

Case Study #3

Small Boat Capsizes, Class B

Mishap Analysis Report CASE STUDY

1. SYNOPSIS:

On 12 JAN 2009 at approximately 1901 local, CGC SHIP visually detected a suspect Haitian sail freighter. CGC SHIP monitored the Haitian vessel throughout the evening and planned for a first-light migrant interdiction. On 13 JAN 2009 at approximately 0529 and 0545 local, CGC SHIP set the AMIO Bill and Boat Lowering Detail, respectively. CGC SHIP worked with CGC PIRATE to recover 37 migrants. At 0858, while alongside SENECA and transferring lifejackets, CGC SHIP's OTH capsized in position 21-02.0N 074-42.5W, with 7 crewmembers and 1 Haitian interpreter onboard. All 8 personnel entered the water and later were able to scramble on top of the overturned OTH hull. At some point after the capsizing, the rescue swimmer suffered a minor knee injury. At 1010 after spending 72 minutes either in the water or on top of the capsized OTH hull, all 8 personnel were recovered by CGC PIRATE's CB-L and returned to CGC SHIP.

2. HISTORY

On 12 JAN 09 at 1042, CGC SHIP received a report of a Haitian sail freighter in position 20-15N 073-45W with 50 possible visible migrants on board. At 1901 CGC SHIP visually located the Haitian sail freighter. CGC SHIP was on scene with the sailing vessel by 2000. CGC SHIP then planned a first light interdiction in conjunction with CGC PIRATE with CGC SHIP as the On-Scene Commander. On 13 JAN 09 at 0530, CGC SHIP held a boat brief to interdict the Haitian sail freighter. The GAR score for the planned interdiction was 27—high green. Crew Fitness was evaluated as 10 out of 10 (worst possible) as a result of crew fatigue.

At 0545, CGC SHIP set the boat lowering detail on the starboard deck, and at 0621 on the port deck. At 0632, CGC SHIP's OTH boat crew increased the GAR score up 1 point due to environment as a result of increased sea state. By 0640, both boats were away. At 0648, CGC SHIP increased the GAR score for evolution complexity by 2 points. CGC PIRATE launched both boats and was on scene at 0647. At 0700, CGC SHIP and CGC PIRATE's small boats rendezvoused, and then commenced the transfer of 37 migrants to CGC SHIP. CGC PIRATE recovered both small boats by 0848. CGC SHIP recovered the CB-L at 0814.

After several successful boat evolutions alongside CGC SHIP by both the CGC SHIP CB-L and CONFIDENCE's CB-L and OTH at the same course and speed, CGC SHIP increased speed by approximately 1.5 kts to about 7-8 kts due to the worsening sea state for the final boat evolution when the OTH capsized. The course was the same as previous evolutions. The OTH with 8 POB came along CGC SHIP's starboard side to transfer migrant lifejackets and the law enforcement personnel to CGC SHIP and to embark a destruction detail to destroy the empty migrant vessel. The destruction detail was standing by to embark the OTH onboard CGC SHIP. With the OTH alongside CGC SHIP, as the boat crewman was handing the lifejackets up to a crewman on deck, the line unraveled and the bundled, migrant lifejackets fell into the water. At that moment, a

Mishap Analysis Report CASE STUDY

large swell caused CGC SHIP and the OTH to pitch forward and the CGC SHIP rolled to port. When CGC SHIP rolled back to starboard it caused the OTH to roll to starboard. The combination of movement caused the OTH's bow to go under water. As the OTH began to take on water, the qualified coxswain ordered the break-in coxswain to back down hard. This measure was unsuccessful because the OTH propeller was already out of the water and the OTH capsized at 0858.

All 8 POB were accounted for and made their way to the top of the OTH's hull, where the coxswain gave a "thumb's up" to the CO of CGC SHIP. At the time of the capsizing, CGC PIRATE was about 1 NM away and was directed to stand by. The HH-60 from Great Island that was nearby for the interdiction had departed the scene. Neither the CGC PIRATE nor the HH-60 were initially considered for assistance by CGC SHIP. CGC SHIP piped man overboard immediately and began to prepare for the recovery. There was some confusion as to whether it would be a boat or shipboard pickup. With the sense that the situation had stabilized (with the thumbs up from the crew) CGC SHIP leadership then stopped to discuss actions. The decision was made to proceed with a shipboard pickup primarily because the sea state did not appear to be conducive to a small boat recovery. CGC SHIP then began a shipboard recovery at 0915 with XO as the Conning Officer. CGC SHIP made two unsuccessful attempts to recover the OTH crew. The first attempt was a downwind man overboard approach, but CGC SHIP gained too much leeway before the personnel could swim to the cargo nets, which were also too high out of the water. The second man overboard approach was an attempt by CGC SHIP to stem the wind and have the OTH crew use the scramble nets, however, again, CGC SHIP gained too much leeway before the personnel could be recovered. The third attempt was a traditional man overboard approach upwind of the overturned OTH and CGC SHIP drifted down alongside the OTH with the wind. This third attempt was successful at bringing the OTH alongside CGC SHIP near amidships. CGC SHIP had not ever practiced nor attempted a downwind or stemming the wind man overboard recovery in anyone's recent memory onboard. At 0954, during CGC SHIP's recovery efforts, CGC PIRATE lowered their CB-L, recovered all 8 personnel at 1010 and transferred them to CGC SHIP's starboard side access point on the fantail at 1022. The rescue swimmer sustained a minor knee injury at some point between the capsizing and recovery by CGC PIRATE's CB-L. He was treated by medical personnel after returning to CGC SHIP.

CGC SHIP attempted an approach to re-right the OTH at 1110. While CGC SHIP was working to right the OTH, CGC PIRATE sent its small boat to destroy the sail freighter. The OTH was righted at 1400. CGC SHIP and CGC PIRATE transferred the capsized OTH to CGC PIRATE, due to an upcoming return to home port in Port Canaveral, FL. CGC SHIP embarked CGC PIRATE's OTH at 1508.

3. VESSEL INFORMATION

- A. Daily boat checks were conducted the day of the incident, with no discrepancies noted.

Mishap Analysis Report
CASE STUDY

B. CG-23170 had no discrepancies the day of the incident.

C. General Description:

Hull Design—Aluminum hull has a single planning strake, port and starboard, and an aluminum transom.

Propulsion Machinery—A single Yanmar six-cylinder diesel engine with a continuous rating output of 255 HP at 3600 RPM coupled with a Mercruiser Bravo 1X outdrive. The engine is mounted inside the hull and the outdrive is bolted to the transom.

Propellers—Bravo 1 stainless steel, four blade with 15 ¼ inch diameter.

Hull and Deck—The hull, deck, and bulkheads of the CB-OTH MKIII are fabricated using 5086 marine grade aluminum.

Walking Surface—All walking surfaces are covered with non-skid.

Collar—An inflatable collar is mechanically attached to the hull structure. The inflatable collar is constructed from fabric which consists of an external layer of hypalon. The inflatable collar cradle is welded to the aluminum hull.

D. Operational Limitations:

Maximum Speed: 42+ KTS at 3800 RPM

Cruise Speed: 26 KTS at 2700 RPM

Maximum Range at Cruising Speed: 250 NM

Maximum Operating Winds: 30 KTS

Maximum Operating Seas: 8 FT (2.4 meters)

Maximum Towing Capacity: 2 GWT or 25 FT

Maximum Operating Distance from Cutter: 30 NM

Operation in Ice: None

E. Manufacturer:

Zodiac Hurricane Technologies, Inc.

7830 Vantage Way

Delta B.C. Canada V4G 1A7

4. METEOROLOGICAL INFORMATION

Date: Tuesday, 13 JAN 2009

Location: North Atlantic Ocean, Position N, W

Conditions Observed:

True Wind: 125 degrees

Wind Speed: 22 kts

Visibility: 10 miles

Sky Condition: Scattered clouds

Air Temperature: 78 degrees

Water Temperature: 88 degrees

Mishap Analysis Report
CASE STUDY

Sea Waves: 125 degrees true, 2 feet

Sea Swells: 300 degrees true, recorded as 3 feet; however OTH crew estimated seas were above 3 feet, many felt OTH was “out of limits” in combined seas greater than 8 feet.

Sunrise: 0635

Sunset: 1745

5. COMMUNICATIONS

The comms (port) console contains a Motorola VHF-FM Radio Control Head, MICOM 3T HF Radio Control Head, and the FURUNO Loudhailer/Siren/Automatic Sound Signal. The Motorola VHF-FM XTL 5000 transceiver control head is used for communicating on all VHF-FM marine band frequencies. The Motorola VHF-FM radio meets the latest digital encryption standard (DES) requirements. The radio requires a 12 VDC power input. A 36 inch Shakespeare VHF-FM antenna (5215) is mounted atop the antenna arch for the XTL-5000 VHF-FM radio. The FURUNO LH-3000 Loudhailer is a 30 watt loudhailer with listening capabilities.

6. NAVIGATION

The navigation (starboard) console on the CB-OTH MK III contains the radar and the FURUNO GP-37 GPS display. The FURUNO NAVnet multi-function displays radar information, chart, GPS, heading, and depth data. The FURUNO GP-37 DGPS system/chart plotter can use standard, ground-based differential, and satellite differential GPS navigational signals.

The OTH operated in sight of CGC SHIP the entire time on the day of the MISHAP.