each other simultaneously constituted "special circumstances" under Inland Navigation Rule 2(a) (Inland Navigation Rule 2(a)); and

- failed to sound the danger signal as soon as he became in doubt as to the intentions of the SEAFARER tow (Inland Navigation Rule 34(d)).

This matter has been referred to the Commander, Seventh Coast Guard District,

and the State of Florida Department of Business and Professional Regulation for further investigation.

11. There is evidence that Captain Chapman:

- imprudently initiated an overtaking maneuver which resulted in three vessels meeting in the proximity of a turn in the channel;

- failed to advise BALSAs 37 of the overtaking situation;

- failed to sound proper signals prior to overtaking the BOUCHARD tow (Inland Navigation Rule 34(c) and (h));

- failed to effectively use all available means, including radar, to monitor vessel activity in Tampa Bay in the vicinity of Egmont and Mullet Key Channels to determine risk of collision (Inland Navigation Rule 7 (a) and (b));

- failed to recognize that more than two vessels approaching each other simultaneously constituted "special circumstances" under Inland Navigation Rule 2(a) (Inland Navigation Rule 2(a));

- failed to question BALSAs 37 on its delay in initiating its starboard turn toward Egmont Channel; and

- failed to sound the danger signal as soon as he became in doubt as to the intentions of the BALSAs 37 (Inland Navigation Rule 34(d)).

This matter has been referred to the Commander, Seventh Coast Guard District for further investigation.

12. There is evidence that Pilot Wrasse:

- imprudently assented to an overtaking situation which resulted in three vessels meeting in the proximity of a turn in the channel;

- failed to recognize that more than two vessels approaching each other simultaneously constituted "special circumstances" under Inland Navigation Rule 2(a) (Inland Navigation Rule 2(a));

-failed to advise BALSAs 37 of the developing overtaking situation when Captain Chapman failed to do so;

-failed to effectively use all available means, including radar, to monitor vessel activity in Tampa Bay in the vicinity of Egmont and Mullet Key Channels to determine risk of collision (Inland Navigation Rule 7(a) and (b)); and

-operated with an expired federal license.

This matter has been referred to the Commander, Seventh Coast Guard District for further investigation.

13. There is evidence that Captain West:

-imprudently assented to an overtaking situation which resulted in three vessels meeting in the proximity of a turn in the channel;

-failed to recognize that more than two vessels approaching each other simultaneously constituted "special circumstances" under Inland Navigation Rule 2(a) (Inland Navigation Rule 2(a));

-failed to advise BALSAs 37 of the developing overtaking situation; and

-failed to effectively use all available means, including radar, to monitor vessel activity in Tampa Bay in the vicinity of Egmont and Mullet Key Channels to determine risk of collision (Inland Navigation Rule 7 (a) and (b)).

This matter has been referred to the Commander, Seventh Coast Guard District for further investigation.

14. There is evidence of violation of 46 CFR 4.05 1(b) in that the CAPT. FRED BOUCHARD failed to notify the USCG Captain of the Port of the failure of its starboard engine. This matter has been referred to the Commander, Seventh Coast Guard District for investigation

15. There is evidence of inattentiveness on the part of Pilot Baggett for several minutes prior to the casualty. As he approached the turn, he should have devoted his complete attention to the approaching traffic. Pilot Baggett apparently allowed himself to be distracted by other matter including pilot

dispatching arrangements. As a result, he failed to keep himself fully cognizant of the approaching traffic and did not recognize that the SEAFARER tow was overtaking the BOUCHARD tow. Pilot Baggett also did not appear to realize the BALSAs 37 was proceeding at approximately mid-channel instead of keeping to his starboard (north) side of the channel.

16. There is evidence that Pilot Baggett was allowed to renew his federal master's license, with pilotage endorsement, with multiple DUI and criminal convictions on his record. This matter has been referred to Commandant (G-MVP) for further investigation.

17. Neither the Coast Guard nor the State of Florida licensing regimes presently appear capable of systematically and reliably identifying mariners who, by their actions professionally and in private life, should no longer be entrusted with the duties and responsibilities of their licenses.

18. The actions of Michael Allen, Stephen Jean and Robert Layton, of the Tampa Bay pilot boats MANATEE and EGMONIs, with regard to rescue of the SEAFARER crewmembers are commendatory and worthy of recognition. This matter has been referred to the Commander, Seventh Coast Guard District for consideration.

19. There is no evidence that drugs or alcohol contributed to this casualty. All personnel determined to be directly involved in the collision as defined by 46 CFR Part 4, were tested for alcohol and drugs as required by 46 CFR 16.240, with the exception of Pilot Wrasse, who was unaware of the requirement for alcohol testing and was tested for drugs only (although there was no evidence of intoxication of this mariner). All tests were conducted within the required 24 hours and were negative.

20. Several of the mariners and marine employer involved in this casualty were unfamiliar with the specific requirements for mandatory drug and alcohol testing following a serious marine incident. Difficulties were encountered locating facilities which could perform the proper tests, and numerous phone calls and contacts had to be made. In one case, two clinics were visited before sampling was conducted.

21. Lifesaving equipment worked effectively and contributed to the successful rescue of the survivors from the SEAFARER tow.

22. On the SEAFARER tow, the "Intercon System" is equipped with a "high speed" and "low speed" mode to disengage the rams and disconnect the tug and barge. Captain Chapman testified he attempted to use the "high speed" mode which should have taken about 10 seconds for disconnection. However, in the excitement of the emergency, it is possible he used the "low speed" mode, which takes about two minutes to disconnect. Subsequent to the casualty, tests were run on the connection system and it functioned properly. Its design is such that it should have released under the loads experienced during the casualty. Marking of the "high speed" mode also as "emergency release", or similar wording, might have eliminated any confusion.

23. Recording the critical radio transmissions made on Channel 13 in the minutes leading up to the casualty would have assisted in this investigation. Specifically, had Channel 13 been recorded to correlate transmissions to the precise time of day, the process of reconstructing events leading up to the casualty would have been enhanced.

24. The actions of the Tampa Fire Department, Gulfcoast Transit, Maritrans, and the other federal, state, and local agencies involved in this firefighting effort are commendable. This conflagration, requiring the transport of land-based equipment to a relatively remote waterway site, was fought professionally. The time, however, required to place sufficient equipment on scene and to extinguish the fire was over 15 hours. A damage survey of the OCEAN 255 and interviews of Maritrans employees indicated that, had the fire continued much past the time of extinguishment, a major structural failure was likely, with a possible total loss of both tug and barge, and release of a large quantity of cargo.

25. This casualty is typical of many other marine fires in which shoreside organizations struggle to bring sufficient, proper equipment and platforms to often remote and difficult to access waterside sites. The shipboard principle of detecting and rapidly extinguishing fires at their source is virtually

impossible to achieve for such major conflagrations.

26. Communications during the firefighting operation were a problem, as is frequently the case in such large operations involving many agencies. Radios of the correct frequency apparently were lacking such that agencies could not rapidly and effectively communicate. Also, sufficient batteries to maintain available communications during the prolonged incident response were lacking.

27. There is evidence that commercial crews and Coast Guard boat crews may have fought this fire with improper or insufficient personal protective equipment. The danger of explosion, flashback, or release to the immediate area of large quantities of flaming product was ever present. This matter has been referred to the Commander, Seventh Coast Guard District for review.

28. Subsequent to the collisions, cargo was released from tanks on the OCEAN 255 and the B. NO. 155. The breach of tanks on the OCEAN 255 was minor resulting in a very small cargo release. A double hull design would likely have prevented such a release. The port bow of the B. NO. 155 sustained major damage, including a breach of a cargo tank resulting in a large loss of cargo. It is unlikely that a double hull on the B. NO. 155 would have significantly mitigated the release of product following an impact of such magnitude.

29. A VTS employing the latest technology might have assisted in the prevention of this casualty. It could have provided information as to the general vessel traffic situation including when, where and the type of vessels that would be met during transit. A VTS could have determined that the three vessels would meet at the turn and that the BALSAS 37 was proceeding down the center of the channel as it approached the turn. Radio transmissions could have been monitored, raising the question as to the BALSAS 37 pilot's awareness of the overtaking situation. Finally, a VTS could have initiated a call for emergency response at the instant it became apparent the collision was imminent.

30. It appears that the chief mate on the bridge of the BALSAS 37 at the time of collision was not actively participating in the

navigation of the vessel. Further, he did not appear to be cognizant of the vessel's precise position in the channel nor the positions of the oncoming vessels. He perceived his duty as solely operating the engine order telegraph. The pilot's role is to act in an advisory capacity to the master, in this case, the chief mate as the master's representative. On BALSAS 37, Pilot Baggett seemed to be in total charge of the vessel's navigation, with virtually no check on his actions by the vessel crew, and with no interaction between the pilot and mate.

31. There is no evidence that mechanical or material failure, or design deficiency, contribute to this casualty.

32. The cause of this casualty is attributable solely to human factors. However, there is no evidence that health, fatigue or the knowledge and ability to use equipment were factors. All mariners were acquainted with the waterway. None of the vessels were difficult to maneuver or underpowered, and the shiphandlers knew the maneuvering characteristics. With the exception of the BALSAS pilot, the mariners were not

distracted and were aware of the speed and positions of their own and the other vessels. The SEAFARER's master made the decision to overtake such that the three vessels would meet at the turn. However, none of the others raised concern over such a meeting.

It appears that complacency may have been a factor. It may have been the attitude of the mariners that all would be well and to hope for the best. Each knew the other vessel was in the hands of a mariner who was familiar with the waterway and had made many transits. There was no weather, or other factor, which would raise concerns. Simply, the standard of care and level of awareness was not what it should have been.

33. Except as noted above, there is no evidence of actionable misconduct, inattention to duty, negligence or willful violation of law or regulation on the part of licensed or documented persons, nor evidence that the use of drugs or alcohol, nor evidence that failure of inspected material or equipment, nor evidence that any personnel of the Coast Guard, or any other government agency or any other person, contributed to the casualty.

RECOMMENDATIONS

1. That Commandant develop and implement a merchant mariner's license and document revocation procedure based upon a history of confirmed improper actions and/or violations. A system of points should be assessed for violations of the Code of Federal Regulations, proved findings of charges in suspension and revocation proceedings, and civil and criminal convictions. When the accumulated points exceed a specified level, the Coast Guard should automatically initiate revocation proceedings. It is further recommended that the State of Florida develop a similar system for pilots under its jurisdiction.

2. That Commandant develop a new license and document application and renewal procedure which will determine and list all prior suspension and revocation actions, and other criminal convictions and DUI convictions. If additional statutory authority is necessary to perform such checks, it should be sought.

3. That the Tampa Bay Pilots Association educate member pilots on the requirements for post-accident chemical testing.

4. That the Tampa Bay Pilots Association contract with a qualified facility to expedite the collection of samples for drug testing its members on a 24-hour basis.

5. That the Marine Safety Office, Tampa MaHne Firefighting Contingency Plan be reviewed and revised as necessary to improve communications during such emergencies.

6. That, nationwide, Commandant establish means for recording Channel 13, or the designated bridge-to-bridge channel, in critical waterways where such recording is not currently being done by a VTS or other system. Such recordings frequently are of great value in casualty investigations.

7. That Commandant explore alternative or additional noise-making devices on Personal Flotation Devices whose operation would be unaffected by oil or chemicals on the water.

8. That Commandant initiate a review of the marine firefighting capability in the nation's ports on its waterways, and offshore. As a result of the EXXON VALDEZ grounding, vast resources have been devoted to pollution prevention and response including contingency planning, drills, and response hardware. However, an effective and rapid firefighting capability to prevent the release of pollutants through explosion and/or heat-induced structural failure should be considered an integral part of the pollution prevention and response equation. Included in a national review should be the consideration of the use of portable, high capacity foam equipment. Such equipment was provided for this casualty, however, the Texas-based contractor arrived after the fire was extinguished. The equipment was employed to maintain a foam blanket on the exposed tank. This equipment has been used successfully to fight several marine petroleum cargo fires. It is highly portable, relatively easy to operate and can deliver large quantities of foam and dry chemical extinguishing agents. Such equipment could be easily deployed to the scene of a fire on a variety of floating platforms.

Monitors, prime movers, and foam stocks could be strategically located in port areas and transported by land, sea, or air to areas within a port, to remote waterways sites, or offshore. Within certain small ports, such equipment could substitute for fireboats, precluding a major capital investment.

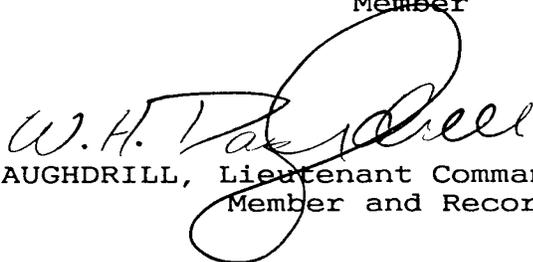
Readily deployable, high capacity, portable firefighting equipment could be the deciding factor in preventing or minimizing the further release of pollutants to the environment in any number of casualty scenarios.



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