DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD
WASHINGTON, DC 20593
PHONE:

16732
9 February 1981

From: Marine Board of Investigation
To: Commandant (G-MMI)

Subj: M.S. SUMMIT VENTURE (Liberian Registry); collision with Sunshine Skyway Bridge, Tampa Bay, FL on 9 May 1980 with multiple loss of life

Findings of Fact

1. At approximately 0733, 9 May 1980 (all times are EDT) the Liberian cargo ship SUMMIT VENTURE collided with the second bridge support south of the center of the Sunshine Skyway Bridge main span which crosses the main ship channel in Tampa Bay, FL. The impact toppled the bridge support and caused the main span and the two adjacent spans to the south to fall into the water. Vehicular traffic consisting of one Greyhound bus, one pickup truck and six automobiles which were either on the falling spans or proceeding to the severed portion of the bridge also fell into the water. A portion of the bridge fell on the fo'c's'le head of the SUMMIT VENTURE. Thirty five persons who were occupants of the vehicles perished. One person who was the driver and sole occupant of the pickup truck survived. Personnel aboard the SUMMIT VENTURE suffered no injuries. The SUMMIT VENTURE sustained extensive damage, primarily on the starboard bow, as a result of the impact with the bridge support. The vessel also suffered severe indentations of the starboard sideshell as a result of scraping the remaining portion of the toppled bridge support and indentations and holing of the port bottom due to colliding with the bridge structural members which fell into the water.

2. Vessel data:

NAME:	M.S. SUMMIT VENTURE
OFFICIAL NO:	5660
REGISTRY:	Liberia
CALL SIGN:	5MDl
YEAR BUILT:	1976
PLACE BUILT:	Nagasaki, Japan
SERVICE:	Bulk carrier
HOME PORT:	Monrovia, Liberia
LENGTH:	579.8 ft. (Registered length)
BREADTH:	85.50 ft.
DEPTH:	51.75 ft.
GROSS TONS:	19,734
NET TONS:	13,948
PROPULSION:	Oil screw (one)
HORSEPOWER:	11,550 BHP
OWNER:	Hercules Carriers, Inc. Monrovia, Liberia

MASTER:	Liu Hsiung Chu Liberian license as Master oceangoing vessels any gross tons; Chinese license as Master oceangoing vessels any gross tons
AGENTS:	Venture Shipping Limited 50 Shirley St. Nassau, Bahamas

The SUMMIT VENTURE is constructed with five cargo holds for the carriage of bulk cargo. It is outfitted with five electro hydraulic deck cranes of 45 long tons capacity located on the centerline of the main deck. The pilothouse is located aft, approximately 510.4 feet aft of the bow. Equipment on the bridge includes a master gyro compass and steering stand, model GYLOT GLT 201, located on the centerline approximately 10 feet aft of the forward bulkhead, 2 three centimeter radar sets manufactured by the Japanese Radio Company located on either side of the steering stand, model JMA 153G7A-AC to port and model JMA 158FB to starboard. The engine order telegraph is located on the starboard side of the bridge just aft of the forward bulkhead and a gyro repeater is located on the centerline of the bridge just aft of the forward bulkhead. There are several instruments, mounted on the bulkhead above the windows, that indicate wind speed, wind direction, ship's speed, angle of list (inclinometer), rudder angle, engine rpm, and ship's time; and course recorder. Maneuvering characteristics for the SUMMIT VENTURE in the normal ballast condition of 25,101 MT displacement 6.97 meters (23 feet):

	SPEED	PORT	STBD
TURNING	FULL 11.7 kts.	674m ADVANCE (737 yds)	622m ADVANCE (680 yds)
	HALF 9.5 kts.	610m (667 yds)	561m (614 yds)

	SPEED	CRASH STOP	COASTING TO 4 KTS.
STOPPING	FULL 11.7	1069m (1169 yds)	2787m (3049 yds)
	HALF 9.5	768m (840 yds)	2374m (2597 yds)

	D. SLOW	SLOW	HALF	FULL
SPEED IN HARBOR	5.1	6.2	9.5	11.7

3. Record of dead and injured:

a. The following persons lost their lives as a result of this casualty:

(1) The occupants of the Greyhound bus:

NAME:	Michael J. Curtain - Bus driver
ADDRESS:	6372 Cocoa Lane, Appollo Beach, FL
DOB:	17 August 1936
NOK:	Judith T. Curtain (wife)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Lewers & Shannon Funeral Home 308 E. College Ave., Ruskin, FL
CREMATED BY:	Tri-Co. Services Tampa, FL

NAME:	Duane P. Adderly
ADDRESS:	2500 N.W. 56th Terrace, Miami, FL
DOB:	15 February 1959
NOK:	Elizabeth Adderly (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Wilson Funeral Home 3000 29th St., Tampa, FL
INTERRED:	Dade Memorial Cemetery Tampa, FL

NAME:	Althonso Blidge
ADDRESS:	267 NW 59th Terrace, Miami, FL
DOB:	22 July 1957
NOK:	Eva Mae Blidge (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Wilson Funeral Home 3000 29th St., Tampa, FL
INTERRED:	Bryenneck Cemetery Savannah, GA

NAME:	Myrtle Brown
ADDRESS:	137 Prowse Ave., St. Johns, Newfoundland
DOB:	16 August 1921
NOK:	Clifford Brown (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Curry's 605 S. MacDill Ave., Tampa, FL
INTERRED:	Mt. Pleasant Cemetery St. Johns, Newfoundland

NAME:	Willis L. Brown
ADDRESS:	137 Prowse Ave., St. Johns, Newfoundland
DOB:	10 October 1922
NOK:	Clifford Brown (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Curry's 605 S. MacDill Ave., Tampa, FL
INTERRED:	Mt. Pleasant Cemetery St. Johns, Newfoundland

NAME:	John H. Callaway, Jr.
ADDRESS:	1151 NW 56th St., Miami, FL
DOB:	17 January 1961
NOK:	Grace C. Callaway (mother)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Wilson Funeral Home 3000 29th St., Tampa, FL
INTERRED:	Oak Ridge Cemetery Titusville, FL

NAME:	Laverne L. Daniels
ADDRESS:	1360 NW 84th Terrace, Miami, FL
DOB:	17 August 1959
NOK:	Christine Daniels (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Ray Williams Funeral Home 1417 N. Albany Ave., Tampa, FL
INTERRED:	Evergreen Cemetery Miami, FL

NAME:	Sandra L. Davis
ADDRESS:	P.O. Box 3, McIntosh, FL
DOB:	7 January 1946
NOK:	Mary Davis (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Dorsey's Funeral Home 727 NW 2nd St., Gainesville, FL
INTERRED:	Boardman Cemetery McIntosh, FL

NAME:	Sharon Dixon
ADDRESS:	2134 NW 60th St., Miami, FL
DOB:	10 July 1958
NOK:	Julia Dixon (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Wilson Funeral Home 3000 29th St., Tampa, FL
INTERRED:	Evergreen Memorial Cemetery Miami, FL

NAME:	Brenda J. Green
ADDRESS:	3400 NW 10th Ave., Miami, FL
DOB:	1 February 1961
NOK:	Claudia Gray (mother)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Ray Williams Funeral Home 1417 N. Alvany Ave., Tampa, FL
INTERRED:	Evergreen Cemetery Miami, FL

NAME:	Robert D. Harding
ADDRESS:	32 Montcalm St., Glens Falls, NY
DOB:	30 June 1916
NOK:	Vista Harding (wife)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Reese Funeral Home P.A. 6767 Seminole Blvd., Seminole, FL
INTERRED:	Glens Falls Cemetery Glens Falls, NY

NAME:	Gerda Hedquist
ADDRESS:	721 S. Palmetto St., Charlotte Harbor, FL
DOB:	9 January 1888
NOK:	Gilbert Hedquist (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Curry's Funeral Home 605 S. MacDilla Ave., Tampa, FL
CREMATED BY:	Bay Area Facility, Inc. Pinellas County, FL

NAME:	Aubrey R. Hudson
ADDRESS:	Site 51 Box 11, St. Johns, Newfoundland
DOB:	26 July 1917
NOK:	David Hudson (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Curry's Funeral Home 605 S. MacDill, Tampa, FL
INTERRED:	Mt. Pleasant Cemetery St. Johns, Newfoundland

NAME:	Phyllis Hudson
ADDRESS:	Site 51 Box 11, St. Johns, Newfoundland
DOB:	28 May 1921
NOK:	David Hudson (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Curry's Funeral Home 605 S. MacDill, Tampa, FL
INTERRED:	Mt. Pleasant Cemetery St. Johns, Newfoundland

NAME:	Louise T. Johnson
ADDRESS:	Route 1, Box 146A, Cataula, GA
DOB:	3 June 1920
NOK:	Render C. Johnson (husband)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	F. T. Blount Co. 5101 Nebraska Ave., Tampa, FL
INTERRED:	Parkhill Cemetery Columbus, GA

NAME:	Yvonne Johnson
ADDRESS:	17870 S.W. 107th Ave., Perrine, FL
DOB:	15 October 1957
NOK:	Mary Johnson (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Walker's Funeral Home 11000 S.W. 216th St., Goulds
INTERRED:	Woodlawn Park South Miami, FL

NAME:	Horace V. Lemons (aka Lemmons) *
ADDDRESS:	7130 Midpines St., Kings Mountain, NC
DOB:	12 February 1933
NOK:	Maxine Jones (sister)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	E. James Reese Funeral Home, PA
	6767 Seminole Blvd., Seminole, FL
INTERRED:	Panther Creek Cemetery
	Bryson City, NC

NAME:	Lillian T. Loucks
ADDRESS:	25 Peterboro Bay, Winnipeg, Canada
DOB:	16 March 1911
NOK:	Stella Trush (sister)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Duval Funeral Home
	3800 Nebraska Ave., Tampa, FL
REMOVED TO:	Cropo Funeral Home
	Winnipeg, Canada

NAME:	Louis Lucas, Jr.
ADDRESS:	Rt. 8, Box 265, Dolomite, Alabama
DOB:	7 February 1918
NOK:	Katherine Lucas (wife)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Wilson Funeral Home
	3000 29th St., Tampa, FL
INTERRED:	Masonic Cemetery
	Dolomite, Ala.

NAME:	Tawanna K. McClendon
ADDRESS:	404 21st St. East, Palmetto, FL
DOB:	23 July 1959
NOK:	Rosalee Randall (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Westside
	704 11th St. W. Palmetto, FL
INTERRED:	Memphis Cemetery
	Palmetto, FL

NAME:	Ma Nesha Y. McGarrah
ADDRESS:	190 Crenshaw Dr., Tallahassee, FL
DOB:	3 October 1979
NOK:	Charles McGarrah (father)
CAUSE OF DEATH:	Crushing injuries of head due to blunt trauma
DISPOSITION OF BODY:	Roy Mizell Funeral Home
	Ft. Lauderdale, FL
INTERRED:	Sunset Mem. Gardens
	Ft. Lauderdale, FL

NAME:	Wanda S. McGarrah
ADDRESS:	190 Crenshaw Dr., Tallahassee, FL
DOB:	18 August 1955
NOK:	Charles McGarrah (husband)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Roy Mizell Funeral Home Ft. Lauderdale, FL
INTERRED:	Sunset Mem. Gardens Ft. Lauderdale, FL

NAME:	Marguerite L. Mathison
ADDRESS:	260 3rd Ave. South, St. Petersburg, FL
DOB:	12 March 1898
NOK:	Ardella West (step-daughter)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Anderson-McQueen 2201 9th St. N, St. Petersburg, FL
CREMATED BY:	Directors Service, Inc. St. Petersburg, FL

NAME:	Ann Pondy
ADDRESS:	25 Peterboro Bay, Winnipeg, Canada
DOB:	3 April 1923
NOK:	Stella Trush (sister)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Duval Funeral Home 3800 Nebraska Ave., Tampa, FL
REMOVED TO:	Cropo Funeral Home Winnipeg, Canada

NAME:	Melborn L. Russell
ADDRESS:	51-25 Kenmore St., Chicago, Ill.
DOB:	16 February 1942
NOK:	Julie Ann Russell (wife)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Sarasota Funeral Home 3340 Bee Ridge Rd., Sarasota, FL
CREMATED BY:	Seacoast Crematory Sarasota, FL

NAME:	Woodrow Triplett (aka Alvin Stone)
ADDRESS:	Lot 72 Mobile City, Bainbridge, GA
DOB:	20 July 1948
NOK:	Ida Lou Huff (mother)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Jones Funeral Home 2939 N. Osprey Ave., Sarasota, FL
INTERRED:	Woodlawn Cemetery Sarasota, FL

(2) Occupants of 1980 Chevrolet Citation, silver, Flordia tag ZFW-700:

NAME:	Doris I. Carlson
ADDRESS:	7230 Stone Haven Ct., Pinellas Park, FL
DOB:	25 February 1938
NOK:	Bryan D. Hostmick (son)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Bobbitt Funeral Chapel 4400 66th St. No., St. Petersburg, FL
CREMATED BY:	Bay Area Facility Clearwater, FL

NAME:	John J. Carlson
ADDRESS:	7230 Stone Haven Ct., Pinellas Park, FL
DOB:	28 January 1933
NOK:	Carl A. Carlson (father)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	Bobbitt Funeral Chapel 4400 66th St. No., St. Petersburg, FL
CREMATED BY:	Bay Area Facility Clearwater, FL

(3) Occupant of 1979 Chevrolet Nova, lt. green, Florida tag LJL-076:

NAME:	Leslie J. Coleman, Jr.
ADDRESS:	7400 34th St. So., St. Petersburg, FL
DOB:	13 August 1927
NOK:	Joan Coleman (wife)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Moss Funeral Home, Inc. 802 N. Ft. Harrison Ave., Clearwater, FL
INTERRED:	Mt. Vernon Community Cemetery Mt. Vernon, Ala.

(4) Occupant of 1980 Ford Granada, lt. blue, Florida tag 5E-1609:

NAME:	Charles L. Collins
ADDRESS:	4714 Alton Rd., Tampa, FL
DOB:	16 July 1939
NOK:	Judy Collins (wife)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	A. P. Boza 6902 W. Hillsborough Ave., Tampa, FL
INTERRED:	Garden of Memories Tampa, FL

(5) Occupants of 1975 Ford, 4 door, black/yellow, Florida tag HJL-159:

NAME:	Harry Dietch
ADDRESS:	4150 37th St. S #146, St. Petersburg, FL
DOB:	23 July 1911
NOK:	Yvonne Lehman (step-daughter)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	National Cremation Society 13655 Belcher Rd., Largo, FL
CREMATED BY:	National Cremation Society Crematory Largo, FL

NAME:	Hildred Dietch
ADDRESS:	4150 37th St. S. #146, St. Petersburg, FL
DOB:	25 November 1906
NOK:	Yvonne Lehman (daughter)
CAUSE OF DEATH:	Multiple injuries due to blunt trauma
DISPOSITION OF BODY:	National Cremation Society 13655 Belcher Rd., Largo, FL
CREMATED BY:	National Cremation Society Crematory Largo, FL

(6) Occupant of 1976 Chevrolet El Camino, white/tan, no tag, VIN 1D80V6D527711:

NAME:	James A. Pryor
ADDRESS:	9240 121 St. N., Seminole, FL
DOB:	30 December 1936
NOK:	Marlene D. Pryor (wife)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Grant Funeral Home 13144 78 Ave. N., Seminole, FL
INTERRED:	Garden Sanctuary Cemetery Seminole, FL

(7) The occupants of 1979 Volkswagon Scirocco, silver, New Jersey tag 392-KNO:

NAME:	Delores E. Smith
ADDRESS:	11 Nottingham Rd., Pennsville, NJ
DOB:	19 February 1930
NOK:	Steve A. Krumm (son)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Reese Funeral Home P.A. 6767 Seminole Blvd., Seminole, FL
INTERRED:	Manahath Cemetery Glassboro, NJ

NAME:	Robert S. Smith
ADDRESS:	11 Nottingham Rd., Pennsville, NJ
DOB:	6 January 1943
NOK:	Steve A. Krumm (step-son)
CAUSE OF DEATH:	Drowning
DISPOSITION OF BODY:	Reese Funeral Home P.A. 6767 Seminole Blvd., Seminole, FL
INTERRED:	Manahath Cemetery Glassboro, NJ

b. The following person was injured as a result of this casualty:

NAME:	Wesley MacIntire
ADDRESS:	4817 Tradewinds Drive, Gulfport, FL
NATURE OF INJURY:	Suffers from neck and back pains due to trauma
VEHICLE:	1974 Ford Courier, blue, 1981 Florida tag FFP-610

4. Weather Data:

The coastal marine forecast for the west coast of Florida from Cape Sable to Tarpon Springs was issued by the National Weather Service office in Miami at 0425, 9 May 1980. This forecast was broadcast in the Tampa Bay area on 162.55MHZ, the VHF-FM weather frequency, at 0508, 9 May 1980. The forecast was:

> "Small craft should exercise caution. Winds southerly increasing to 15 to 20 knots north of Fort Myers during today and variable around 10 knots. Seas increasing four to six feet today; then diminishing tonight. Winds and seas higher near scattered thunderstorms today."

During the predawn hours of 9 May 1980 the sky was overcast, the visibility was approximately 3 miles, the barometer was at approximately 29.84 inches, the air temperature was 76°F, and the wind was southerly at 5-10 knots. At approximately 0616, 9 May 1980 scattered showers were first reported in the Tampa area with winds shifting to the southwest. National Weather Service photographs of the radar presentation at this time indicated that the cell of the main thundershower area was approximately 50 miles west of Egmont Key and moving eastward at approximately 32 knots. At 0635, 9 May 1980, radar indicated that the strongest cell was located just onshore near the Hillsborough-Pasco County line near Tarpon Springs, approximately 40 miles north of Egmont Key. Also very heavy thunderstorms were just offshore from the mouth of Tampa Bay southward to Venice. These latter thunderstorms were measured at level 5 (4.5 to 7.1 inches of rainfall per hour). National Weather Service certified observers located at various airports in the Tampa Bay area reported that the heavy thunderstorm activity was accompained by a shift of the winds to the west

at approximately 20-25 knots with gusts to 35 knots and a sharp rise in barometric pressure. Albert Whitted Field which is located approximately 5 miles north of the Sunshine Skyway Bridge reported these conditions at 0733. The thunderstorm activity was of short duration moving into Central Florida by 0835, with subsequent thunderstorm activity later that morning.

Information provided to the board by a representative of Gulf Coast Weather Service, a private weather service, was similar to that of the National Weather Service except that their observers reported wind force at somewhat greater velocity. Personnel aboard the SUMMIT VENTURE and experienced mariners aboard other vessels in Tampa Bay described the weather at the approximate time of the collision as very heavy thunderstorm activity with zero visibility in driving rain and very strong westerly winds approaching hurricane force. However, none of the vessel personnel observed the wind strength on any instrumentation.

At the time the pilot boarded the SUMMIT VENTURE on the morning of 9 May 1980 at the entrance to Tampa Bay, there were light southwesterly winds with visibility limited due to fog to approximately three miles. During the transit of Tampa Bay the SUMMIT VENTURE experienced brief periods of scattered showers which reduced visibility to about one mile. At about 0725 the SUMMIT VENTURE was engulfed in a thunderstorm which reduced visibility to zero in very heavy rain and obscured the vessel's radar presentation. The thunderstorm was accompanied by a shift in the winds to the west to west northwest estimated by shipboard personnel at 40 to 50 knots. The current, with wind effect, was 1.3 knots setting toward 060°T.

5. Entrance to Tampa Bay from the Gulf of Mexico by deep-draft vessels is made via Egmont Channel, on a heading of 083°T, and Mullet Key Channel, on a heading of 081°T. These two channels are marked by 16 buoys that are fairly evenly spaced at average intervals of 1.3 to 1.5 miles. The two channels are separated by an area of deep water where vessels must alter course slightly to the left to enter Mullet Key Channel. This course heading would be approximately 093°T. However, vessels ordinarily run on a heading of approximately 100°T until even with the edge of the southern buoy line of Mullet Key Channel, then come left. Mullet Key Channel connects with Cut "A" Channel which has an inbound heading of 063°T. The junction of these two channels is marked by "turn buoys" 1A and 2A. It is also at this point that the Gulf Intracoastal Waterway converges with and joins the main ship channel. The Sunshine Skyway Bridge crosses Cut "A" Channel perpendicularly 0.7 miles from buoy 2A. These two channels are lined by spoil areas on the south for their entire lengths. Buoy 1A is equipped with a quick flashing white light and bell, while 2A is a flashing red light. Additionally, Mullet Key Channel is provided with range lights located 1.9 miles east of the Skyway Bridge. However, because of the reduced visibility on the morning of 9 May, these range lights were not visible.

6. The Sunshine Skyway begins at Maximo Point at the south end of Pinellas County, extends southward across Tampa Bay and connects with U.S. 41 north of Palmetto in Manatee County. The Skyway forms part of U.S. 19 and I-275. The total length of the Skyway is approximately 15 miles. It was originally

constructed as a two-lane facility opened to vehicular traffic in 1954. In 1971 construction was completed and opened to traffic on two additional lanes which were erected along the west side and independent and parallel to the original structure. Structure C is the main high level crossing on the Sunshine Skyway. The portion of structure C which crosses Tampa Bay main ship channel is formed by three spans of steel cantilever through truss structure. North and south of the cantilever structure are two spans of steel deck truss structure and many other spans of no significance to this casualty. The spans are consecutively numbered from the south, the main span being Span No. 243. The spans are supported by piers identified as piers 1 through 16 north and south, piers 1N and 1S supporting the main span. Pier 2S is a reinforced concrete structure set upon a concrete and steel driven pile footing. The base of the pier commences at the top of the footing at elevation -24.00 feet (all references are to mean low water) to 17.25 feet. On top of the base at the 15.00 foot level and extending to the 84.63 feet are two vertical columns which vary in cross section from 8.46 by 10.92 feet at the base to 7.00 by 8.00 feet at the top. Set into the top of the columns is a horizontal cap measuring 41.00 feet in length, to 5.50 feet in width, and varying from 13.00 feet in height at the columns to 12.00 feet at the midpoint between the columns. Mounted on top of the cap is the steel deck truss which supports the roadway.

Structure C was last inspected by the Department of Transportation of the State of Florida on 22 August 1979 and no significant defects were noted which would have contributed to the casualty.

7. The M/V SUMMIT VENTURE departed the port of Houston, Texas at 1736, 4 May 1980, bound for Tampa, Florida to load a cargo of 28,000 tons of phosphate rock. On departure she was free of cargo and in light ballast condition, carrying a draft of 14.8 feet forward and 21.5 feet aft. The voyage to Tampa was uneventful and the vessel anchored off the entrance to Tampa Bay at 1640, 6 May. On anchoring the fore and aft drafts were 12.5 feet and 20.8 feet, respectively. The last observation for gyro compass error was made on 18 April, when the vessel entered New Orleans. This error was determined to be 0.6° E. Gyro error on 9 May was estimated by both the Master and Pilot to be not more than one degree, east or west.

8. Water ballast may be carried on the SUMMIT VENTURE in upper and lower wing tanks, fore and after peak tanks, and in #3 cargo hold. The upper wing tanks run the full length of the ship on each side and are located beneath the main deck, while the lower wing tanks are located on each side of the vessel at the turn of the bilge. With the exception of #1 bottom wings, all bottom wing tanks are separated by port and starboard fuel oil tanks. The #5 bottom wing tank, like #1, extends the width of the vessel and is used for feed water. On anchoring at Tampa, all upper and lower wing tanks and the after peak were full. The feed water tank was filled to 7.8 feet and the forepeak to 10.5 feet. The #3 cargo hold was not being used for ballast. While at anchor on 7 and 8 May, the #3 upper and lower wing tanks were discharged, along with the fore and aft peak tanks. Approximately one foot of water remained in these tanks, with exception of the #3 wings, which were dry. This resulted in a draft of 9 feet forward and 21 feet aft on the morning of 9 May.

9. The Master of the SUMMIT VENTURE had anticipated boarding the pilot at approximately 0500, but was advised that there would be a delay of approximately one hour. Thus, at 0536, the Master weighed anchor, placed his engines at dead slow ahead and proceeded on a northeasterly heading to meet the pilot at a position to the north of Egmont Channel buoy #1 (LLNR 1030). He had been advised by the pilot, CAPT John E. Lerro, that this was the customary position for taking an inbound pilot aboard. While waiting for the pilot the Master noted that the weather consisted of intermittent periods of light rain and drizzle, with an estimated visibility of approximately 3 miles. The SUMMIT VENTURE held in this area until 0625, when the pilot and observer pilot, CAPT Bruce Atkins, boarded the vessel from the pilot boat, which had come along the port side. The visibility had remained the same with a wind of approximately 10 knots from the southwest. When questioned the Master informed Lerro that the full ahead speed was 11.3 knots and that the radar wave length was 3 cm on shorter ranges and 10 cm on longer ranges. No attempt was made to define what was meant by shorter and longer ranges. The pilot was also informed by the Master that there was no appreciable compass error. At 0630, Lerro took control of the vessel and increased speed to half ahead. He noted that an outbound vessel, which had been at Egmont Channel buoy #3 (LLNR 1034) when he boarded the SUMMIT VENTURE was clear of the channel at the time he began his approach. He then turned control of the vessel over to observer pilot Atkins, who directed the vessel into Egmont Channel between buoys #1 and #2. Atkins increased speed to full ahead at 0637 after Lerro noted they were being set down on buoy #1 by what Lerro considered to be a southwest wind. At 0639, speed was decreased to half ahead as the ship entered Egmont Channel.

10. While passing Egmont Channel buoy #4 (LLNR 1034) at 0639, Lerro noted a tug and barge, the M/V DIXIE PROGRESS, on the radar and assumed this to be the same tow he had previous conversations with about the condition of the weather. He noted the tow to be north of Egmont Channel buoy #8 (LLNR 1036.1) and could not see it visually so assumed it to be in a rain squall. The distance between the two vessels at this time was approximately three miles. Lerro questioned the operator of the DIXIE PROGRESS about his intentions and was told by the operator of tug that he was looking for buoy #8. Lerro informed him he should be seeing the buoy momentarily, which was immediately confirmed by the DIXIE PROGRESS. After increasing speed to full ahead at 0650, Lerro further informed the DIXIE PROGRESS that his speed was ten to eleven knots and that he would probably overtake him between buoys #8 and #10 (LLNR 1037). The DIXIE PROGRESS replied that he was making good a speed of approximately 5 knots. When the SUMMIT VENTURE arrived at buoy #8, at approximately 0700, the rain squall had dissipated. At this time Lerro visually sighted the M/V GOODSAILOR outbound in the vicinity of buoy #11 (LLNR 1040). The distance between these two buoys is 3.08 miles. While turning to the right around buoy #8 to enter Mullet Key Channel Atkins who was still conning, agreed to a port to port passing with the pilot of the M/V GOODSAILOR. The two vessels passed each other without event between buoys #10 and #11. The SUMMIT VENTURE then entered Mullet Key Channel on a course of 081° T. During the turn from Egmont Channel into Mullet Key Channel, Atkins passed the DIXIE PROGRESS without incident and was keeping the SUMMIT VENTURE to the extreme right side of the channel and continued to do so after entering Mullet Key Channel.

11. Lerro became increasingly concerned about the rain squalls in the area and instructed the Master to post a lookout on the bow as the vessel passed buoy #11. He further requested an anchor detail be sent forward. These instructions were relayed to the deck gang by the Master. The ship's bos'n and carpenter proceeded forward to serve as lookout and anchor detail, respectively. When the vessel approached buoy #14 (LLNR 1043.1), Lerro noted a vessel on the radar in the vicinity of buoy 1B (LLNR 1051). At this time both vessels were approximately equidistant from the bridge. He called the vessel by radio and learned from its pilot that it was the outbound tanker, PURE OIL. They exchanged information concerning their positions. To this time there had been intermittent light rain but when the vessel passed buoy #14, at 0718, heavier rain set in. Lerro took control of the vessel from Atkins and noted that he had buoy #16 (LLNR 1045), a lighted buoy, and 1.3 miles distant, in sight visually. Lerro checked the radar and could see the Skyway Bridge on a 6 mile range setting. At 0721, Lerro reduced the vessel's engine speed to half ahead. When abeam of buoy #16, he noted that he did not have a visual sighting of the upcoming buoys 1A and 2A (LLNRs 1047 & 1049.5) (at the junction of Mullet Key channel and Cut A) the way he had previously been able to see all other upcoming buoys. He did have these two buoys on radar, however. When the SUMMIT VENTURE was 0.2 miles from buoy 2A, a torrential downpour and extremely high winds surrounded the vessel, with visibility reduced to less than 500 feet in that the bow of the vessel could no longer be seen. Previous to this time, the wind had been observed to be from the southwest, but crewmembers on deck, as they went forward, noted the wind to be coming from the port quarter. Atkins informed Lerro that he had lost all radar presentation because of the weather clutter.

12. When the SUMMIT VENTURE became engulfed in the thunderstorm and the radar presentation was lost, Lerro felt it necessary to consider his options. He quickly determined that an alteration of course to port to anchor north of the channel was unsafe due to the outbound S/S PURE OIL. He felt that if he had backed his engines in an effort to stop, he would have presented his starboard side to the wind, lost control of the vessel, and have been set down on the bridge. He also quickly decided that he could not turn out of the channel to the right in that he felt he would be set down on the bridge in this instance, also. He considered that he had the wind and current from his starboard quarter and that these forces would best serve to assist him in steering through the main span of the Skyway bridge. He therefore set his mind to steering his vessel through the bridge.

13. With the loss of the radar presentation, Lerro ordered the anchors made ready for letting go, and also instructed the lookouts to watch for a buoy which he expected would be on the starboard side. The Chief Officer then left the wheelhouse to proceed to the bow. Immediately after this, Atkins told Lerro that the radar picture had cleared momentarily, and that the vessel was in the channel. At 0728, the lookout sighted a buoy ahead at a distance of approximately 50 feet and reported it as passing down the port side. Lerro immediately asked for a location of the buoy but received no reply. No one on the bridge of the SUMMIT VENTURE ever visually sighted this buoy. Lerro, who was near the starboard wheelhouse door assumed this to be buoy 2A and abeam the ship, instructed Atkins to bring the vessel to the next course, 063°T, to bring

the ship into Cut "A" Channel. Atkins gave a command of 10 degrees left rudder, which was considered to be the standard rudder angle for the turn under ordinary circumstances. Lerro, considering his perception of the wind and current, was satisfied with this. Atkins then ordered the helm steadied on 063°T following an amidship order. At 0731, Atkins noticed the head of the ship had continued left to 060° and instructed the helmsman to steer 063°. However, the head of the ship continued to swing left until the subsequent impact with the Skyway Bridge. This swinging was never brought to Lerro's attention. At 0731, with no improvement in visibility, Lerro placed the engine on slow ahead.

14. At 0732, Lerro could see part of the bridge superstructure broad on his starboard bow, in that a slight increase in visibility had developed to the south. He then realized that he was not within the channel and lined up on the main span but rather on that bridge span near pier 2S. At 0732 in quick succession, he ordered left full rudder, a double full astern bell, and the anchors let go. At 0733, with the engines going astern and the rudder hard left, the starboard bow of the SUMMIT VENTURE collided with bridge pier 2S. The impact caused the column of the bridge pier hit by the ship to topple in a direction of approximately 050°T. This caused the pier cap and roadway structure to fall, subsequently toppling the eastern column. The port anchor, which had been let go, was resting directly under the roadway section of the highway bridge.

15. After impact with the bridge Lerro broadcast a Mayday on channel 16. The call was immediately answered by Coast Guard Group St. Petersburg. While engaged in conversation with Coast Guard Group St. Petersburg, Lerro noted a truck and a car had driven off the bridge. He then ordered the Master to have his crew look for survivors. The driver of the truck managed to open the door to the truck while it was sinking and swim to the surface. At 0755 he was rescued by the SUMMIT VENTURE crew. At approximately 0739, in response to the Mayday Coast Guard Group St. Petersburg dispatched the CG-41452 from Station St. Petersburg and directed Station Cortez and Station Clearwater to respond. At approximately 0740 the Rescue Coordination Center in Miami was notified and Air Station Clearwater was directed to respond. At 0800 the Florida Highway Patrol was on scene controlling vehicular traffic. Also at this time the CG-41370 arrived on scene and began looking for survivors. At 0810 an HH3F from Air Station Clearwater arrived on scene. At 0950 the CGC WHITE SUMAC arrived on scene and assumed on-scene commander. At about this time diving operations were attempted but were soon secured due to the un-supported portion of the main span which was still attached to the bridge.

An extensive search effort was conducted on 9 and 10 May 1980 which involved numerous Coast Guard aircraft and vessels, Coast Guard auxiliary vessels, aircraft, vessels, and land vehicles from various other Federal, state, county, and local agencies, and other commercial and private vessels.

Recovery of the deceased persons and the vehicles was conducted under the direction of the Hillsborough County Sheriff's Department. All persons who were known to be occupants of the vehicles were recovered. Removal of the portions of the bridge which fell into the water was conducted by Hardaway Construction Company of Columbus, Georgia under contract with the Florida Department of Transportation.

Due to the fallen bridge debris the Port of Tampa was closed to vessel traffic on 9 May 1980 by the Captain of the Port, Tampa, FL. On 13 May 1980 an auxiliary channel was opened to the north of the main channel. The use of the auxiliary channel was limited to one way traffic for shallow draft vessels, during daylight hours with tug assistance. On 19 May 1980 half of the main channel was opened to vessel traffic with similar operating restrictions. It was not until 23 June 1980 that the main channel was restored to full use.

The SUMMIT VENTURE was removed from its location under the Skyway Bridge at approximately 1200, 9 May 1980 with the assistance of the tugs BRADENTON, O.N. 273567 and PAMLICO, O.N. 504262. The vessel was moved to a position 500 yards west of the Skyway Bridge where it remained until 10 May 1980 when crane assistance was available to raise its anchor. The vessel was then moved to the anchorage east of Egmont Key. On 16 May 1980 the SUMMIT VENTURE was taken to Tampa Shipyard for temporary repairs.

16. The collision caused a section of bridge span 242 to fall straight down onto the bow of the SUMMIT VENTURE, resting atop the anchor windlasses with portions of the main truss structure hanging over the port and starboard fo'c's'le bulwarks. The southern 612 feet of the main span, the remaining section of span 242 and all of span 241 toppled over eastward into the bay, lying between the piers of the northbound and southbound roadways. A 36 foot piece of the main span on the northern side had started to fall but remained in place at a downward angle. This piece was removed during salvage and prior to opening of the main channel. Pier 2S had both of its columns sheared. Pier 3S lost the east bearing assembly and was extensively cracked throughout its structure. Piers 1S and 3S experienced chipping of the concrete on the columns and bases due to contact by the falling steel. Piers 1S and 2S of the northbound structure also experienced this chipping from falling structural steel.

17. The M/V GOODSAILOR, outbound for sea, passed the inbound SUMMIT VENTURE at approximately 0710 in the vicinity of buoy #11. At approximately 0725, the pilot of the GOODSAILOR noticed on radar a squall approaching from ahead. He also noted an increase in the wind so decided to decrease his speed to slow ahead and hold near buoy #8 while the squall passed. The passage of the storm was marked by winds which he estimated at 60 knots from 280°T and blinding rains. He was in the storm for 2 to 3 minutes before it moved on in an easterly direction. Though he could hear other vessels communicating via radio, he did not alert anyone to the passage of this storm.

18. The S/S PURE OIL was outbound in a light condition from the Pure Oil Terminal when its pilot, John Schiffmacher, first communicated with the inbound SUMMIT VENTURE. Both vessels were approximately equidistant from the Sunshine Skyway Bridge, with the PURE OIL turning into Cut B Channel, and the SUMMIT VENTURE in the vicinity of buoy 14. The PURE OIL proceeded uneventfully through Cut B Channel and entered Cut A Channel when the weather began to deteriorate rapidly. The pilot noted heavy rain with an increase in wind velocity from a light breeze to what he estimated to be 50 to 60 knots. The storm had continued

for approximately five to eight minutes when he approached Cut A Channel buoy 3A (LLNR 1049.5). He slowed to slow ahead and decided to pull out of the channel to the right and anchor. He made this decision because of the severity of the storm, the lack of radar presentation and the inbound SUMMIT VENTURE, which he felt would be approaching the Skyway Bridge. With the wind slightly on the port bow, and the vessel just past buoy 3A, Schiffmacher pulled out to the right and let the wind swing his bow around. He then brought the vessel to anchor. He notified the SUMMIT VENTURE he was doing so at approximately 0734. This communication was not acknowledged by the SUMMIT VENTURE. Immediately afterward Schiffmacher heard a transmission that the Skyway Bridge was down.

19. When pilot Lerro entered the wheelhouse of the SUMMIT VENTURE, the Master informed him of the vessel's present heading, engine speed, and the speed when the engine was at full ahead. He also provided Lerro with some information concerning the radar. On watch in the wheelhouse were the Master, Chief Officer and helmsman. The navigational chart in use was NOAA chart 11414 (former C & GS 586), 22nd edition, of April 9, 1977. The most recent chart available for this area is the 24th edition of March 31, 1979. Parts 164.30 through 164.37 of title 33, Code of Federal Regulations list those items of navigational equipment and publications required to be aboard the SUMMIT VENTURE when entering a U.S. port. 33 CFR 164.11 (d) and (e) require use of electronics and other navigational equipment to be used in fixing the vessels position, and prohibits the use of buoys alone for the purpose unless that is all that is available. During the transit of Egmont and Mullet Key Channels, the Chief Officer noted the times abeam the various buoys, but was not fixing the vessel's position by any other means. After turning over control of the vessel to the pilot, the Master of the SUMMIT VENTURE did not converse with Lerro or make any attempt to oversee the maneuvering of the vessel. When Lerro ordered the anchors made ready for letting go, the Master became concerned, but did not express this to the pilot. The Master testified before the Board that he believed piloting to be a one-man job and was hesitant to interfere with the pilot lest the pilot become upset.

20. All laws regarding harbor pilots acting under authority of a state-issued license within the State of Florida are administered by the State Board of Pilot Commissioners in Tallahassee, through a system of rules and regulations. These regulations govern membership of the Board, experience and examination requirements for licensing of pilots, disciplinary procedures for the suspension or revocation of a license, casualty reporting and investigating procedures, and fees for membership. They do not address the particulars for any given port, nor put forth requirements or recommendations for the navigation of vessels. The board consists of 10 members appointed by the Governor for a four year term. Five members must be active pilots, and five must be citizens, 2 of whom are actively involved in the maritime community. The remaining three must have no past or present interest in the marine profession. The Board acts through the Department of Professional Regulation. This Department ordinarily reviews reports of casualties involving licensed state pilots or certificated deputy pilots, which are required to be reported within 7 days of occurrence. This review may then result in an investigation which must determine whether or not probable cause for action against a pilot's license exists. If probable cause is found, a pilot's state license may be suspended or revoked.

The Tampa Bay pilots are subject to laws, rules and regulations of the Board of Pilot Commissioners, but do not have similar regulations of their own. Instead, pilots in Tampa Bay operate under a set of 12 recommendations adopted after consultation with the U. S. Coast Guard Captain of the Port, officials of the Port of Tampa Authority, and management of the Pilot's Association itself. These recommendations deal with navigation of vessels within Tampa Bay. Most of these recommendations address themselves to vessel draft relative to the stage of tide and current, and vessel size relative to time of day and channel width. Only one of these recommendations places a requirement on pilots; specifically that a vessel with a beam over 100 feet shall transit only during daylight hours. In addition, there are four attached recommendations pertaining to specific docks and channels, none of which are germane to this casualty. There are no prohibitions relative to navigating in adverse conditions and the movement of vessels in restricted visibility is left to the judgement of the individual pilot.

The Port of Tampa Authority is a State-Chartered corporation having jurisdiction over all land areas and shipping operations within the port district. The authority is empowered to make rules and regulations governing the speed, operation, docking and movement of all vessels operating under its jurisdiction. The only speed restriction in effect is for a locale not involved in this casualty. The Authority has established 3 explosives anchorages and a quarantine anchorage, and prohibits anchoring in a turning basin or channel, except in an emergency. No other rules pertaining to navigation are established. The Authority primarily regulated harbor usage and dockage fees, safety of vessels and docks while alongside, and crew member services. The Port Authority has no established criteria for closing the port due to inclement weather, or channel blockage, or other emergent condition. The Authority works in conjunction with the USCG Captain of the Port and the Pilot's Association in controlling vessel traffic.

21. Federal law has, with a few exceptions, left the enactment and regulation of pilotage to the jurisdiction of the individual states. Generally, vessels of foreign registry, and U.S. flag vessels entering from a foreign port, are required by state law to take a pilot licensed by the particular state. There is no requirement that this pilot be licensed by the federal government, though these pilots do hold license issued by the U. S. Coast Guard. Where a federally licensed pilot is acting solely under the authority of this state license, the Coast Guard has no authority, to take remedial action against a pilot's federal license.

22. In order to determine if this accident had causal features common to other accidents, a study was made of the casualty file as held by Coast Guard Headquarters. The study compared the Tampa Bay area to the entire United States and to those areas of Atlantic, Gulf and Pacific coastal waters. The entire population of vessels involved in all vessel collisions, collisions with bridges and groundings were listed and arranged by primary cause verses length and gross

tonnage for the available years 1974 through 1978 in each of the geographical areas. The analysis of year to year totals in each accident nature showed a more narrow definition of data boundaries was required. The first cut eliminated those primary causes not related to the accident. This resulted in using the following primary causes:

a. Personal fault - State Pilot
b. Personal fault - Federal Pilot
c. Personal fault - Foreign Pilot/Foreign Master
i. Calculated Risk
j. Storms; Heavy weather
k. Adverse weather
l. Unusual Currents
o. Restricted Maneuvering Room

The resulting data was then run through basic statistical comparisons. Because of the small number of involved vessels in Tampa, correlations had little meaning. Another method of comparison is necessary.

The data used, although cut by a causal factor limiter, still includes vessels of all sizes. Clearly this casualty did not include elements common to all vessels. Therefore another cut in the data was used.

The raw data is actually a count of vessels involved in the casualties so the following criteria was established:

a. Consider only vessels over 1000 gross tons in order to reduce the effect of barges and intracoastal and coastwise piloting of tugs.

b. Length had to be over 300 feet so that vessels using pilots and with similar maneuvering characteristics would be included.

This selection obviously skips some casualties at the small end of the scale, as seen by the present data entry ranges:

GROSS TONNAGE	LENGTH
Not over 15	65 feet or under
Over 15 to 100	Over 65 to less than 100
Over 100 to 300	100 to less than 200
Over 300 to 500	200 to less than 300
Over 500 to 1000	*300 to less than 400
*Over 1000 to 5000	400 to less than 500
Over 5000 to 10000	500 to less than 700
Over 10000 to 15000	600 to less than 700
Over 15000**	700 and over

(*data cut-off)

It was felt that any large error would quickly be seen in a simple matrix.

In the period 1974 to 1978 with the tonnage, length and causal restrictions only one bridge collision occurred in Tampa and only 7 vessel/vessel collisions occurred.

The testimony of Mr. Gallagher of Tampa Bay Pilots Association indicated that over this same period the number of vessels using the channel has been relatively constant while the size of the vessels has increased. This size statement was a conclusion drawn by the witness because the total tonnage of vessels using the port of Tampa has steadily increased.

The number of casualties occurring in Tampa make comparisons difficult as shown by the one bridge collision between 1974 and 1978. With that in mind, the following percentage of casualties table was developed to compare Tampa with other coastal areas. The data used was that developed by applying the restricted criteria to the entire data field. The percentage is found by dividing the number of vessels involved in the casualty data restricted by selected cause and tonnage, by all vessels involved, restricted by selected causes only. This was repeated for the length restriction. This then shows the relative position of our defined large ship casualties to the totals that include all vessels in the eight causal areas.

TABLE OF RESTRICTED CRITERIA CASUALTIES AS % OF CASUALTIES RESTRICTED BY CAUSE ONLY

(Tonnage Criteria)	Coastal Areas	Tampa
Vessel/Vessel Collisions	73	88
Collisions with Bridges	44	100 (single accident)
Groundings	59	o9
(Length Criteria)		
Vessel/Vessel Collisions	56	75
Collisions with Bridges	37	100 (single accident)
Groundings	49	52

Review of 20 casualties under investigation in Tampa on 16 May 1980 for year 1980 revealed the following:

One collision between tug tow and vessel

One collision with bridge

Eighteen groundings

All of the accidents had at least one vessel within the reduced data field criteria set for the period from 1974 to 1978.

The last comparison of data is to relate the restricted data to the original data, reflecting total vessels involved in casualties.

The following table is the result:

TABLE OF VESSELS IN RESTRICTED CRITERIA AS % OF ORIGINAL DATA/TOTAL CASUALTIES

	NATION	COASTAL AREAS	TAMPA
VESSEL/VESSEL COLLISIONS	8.2%	7.8%	7.3%
COLLISIONS WITH BRIDGES	6.8%	8.4%	3.6%
GROUNDINGS	12.5%	15.0%	17.0%

The only single cause factors in the original data that exceed these percentages are the Personal Fault licensed personnel and Fault other vessel/personnel. This reflects the large number of barges in the data and licenses required on smaller, more numerous vessels.

23. The testimony and evidence accepted by the Board contained several differences and variances. Most were minor and did not contribute to the operation of the SUMMIT VENTURE or bridge condition during the period involved in this casualty. There were, however, some significant areas of crew testimony and weather data that affected the determination by the Board. The first item was the testimony of the Chief Mate in describing the sighting and logging of buoy 2A, his departure from the bridge, the bosn's report of the buoy thought to be 2A and the sighting of buoy 16. The second was the position of the buoy reported and assumed to be 2A and passing side coupled with the bosn's inability to describe the buoy. The third was that the time from the sighting of what was assumed to be 2A to the commencement of the turn was given in relative terms without reference to the same starting events or the conclusion. Fourth, there was an indeterminate difference between clocks on the bridge and in the engine room. However, the log in the engine room was kept by a crew member whose sole responsibility was the log. The final variance was the difference between the reported weather and the weather as described on the SUMMIT VENTURE. The details are described in paragraph 4.

CONCLUSIONS

1.

The proximate cause of the casualty was the decision of the pilot, John E. Lerro, to continue through the Sunshine Skyway Bridge from the vicinity of the intersection of Mullet Key Channel and Cut A channel. This decision was made after receiving a single unconfirmed, non-descriptive sighting of a buoy assumed to be 2A. Complicating circumstances of zero visibility, high winds and loss of radar presentation created a situation not fully comprehended by Lerro.

2.

Contributing to the decision to continue through the Sunshine Skyway Bridge was the lack of knowledge that the PURE OIL had turned out of the channel to anchor and Lerro thought he could not change his intended track.

3.

Further contributing to the cause of the casualty was Lerro continuing at half-ahead, an immoderate speed, when he could not see buoy 2A after passing buoy 16.

4.

The M/V SUMMIT VENTURE was beset by a localized storm of enormous proportions which could not have been foreseen. This storm, part of a severe weather system, was localized to the entrance of Tampa Bay and primarily affected the water area of the bay. This storm was characterized by winds near 50 knots, rainfall of such high intensity it appeared to act as dense fog on visibility, and forced a slight wind shift from the SW to just North of West.

In addition, the pilots of all vessels who encountered this weather were surprised by its suddenness and intensity to the point that quantifying data was abandoned in order to maintain control of their vessels.

5.

The M/V SUMMIT VENTURE was in the unique position of being the only vessel approaching a turn with the weather approaching and passing from astern. This denied Lerro the ability to "sense" the changes in wind direction so critical to ship control.

6.

As a result of this casualty 35 people lost their lives due to drowning or multiple trauma injuries.

7.

This accident has had a severe economic impact on the Tampa-St. Petersburg region and the State of Florida due to the loss of the major two lane southbound thoroughfare.

8.

When the visibility decreased to near zero, and radar presentation was lost, Lerro reviewed his alternatives in a timely manner. His evaluation of these alternatives, based on information known to him, and his perception of the weather conditions, were reasonable. However, had he examined the maneuvering characteristics data when arriving on board, he would have known that the vessel had the potential to stop in approximately half the distance to the bridge, or that a hard right turn would use less than half the distance to the bridge from buoy 2A. It is the opinion of the Board that had either of these two actions been initiated in the vicinity of buoy 2A, collision with the bridge would have been averted. A stop without a turn, and anchoring is considered by the Board to be the preferred method of stopping the ship to avoid hitting the bridge, and further, that either action to avoid the bridge would have taken the SUMMIT VENTURE away from Cut "A" and involvement with the PURE OIL.

9.

The effect of the wind and current on the M/V SUMMIT VENTURE was a compound effect influenced by the vessel's trim, draft, high freeboard and the acute angles of attack of the wind and current. This influence was not that the vessel actually moved on a course different than her heading but rather a track that reflected exactly her heading.

10.

Once the M/V SUMMIT VENTURE was committed to the turn to Cut A and the channel through the Skyway Bridge, Lerro could not determine the path of the vessel nor any of the effects as he continued forward. After approximately two minutes into the assumed track in Cut A the SUMMIT VENTURE was incapable of avoiding the collision with the Sunshine Skyway Bridge.

11.

Pilot Lerro was acting under the authority of his state license in that there was no federal requirement that the SUMMIT VENTURE take a pilot licensed by the Coast Guard.

12.

The Master of the SUMMIT VENTURE did not fully exercise his responsibilities for the safe conduct of his vessel in that he expressed no concern to the pilot when he did, in fact, have misgivings during the transit through Mullet Key Channel. Though he had the same navigational aids available to him as the pilot, he abdicated his role and relied entirely on the abilities and judgment of the pilot, and made no effort to intervene. His prevailing attitude was that maneuvering of the vessel was the pilot's responsibility.

13.

The examination of the casualty data for Tampa Bay and other similiar areas shows this to be a singular accident and without pattern for this area. A more detailed study of channels, ship characteristics, etc., is beyond the charter of this Board.

14.

The current short range aids to navigation system installed in the Tampa Bay area (pairs of turn buoys) appears adequate only for visual navigation with traffic density and ship sizes of ten years ago.

15.

It is the opinion of the Board that mandatory traffic and/or weather restriction and other movement controls would be best exercised by the pilots themselves. Changes in the channel would only create more severe course changes elsewhere in the entrance to Tampa Bay. Considering the particular combination of ship intended course, speed, wind direction and velocity and current and drift even with the storm changing as it did at impact, the track made good would have been the same from the general area of 1400 yards from the bridge. Being lined up on 063°T and continuing through the bridge at the time of the storm passage would have resulted in the SUMMIT VENTURE being driven out of the channel and into the Sunshine Skyway Bridge.

16.

There is evidence of violation of 46 USC 1461(d), negligent operation of a vessel, on the part of Lerro in that he failed to avail himself of the complete capabilities of the vessel and, further, that he relied too heavily on incomplete buoy navigation under extremely poor weather conditions, thereby contributing to the casualty.

17.

There is evidence of violation of Article 16, Inland Rules of the Road on the part of Lerro for conning the SUMMIT VENTURE at an imprudent speed during a period of restricted visibility.

18.

Further, there is evidence of violation of 46 USC 1461(d), negligent operation of a vessel on the part of the Master of the SUMMIT VENTURE in not exercising his duties and obligations to question the action of the pilot when he felt his vessel was standing into danger. And also there is evidence of violation of 33 USC 1226 for not having available, on the bridge, the most recent edition of the appropriate navigational chart.

The evidence in this matter, and conclusions 16 and 17, have been forwarded under separate cover to the Commander, Seventh Coast Guard District.

19.

In order to resolve the conflicts in evidence, the following determinations have been made. The Chief Mate actually left the bridge after logging buoy 16 and while he was looking for buoy 2A. He has since confused the time in his testimony. Secondly, the bos'n was correct in his indication that the buoy assumed to be 2A went down the port side of the ship, indicating the vessel was already being set by the wind shift. Third, the time from sighting of the buoy until the order to turn was significant and probably amounted to 20-30 seconds, which would put the buoy nearly astern of the SUMMIT VENTURE at the beginning of the attempted turn. Fourth, all times were referred to the engineroom clock. Fifth, and last, weather conditions were used as reported by the testimony on the M/V GOOD SAILOR and the SUMMIT VENTURE as to wind speed and direction, i.e., 40-50 knots from the west to westnorthwest.

20.

A bridge fender system at the main piers was not a factor in this casualty. However, the larger issue of bridge protection is a matter of concern and largely the consideration of the bridge permitting authorities in the various states.

RECOMMENDATIONS

1.

Further, it is recommended that the Commandant initiate rulemaking to make mandatory that pilots become familiar with all maneuvering data on vessels where they have the conn.

2.

Further, it is recommended that the Commandant seek legislation to permit remedial action with respect to federal licenses held by pilots operating under charters independent of federal jurisdiction.

3.

Further, it is recommended that the Commandant communicate with the National Weather Service concerning using pilot stations as weather reporting stations in a manner similar to airports.

4.

Further, it is recommended that the Commandant study the relationship of ship characteristics, channel configuration and casualties as a continuing part of the safety evaluation function.

5.

Further, it is recommended that the Commandant forward a copy of this report to such agencies as the American Society of Highway Transportation Officials for their consideration of bridge protection.

6.

Further, it is recommended that the Commandant consider an up-dating of the short range aids to navigation for the entrance to Tampa Bay and the approach to the Sunshine Skyway Bridge.

7.

Further, it is recommended that this case be closed.

CAPT EDWARD V. GRACE, USCG
Chairman

CDR JOSEPH J. SMITH, USCG
Member

LCDR DAVID E. COLE, USCG
Member and Recorder

Encl: (1) Convening authority
(2) CG-2692 (SUMMIT VENTURE)
(3) CG-924-E (Thirty six)
(4) Transcript of testimony
(5) List of Exhibits