Bahamas Maritime Authority

Marine Safety Investigation Report

into the sinking of Islander III on 14 November 2023



The Bahamas conducts marine safety or other investigations on ships flying the flag of the Commonwealth of the Bahamas in accordance with the obligations set forth in International Conventions to which The Bahamas is a Party. In accordance with the IMO Casualty Investigation Code, mandated by the International Convention for the Safety of Life at Sea (SOLAS) Regulation XI-1/6, investigations have the objective of preventing marine casualties and marine incidents in the future and do not seek to apportion blame or determine liability.

It should be noted that the Bahamas Merchant Shipping Act, Para 170 (2) requires officers of a ship involved in an accident to answer an Inspector's questions fully and truly. If the contents of a report were subsequently submitted as evidence in court proceedings relating to an accident this could offend the principle that a person cannot be required to give evidence against themselves. The Bahamas Maritime Authority makes this report available to any interested individuals, organizations, agencies or States on the strict understanding that it will not be used as evidence in any legal proceedings anywhere in the world. You must re-use it accurately and not in a misleading context. Any material used must contain the title of the source publication and where we have identified any third-party copyright material you will need to obtain permission from the copyright holders concerned.

Date of Issue: 14 November 2024* Bahamas Maritime Authority 120 Old Broad Street LONDON EC2N 1AR United Kingdom

> *Actions Taken by Port Department amended and report re-published on 9 December 2024

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1. Summary

What happened

On the morning of 14 November 2023, the Bahamas Port Department registered passenger vessel, Islander III, was on passage from Nassau Cruise Port to Blue Lagoon Island with 145 passengers and five crew onboard.

Outside of the main entrance for Blue Lagoon Island, Islander III shipped seas over the bow and water became trapped on board. The boat master's attempts to free the water were unsuccessful and water ingress continued, disabling the vessel's VHF radio set and PA system. Some passengers began to panic and abandon ship while the vessel's engines were still engaged.

Rescue vessels were quickly on scene, but one passenger died during the casualty and Islander III sank.

Why it happened

Due to the vessel's design, water flowed freely into the accommodation increasing forward trim. Water could also enter the hulls, increasing trim and reducing freeboard further. The boat master's mental model was to free water over the stern which was not possible with a forward trim.

The vessel's watertight integrity was also compromised: several main deck hatches were not watertight, there was flow of water between compartments and ventilation was not provided with any flooding protection. The batteries had no flooding protection.

With loss of communication, the crew could not manage the emergency situation. The passenger that died had significant underlying health conditions which may have been exacerbated during the casualty.

What can we learn

The Boat Registration Act presently does not provide prescriptive minimum standards for freeboard, stability and watertight integrity, machinery, electrical installations, lifesaving equipment, operational requirements or an effective methodology for determining the maximum number for persons to be carried on board.

Compliance with minimum standards does not equate to best practice: operators need to assess the risk of their operations to ensure they put in place sufficient barriers to keep people safe.

Ensuring on board and ship to shore communications are available in an emergency is critical: passengers who do not understand what is happening are more likely to panic than those who are informed.

2. Factual Information

Islander III

Vessel Type	Pas	senger ferry	Domes Class	tic	В		
Area of operation	New Providence Area		Capaci	ity 200 passengers (plus 2 crew)		crew)	
Owner Dolphin Encounters Ltd.		Hull		Aluminium catamaran			
Built	1986 Propul		sion	Twin John Deere 6135 429kW			
Registration No. Ca		Callsign	Length overal			Breadth	Depth
NP6864 N/A		18.2	28m		6.7m	1.84m	
Last Port Department Inspection				Last PSC Inspection			ction
7 December 2022 – no recorded defects						N/A	



(Source: Dolphin Encounters Ltd.)

Crew details

slander III – Marine Safety Investigation Report								
Crew details								
Rank/Role on board	Boat Master	Boat Mate	GSR1	GSR2	GSR3			
Qualification	Class B Master License – Nassau Harbour Area	Class B Master License – Nassau Harbour Area	None	None	None			
Certification Authority	Bahamas Port Department	Bahamas Port Department	N/A	N/A	N/A			
Nationality	Bahamian	Bahamian	Bahamian	Bahamian	Bahamian			
Age	43	28	30	31	26			
Time in rank	15 years	18 months	3 weeks	8 months	17 months			
Time with Company	7 months	15 months	3 weeks	8 months	17 months			

Environmental Conditions

Wind	Wind	Wave	Swell	Precipitation	Visibility	Light
Direction	Force	Height	Height	/ Sky	Range	Conditions
ENE	Force 5-6 (21 knots)	1.0m	0.5m	Cloudy	Good	Daylight

Voyage Details

Departure Port	Nassau Cruise Port	Arrival Port	Blue Lagoon Island
Time of departure	09:30	Estimated time of arrival	10:00
Voyage duration	Approx. 30 minutes	Voyage distance	Approx. 6 nautical miles
Cargo	N/A	РОВ	145
Stage of passage	Arrival	Traffic density	Light

Narrative

All times in this report are local time (UTC -5)

On the morning of 14 November 2023, the Port Department Class B registered passenger vessel, Islander III was secured at Bay Street Dock, Nassau where it was laid up overnight. In order to prepare for its schedule for the day, the Company's chief mechanic and assistant went through their usual morning routine of mechanical pre-departure checks, before handing over to the boat mate who conducted his own safety checks.

The boat master arrived at the vessel and received a handover from the boat mate. The Islander III then left the Bay Street Dock at 06:47, for a crew run: the passengers were the staff of Dolphins Encounters Ltd, who work on Blue Lagoon Island. Upon approach to Blue Lagoon Island, the main entrance was inaccessible due to the sea gate being stuck.



Main entrance into Blue Lagoon Island

As a result, the boat master used an alternative access to Blue Lagoon Island, South Dock. This alternative berth is generally used for service providers, or as a contingency measure in the event of increased wind speeds and gusts. South Dock is not favourable for guest disembarkation due to the distance required to walk to the main attractions on the island.



Blue lagoon Island (Source: Google Earth)

After disembarking the Blue Lagoon Island staff at South Dock, Islander III returned to Nassau and proceeded with its scheduled pick-up of 129 passengers from the Nassau Cruise Port. The passengers embarked Islander III at 08:00 and were safely dropped off at Blue Lagoon Island South Dock at around 08:25. Islander III then proceeded to Brown's Boat Basin to bunker 381.8 gallons of fuel.

During this time, Islander III's boat master received instructions from their boat manager to cover for the Islander IV, which was experiencing engine starter issues.

Islander III then proceeded from Brown's Boat Basin to Nassau Cruise Port, to collect 145 passengers¹ at 09:30. The crew on board at this time were the boat master, boat mate, and three guest service representatives. One of the passengers (hereinafter referred to as Passenger A) arrived in a wheelchair with a portable oxygen concentrator and boarded with assistance.

Whilst on passage from Nassau Cruise Port to Blue Lagoon Island, the crew conducted a safety demonstration, illustrating how to put on a lifejacket and what to do in the event of an emergency on board. The passage continued with music playing from the vessel's speakers and interactions between the guest service representatives and passengers. A few minutes after being underway, some passengers raised concern due to water being sprayed on them, and their feet getting wet due to the ingress of water from waves. This was made light of by the crew as part of the excursion experience. Nevertheless, the boat mate closed the two lightweight doors to the forward deck to help passengers feel comfortable.

Islander III was approaching the main entrance to Blue Lagoon Island, when the boat master was informed by Blue Lagoon's dockmaster that there were no berths available and to wait for entry.

The boat master proceeded to maintain heading at slow speed. However, the water ingress persisted and the vessel was developing a forward trim. Noticing this, the boat master engaged engines to full ahead, in an attempt to force the water accumulating on the main deck over the vessel's stern.

¹ The passengers purchased tickets for the trip on board their cruise vessel. These tickets are part of an excursion package for cruise guests when calling at the port of Nassau.

This action resulted in the bow of the vessel digging deeper into the water. The boat master experienced increased difficulty in steering and tried to manoeuvre to regain control of the vessel. Aware of the developing situation, the boat mate began to remove stowed lifejackets from overhead, and the crew assisted in handing them out. Passengers were also prompted to move towards the aft of the vessel or to the upper deck.



Images of initial water ingress, leading to progressive flooding after power increase (Source: shared by member of public)

The boat master attempted to regain control of the vessel. However, as the starboard list increased, the engines shut down. Upon restarting the engines, the boat master attempted manoeuvres trying to free the water from the vessel.

During this subsequent attempt, the starboard list had significantly increased, further submerging the bow. Water began filling up void spaces below deck, significantly reducing its reserve buoyancy.

Water ingress into the battery room disabled the public announcement system. In the absence of any information, panic amongst the passengers grew. This resulted in passengers guiding people towards the aft and upper deck of the vessel, whilst others started to jump into the sea.

Due to his position at the helm, the boat master was unaware that passengers were already in the water. Another attempt of manoeuvring was made using the engines, ultimately resulting in the vessel spiralling due to the starboard list.

Upon realisation he no longer had control of the vessel, the boat master gave the verbal command to abandon ship. This process was already being facilitated by the boat mate, who was able to contact the Dolphin Encounters Ltd team ashore via his smartwatch, informing them on the status of Islander III. The boat master stopped the engines after realising how many passengers were already in the water. He then went to assist Passenger A, seated behind him.

Following the communication between the boat mate and the boat manager, Dolphin Encounters Ltd was able to initiate their emergency action plan, designed around helping recover passengers in the water. Additional vessels began arriving on scene within two minutes, in order to assist.

Onboard, the boat master and family member of Passenger A, relocated her to the bottom of the stairs to the upper deck, to keep her elevated above the water.

At 10:34 the vessel Booze & Cruise was able to make fast on the port side of Islander III, which began the transfer of additional passengers who remained on board.



Left: Islander III with engines running and passengers jumping into the sea. Right: Booze & Cruise approaching port side to assist in transfer of passengers (Source: shared by member of public)

Lifeguards deployed from Blue Lagoon Island arrived at Islander III via rescue boat in order to assist passengers on board. Upon boarding, the lifeguards helped the boat master and family member with carrying Passenger A up the stairs to the upper deck. At this time, Passenger A was unconscious with no signs of breathing. The lifeguards and boat master attempted resuscitation.

Passenger A and her husband were transferred from Islander III to a police boat and taken ashore at speed. Upon reaching shore an ambulance carried them to the hospital. Unfortunately, Passenger A was pronounced dead upon arrival.

The remaining passengers were recovered and taken to Blue Lagoon Island where they were cared for by island staff.

Islander III was completely immobilised at 10:31 and was resting on the seabed, with the upper deck still awash, by 12:00.

Islander III & Dolphin Encounters Ltd

Prior to entering the Blue Lagoon Island fleet, Islander III was subject to a pre-purchase survey conducted on 1 September 2010, at Marsh Harbour, Abaco. The inspection was conducted to the "standards and practices of the New Providence Port Authority." The primary items of focus during the survey were the hull and machinery condition. No fixed or semi-fixed items were removed and no sea trials were conducted.

The survey concluded with recommendations to install a CO₂ fixed extinguisher in the engine spaces, repair a damaged window and secure life-jackets topside in an easily accessible condition.



Photo from 2010 survey

Islander III was a twin-deck catamaran passenger ferry of all aluminium construction, with longitudinal and transverse stringers, built in 1986. Originally named Royal Adventurer, the vessel was operational as a charter ferry for the southern waters of Abaco, The Bahamas. Islander III was operated by Dolphin Encounters Ltd and registered under the Boat Registration Act with a maximum capacity of 200 passengers and 2 crew.

Either side of the helm position were compartments recessed into the main deck, with a superstructure above. On the port side, the compartment was designated as a battery store (also used as a general store room); on the starboard side was a bathroom.

The main engines of Islander III were originally two 3406 Caterpillar diesel engines of 426KW @ 2100 RPM and replaced with two John Deere's 6135 429 KW @ 2900RPM in August 2022.

The excursion for Blue Lagoon Island is based upon a boat charter agreement signed by Dolphin Encounters Ltd and associated parties, verifying the picking up, dropping off of guests and staff between Nassau Cruise Port, Paradise Island and Blue Lagoon Island (previously known as Salt Cay).

Dolphin Encounters Ltd has a policy and procedures manual for the boating department. This consists of items relating to running aground, emergency boat operation, abandoning ship, fire contingency, flooding, medical evacuation and emergency response, safety lifejacket and donning presentation,

security bands, daily maintenance for the vessels, cleaning and sanitising for the vessels, safety and mobility on board the vessels.

The Dolphin Encounters Ltd fleet included Islander II, a ship with similar dimensions and characteristics to Islander III.

Legislation for Domestic Operations

In The Bahamas, domestic commercial shipping is regulated by the Port Department through the application of the Boat Registration Act (1961, as amended) and the Boat Registration Rules (1961, as amended).

The Boat Registration Act applies to every type of vessel not exceeding 500 gross tons used for trade or hire within Bahamian territorial waters. These vessels are required to be registered with The Bahamas Port Department².

As well as setting out requirements for owners and process for the licencing of masters, the Boat Registration Act requires the Port Department to ensure that prior to registration, a boat is fit and proper to be registered, and after registration an inspection is conducted annually.

The Boat Registration Rules for classification are:

5. The New Providence Port Authority may register a boat for all or any of the following classes of operation —

A — for use in all the harbours and waters of The Bahamas;

B — for use only in a particular harbour:

C — for temporary use for a specific purpose; and

D — for use as a self-drive or self-sail boat, that is to say as a boat which is hired out by the owner for reward for the purpose of being driven or sailed and used by the hirer exclusively for his own purpose.

² New Providence Port Authority is the name used in legislation

The requirements for obtaining registration of a boat are:

6. Without prejudice to section 12 of the Act, before registering a boat for hire the New Providence Port Authority shall be satisfied —

(a) with regard to the owner of the boat, that —

(i) he is a fit and proper person to operate a boat for hire; and

(ii) he is the owner of the boat in respect of which the application is made;

(b) with regard to the boat, that —

(i) the engines, sails, running gear and other equipment (in the case of self-drive boats, including a spare set of spark plugs and a tool kit), are in sound working condition;

(ii) the hull and underwater fittings are sound;

(iii) the boat is clean and well maintained;

(iv) adequate fire-fighting and life-saving equipment is carried;

(v) running lights are fitted as required by the International Regulations for prevention of Collisions at Sea;

(vi) a whistle or horn is fitted;

(vii) all electrical cable used is of a standard marine type and all unions are made by means of junction boxes;

(viii) all batteries are firmly secured in a properly constructed casing;

(ix) radio receivers and transmitters are in sound working condition;

(x) compasses and charts are provided; and

(xi) distress flares of a recognized marine brand are carried:

Provided that subparagraphs (ix) and (x) shall not apply to Class D boats.

The requirements for obtaining a boat master's licence are:

9. Without prejudice to section 12 of the Act before granting an application for a licence to act as master of a boat for hire, the New Providence Port Authority shall be satisfied that —

(a) the applicant is conversant with the International Rules and Regulations for Prevention of Collisions at Sea;

(b) the applicant is capable of handling his boat in a safe and seamanlike manner;

(c) in the event of no engineer being carried on the boat, the applicant is capable of carrying out running maintenance and minor repairs;

(d) the applicant has a basic knowledge of first aid; and

(e) in the case of an applicant who is desirous of acting as master of a boat registered to operate in all the harbours and waters of The Bahamas, and in any other case where the Authority shall deem it necessary, the applicant has an adequate knowledge of pilotage and navigation.

The Code of Safety for Small Commercial Vessels Operating in the Caribbean was introduced in 2001. It prescribes operating standards for safety, seafarer certification and well-being and protection of the marine environment for small commercial vessels (under 24 metres in length) operating in the Caribbean Trading Area. The regulations governing these standards were initially based on the United States Coast Guard Code of Federal Regulations and the United Kingdom Code of Practice for the Safety of Small Workboats and Pilot Boats.

In particular, it provides minimum standards for freeboard, stability and watertight integrity, machinery, lifesaving equipment, electrical arrangements, operational requirements and licensing of boat masters. The Bahamas has not adopted the Code of Safety for Small Commercial Vessels Operating in the Caribbean.

Previous relevant casualties

Sherice M (2018) Bahamas

A Bahamas flagged domestic general cargo vessel suffered a fire in the galley which could not be controlled, leading to extensive damage of the vessel. The investigation resulted in recommendations to adopt Caribbean Safety Codes and other measures to ensure that domestic trading vessels meet the relevant minimum regional standards.

See: <u>www.bahamasmaritime.com/wp-content/uploads/2020/10/BMA-Investigation-Report-Fire-onboard-the-Sherice-M.pdf</u>

Four C's Adventure (2018) Bahamas

A charter boat exploded in The Bahamas, resulting in the death of one person and multiple serious injuries. The investigation resulted in recommendations to the Port Department to review exiting standards for the annual safety inspection and to ensure necessary resources in order to regulate, control and administer all matters related to commercial recreational water sports in The Bahamas. See: www.bahamasmaritime.com/wp-content/uploads/2020/10/BMA-Investigation-Report-Explosion-fatality-and-multiple-serious-injuries-onboard-Four-Cs-Adventures-.pdf

3. Analysis

The purpose of the analysis is to determine the contributory causes and circumstances of the casualty as a basis for making recommendations to prevent similar casualties occurring in the future.

Passenger A had underlying health conditions which may have been exacerbated during the events of the sinking. Passenger A did not drown; however, the autopsy report was not made available at the time of publishing.

Islander III was a total loss. Inspection of the salvaged hull identified that the vessel had not suffered any penetration of the hull below the waterline. The sinking was a result of a loss of buoyancy due to progressive flooding.

Weather

The Bahamas Department of Meteorology issued a 3-day marine forecast at 06:30 on the day of the casualty for all areas in The Bahamas, including a small craft advisory:

ADVISORY: A SMALL CRAFT ADVISORY IS IN EFFECT FOR THE NORTHWEST BAHAMAS AND MARINERS IN THOSE AREAS ARE STRONGLY URGED TO REMAIN IN PORT AT THIS TIME. A SMALL CRAFT CAUTION REMAINS IN EFFECT FOR THE CENTRAL AND SOUTHEASTERN ISLANDS.

WINDS: NORTHEAST TO EAST AT 15 TO 20 KNOTS ACROSS THE BAHAMAS, INCREASING TO 20 TO 25 KNOTS GUSTING TO GALE FORCE IN THE NORTHWEST BAHAMAS THIS AFTERNOON THROUGH TONIGHT.

SEAS: 4 TO 6 FEET OVER OPEN WATER FOR ALL AREAS BUT BUILDING UP TO 9 FEET IN NORTHEASTERLY SWELLS IN THE NORTHWEST AND PORTIONS OF THE CENTRAL BAHAMAS ALONG NORTHERN AND EASTERN COASTLINES.

Dolphin Encounters Ltd's weather policy:

LIMITS IN SAILING DUE TO WEATHER

Vessels are to utilize the Blue Lagoon Island South Dock in winds of 20MPH or gusts of 25MPH and 5ft.swells

During 30MPH winds and 35MPH gusts, the island operations will be suspended.

Boating operations to Blue Lagoon Island continued as usual, with the inclement weather not expected to have an impact until later in the afternoon.

At the time of the casualty, the wind speed recorded at the weather station on Blue Lagoon Island was 21 knots(24 mph), within operational limits.

Islander III – mechanics of sinking

When it became apparent that there was water trapped on deck, the boat master's mental model was that the solution was to engage engines ahead, to free water over the stern. This was only achievable if the vessel was trimmed by the stern, its usual operating condition:



Boat master's mental model of Islander III trim for water flow

Islander III arrived at the main entrance to Blue Lagoon Island with a forward trim. The boat master's attempt to free water from deck resulted in driving the bow further into the next set of waves.

Rather than flowing towards the stern and overboard, any water flowing from the open foredeck into the accommodation flooded the bathroom and battery store, recessed into the deck, and fitted with a non-watertight door. From this point, water drained below to a void space through drilled holes in the bathroom floor. The void space had unsealed cable penetrations, thus allowing water to continue flowing into adjacent spaces.

This created a detrimental cycle of the bow becoming increasingly heavier, causing a significant reduction in freeboard forward, and the vessel eventually developing a significant starboard list.



CCTV images from WeatherSTEM station showing Islander III arriving with forward trim and eventually listing to starboard

With a low freeboard, compounded by a forward trim, an enclosed bulwark and inadequately sized freeing ports, water shipped over the open bow was easily entrapped. The accommodation door was not of a weathertight construction, allowing unrestricted passage of water from the deck into the accommodation:



Representation of water progression with Islander III with forward trim

Focus point (1) represents the ventilation for the bathroom and a gooseneck vent for a void space located on main deck starboard side. Both vents were naturally ventilated with no watertight protection fitted. Additionally, the point of down flooding for the vents were at a lower level than the surrounding bulwark. The bathroom vent and gooseneck vent were located forward of the first freeing port on the starboard side. These vents were a significant risk to water ingress directly to the hulls.



Focus Point 1: Refloated hull of Islander III. Left: Bathroom vent and gooseneck vent. Right: Gooseneck vent without flooding protection

Focus point (2) represents the door fitted between the bow and accommodation, which was the only barrier against water ingress from main deck into the accommodation. Being of plastic construction and

relying on a small wire latching mechanism for securing shut, it was not weathertight. Images below show dislodging of the door fitted.



Focus Point 2: Lightweight door fitted on Islander III being dislodged (Source: shared by member of public)

Focus point (3) relates to the bathroom entrance space and door. The staircase leading to the bathroom combined with the bathroom area had a volume of 4m³ below deck level. The bathroom door was not of a weathertight design, therefore water from deck could flood the space without restriction. The bathroom door of Islander III was not recovered.



Focus Point 3: Left; Islander III refloated hull bathroom entrance Right; previously fitted door on battery room

In addition to the flow of water beneath the bathroom door, and water ingress from the bathroom vent, the flooring in the bathroom had holes drilled allowing water flow into the void space below. The intent of this design is for the water to be pumped into a bilge tank automatically via the bilge pumps. An example of the same holes are shown below, taken from Islander II. These holes are 10mm in diameter.



Islander II: Holes drilled in the bathroom floor to allow drainage of accumulated water

Islander III's maintenance logs were available for the period 01 January 2023 to 14 November 2023. During the period of January 2023 to April 2023, the logs frequently mention "pumped the bilges down". From May 2023 to November 2023, there is no mention of any tests or pumping of bilges. References to the bilge system during this period include:

- i. 11 July 2023 Changed wires to two bilge pumps
- ii. 29 July 2023 Forward starboard hatch bilge pump replacement
- iii. 01 September 2023 Bilge pump was changed

During attendance of Islander II on , none of the bilge pumps operated in manual or automatic mode due to an incomplete circuit of the bilge wiring³.

On the day of the casualty, Islander III shipped seas over the bow. Due to the design of the bulwarks and door to the accommodation, water flowed freely into the accommodation. Due to the forward trim, the boat master's mental model of freeing water from deck did not reflect reality and water accumulated in the bathroom and stores areas, increasing forward trim. Water could also enter the hulls, increasing trim further. The bilge pumps may not have been operational.

In any event, the vessel may have remained afloat if its watertight integrity was not compromised.

³ This was rectified and verified on a follow-up attendance.

Islander III - watertight integrity

The watertight integrity of Islander III was compromised on three fronts: several main deck hatches were not watertight, penetrations in the bulkheads allowed flow of water between compartments and ventilation was not provided with any flooding protection, including for the engine room where air intakes were below the deck line.

Islander III's twin hulls were divided into six compartments: four void spaces, an engine room and rudder room. Each compartment was provided with access from the main deck and contained a bilge pump equipped with an automatic float switch⁴.

Access to the void spaces and rudder room was originally via watertight hatches in the deck. Alterations to the vessel had resulted in four of these hatches being replaced with non-watertight equivalents.



Islander III: general arrangement indicating as-built watertight hatches and modified covers (drawing not to scale)

The design of these retrofitted hatches did not allow for them to be secured and they were not fitted with any gasket or other means to protect the space from water ingress. These spaces were also fitted with goosenecks vents. Those that were found intact were not fitted with any flooding prevention.

⁴ The bilge pump could be operated manually or automatically when the float was raised to a preset level



Islander III on the seabed: retrofitted hatch to fuel tank compartment (cover washed away during sinking), next to original watertight hatch

Examination after refloating Islander III identified that the void spaces were communicating – flooding into one space resulted in water flow to adjacent spaces.



Islander III refloated hull: bulkhead penetrations allowing flow of water between compartments

The engine room spaces were accessed via a hinged hatch, the hatches could not be secured (they remained in place by gravity) and they were not fitted with gaskets. The compartments had through-hull air intakes with no flooding prevention mechanisms fitted. Located beneath the deck line, this air intake design further compromised watertight integrity.



Engine room hatch - no dogs or gasket. Air intake without flooding protection

With the deck awash, water could enter the underdeck compartments through the modified hatch covers and engine room hatches. With freeboard reduced it could also enter through the main engine room vents in the hull. When the water level was above the goosenecks and other vents, water could enter every space. A lack of watertight segregation of the hull compartments reduced watertight integrity further.

Emergency preparedness

The crew list did not specify duties for emergency management on board the vessel and the boat mate, along with a guest service representative, were the only crew on board with crowd management training.

As the flooding increased, passengers became increasingly concerned for their safety. The environment on board was not controlled eventually resulting in several passengers jumping into the sea without the boat master being aware.

With the boat master still trying to free water from the deck over the stern, an incredibly dangerous situation developed with passengers jumping into the water while engines were still running. The starboard list also caused the port propeller to be at, or above, the waterline and this in turn resulted in the vessel losing steering and causing the vessel to spiral.



Passengers beginning to abandon ship while engines running and vessel beginning to spiral while passengers still in water (Source: shared by member of public)

Fortunately, no passengers came into contact with the vessel's propellors.

During the casualty, the boat master did not have adequate resources to maintain control and communication on board or with shoreside support. Once the vessel's batteries were submerged, the only way to request assistance was through personal mobile phones and connected devices.

The batteries and battery charger were located in a recessed room on the port side of the vessel. The space was also used as a store room, further adding risk to compromising the batteries while underway. The door to the battery space, and casing for the batteries lacked any watertight protection. In addition, the batteries inside their case were fixed on the deck, rather than mounted or elevated: the batteries were submerged with a relatively small amount of water ingress rendering any form of battery powered communication, including the public address system and VHF radio, ineffective.



Left: Battery/Store room on refloated Islander III Right: Battery/Store room on board Islander II

Dolphin Encounters Ltd.'s communication plan stipulated contacting Blue Lagoon Island on VHF channel 63 to initiate a "code Red" in the event of an emergency. There were no contingency measures in the event the radio, or any communication onboard were compromised.

Regulatory oversight

At the time of the casualty, Islander III was operating in line with the requirements of the Boat Registration Act. Annual inspections had found Islander III's hull structure & fittings, bridge, navigation & communications, safety, firefighting & life saving equipment, power, electrical & propulsion systems to be without defect.

The Boat Registration Act required the Port Department to ensure that, prior to registration, a boat is fit and proper to be registered and (after registration) that an inspection is conducted annually.

With the exception of applying the requirements of the International Regulations for Prevention Collisions at Sea,1972 to boats' navigation lights, there were no prescriptive rules to determine what constitutes fit and proper: the Port Department was left to define what constitutes "sound working condition", "well maintained" and what equipment was "adequate".

In practice, suitability was determined by the attending Port Department approved safety inspector, using a Vessel Safety Inspection checklist:

	and the a Fort Department app	PECTION proved safety inspector.	Date 12/7 / 201
Control Master Name		EINHORMATION	PTASS OFAIL
Vesnel Number: 1.5	alatt Lasoon	Vessel Name: 1510	nelas III
Length of Vessel:	All Crown T	ion: Nassan	OPrivate Commence
Type of Vessel: Par	Support Gross tonnage:	NIA Pase	enger Capacity: 2000
Location of Inspection:	SP and Perry	Type of Inspection:	Otien Onenal Office
STREET, STREET	chizabeth Hve,		/ 0120
Vessel Registration Con		CARGO & HOLDS	
Last Inspection	I OVE ONO ON/A	Cargo Area	0% 0%
nsurance	Ores ONO ON/A	Dangerous Cargo Area	OTes ONO ON/A
Ship Log	Over ONO ON/A	Bilge System	OTES ONO ON/A
Oil Record Real	Pres ONO ON/A	Oily Water Separator	OVER ONO ON/A
Carbage Passal P	OYes ONY ON/A	Water Treatment System	O'res O'NO O'N/A
Garbage Record Book	OYes ONO ON/A	Black Water Tank Capacity	CIES DINO ONIA
AMADITION OF HUL	L.SIRUCTURE & SITTINGS	BRIDGE, NAVIGATION	Gals/Ls
Construction Material	Alumium	Compass	Ofer ONe ONE
External Hull	Origit O Average O In	aar Radar	OVer ONO ON/A
Ventialtion	Gund O Average O Pu	m Radio	exes ONO ON/A
Frames & Bulkheads	Organ O Average O Po	er EPIRB	Over ONO ONIA
watertight openings	Biget O Average O Po	Sound Producing Device	OTES ONO ON/A
Accommodations	O Gota O Average O Po	 Navigation Lights 	DYes ONO ON/A
Calley	Dight O Average OPa	Daytime Signals	OYes No ON/A
Ganey	O Good O Average O Pos	Charts	OYes ONO ON/A
Lifeboat	SAFETY, FIREFRENTING	& LD ISAVING EQUIPMENT	and the second s
Life Raft	OYes ONo ON/A	Fire Piping & Hydrants	OYes ONO ON/A
Life Jackets	Ores ONO ON/A	First Aid Kit	Ples ONo ON/A
Distress Signals	Che ONO ON/A	Engine Room Fire System	O'Yes O'No O'N/A
Emergency Search Light	EVes ONO ON/A	Tools & Repair Kit	O'res ONO O'N/A
# of Fire Extinguishers	6 Model ABC	C 102 Expirati	on Date: 2074
CONTRACTOR OFFICE	DOWAR BLICTS	LAL & PROP ISTON	and and
# of Engines:	Engine Model:	John Deere Engine I	ip: 600
Engine Numbers:		Congoine 1	4.
Electrical Systems	Offining O Average O Poor		
Type of Fuel	Gaschare Object O Other	Type of Steering	piraulie O Electrical O Other
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Last Vessel Safety Inspection checklist for Islander III (December 7, 2022)

Without accompanying guidance on what constituted good, average or poor condition (or what a particular grading will result in) the inspections of these areas were subjective. Without prescriptive minimum carriage requirements there was no basis for determining adequacy of navigation or communication equipment, lifesaving appliances or firefighting equipment.

Ultimately, it was up to the inspector to identify deficiencies and remedial action on the basis of their own experience and training. At the time of the casualty there were no formal and documented training programme to establish universal standards for vessel safety inspections.

The evacuation of Islander III was chaotic, impacted by the loss of the public address system and inability of the crew to effectively manage the passengers when panicked. With the boat master attempting to resolve the developing situation, the boat mate and three guest service representatives could not manage the 145 passengers onboard. At the time of the casualty, Islander III was certified to carry 200 passengers with two crew, indicated on the certificate of registration below:

BR.
This Certificate permitTSLANDER_TITY'' Registration No: NP:to ply for hire at AREA_ONLYfor the period from the lstday of AREA_ONLYfor the period from the lstday of IANIIARYuntil thetarry a total number of passengers and crew not exceeding 200 & 02 and respectively. Alcoholic beverages may/may not be sold aboard this vessel. Insurance: Date of ExpirationJUNE_22, 2023
Insurance should be renewed on or before 2023
Name of Owner: DOLPHIN ENCOUNTERS LID
Chairman Chairman Port Authority for New Providence Date:
of the Balance Government and must not be defaced of altered in

Note: This Certificate is property of The Bahamas Government and must not be detaced of antered in any way. This Certificate shall be prominently displayed on the Vessel at all times

Certificate of Registration for Islander III

The total numbers of persons permitted to be carried on a vessel is generally subject to application of stability restrictions and subdivision requirements, the vessel's operating area, general arrangement, means of escape, lifesaving equipment and minimum manning requirements. The basis of Islander III's original maximum number of persons onboard could not be determined.

After purchase by Dolphin Encounters Ltd, the Port Department allowed an increase of the vessel's maximum passenger capacity on two occasions. These changes were not the result of any structural changes to the vessel and there was no recorded basis for the increase or a documented methodology for verification that the vessel was suitable for the increased passenger numbers:

Name	Year	Passenger Allowance	Crew
Royal Adventurer	2010	168	2
Islander III	2017	180	2
Islander III	2022	200	2

The Bahamas' current legislative framework does not provide prescriptive minimum standards for freeboard, stability and watertight integrity, machinery, electrical installations, lifesaving equipment, operational requirements or an effective methodology for determining the maximum number for persons to be carried onboard.

4. Conclusions

- The Port Department registered passenger vessel Islander III sank outside of the main entrance of Blue Lagoon Island with 145 passengers and 5 crew on board. During abandonment, a passenger died. At least 26 passengers ended up in the water, with seven being treated for minor injuries at the hospital
- Islander III shipped seas over the bow. Due to the vessel's design, water flowed freely into the accommodation flooding the bathroom and stores area, increasing forward trim. Water could also enter the hulls, increasing trim and reducing freeboard further.
- The boat master's mental model was that the solution was to engage engines ahead, to free water over the stern. This was only achievable if the vessel was trimmed by the stern
- The vessel's watertight integrity was compromised on three fronts: several main deck hatches were not watertight, penetrations in the bulkheads allowed flow of water between compartments and ventilation was not provided with any flooding protection, including for the engine room where air intakes were below the deck line.
- The Bahamas' current legislative framework does not provide prescriptive minimum standards for freeboard, stability and watertight integrity, machinery, electrical installations, lifesaving equipment, operational requirements or an effective methodology for determining the maximum number for persons to be carried on board.
- The crew onboard Islander III had not been provided with crowd control training to manage the chaos on board, resulting in passengers abandoning ship at their own discretion. This was further impacted by the loss of communication on board.
- The team and support system of Dolphin Encounters Ltd and local boaters responded quickly, resulting in all remaining passengers and crew being transferred and rescued.

5. Lessons to be learned

- Minimum standards set by a regulator do not equate to industry best practice. Operators may need to develop their own safety standards by assessing risks associated with their operations.
- Ensuring on board and ship to shore communications are available in an emergency is critical: passengers who do not understand what is happening are more likely to panic than those who are informed.
- Many administrations prescribe additional controls for domestic vessels operating with more than 12 passengers due to the increased risk.
- Incorporation of realistic drills relevant to the scope of operation is essential. Crew need to be adequately prepared for scenarios they may encounter on the job.
- In cases where National legislation has not been updated to reflect present day operations , domestic regulators may need to adopt safety standards from alternative existing instruments into their procedures.

6. Actions taken

Dolphin Encounters Ltd has:

- Provided training in crisis management for vessel staff
- Revised training in man overboard and abandon ship for new staff
- Revised training in first aid, CPR, emergency preparedness and boat safety for all staff
- Outsources servicing and maintenance of bilge pumps
- Appointed independent surveyors to conduct in and out of water surveys
- Increased number of crew on board vessels including lifeguards on passage

The Port Department has:

- Conducted its own investigation
- Conducted inspections of Islander I, II and IV and recommended measures to improve safety within existing legislative framework
- Temporarily reduced the amount of the passengers able to be carried on board vessels within Dolphin Encounters Ltd fleet
- As of 01 March 2024 mandated that all commercial vessels operating domestically provide records of valid crew training, surveys conducted within last twelve months and history of drydocking and boat maintenance records

7. Recommendations

The investigation found that prior to the casualty, the Port Department considered Islander III fit for purpose in line with the requirements of the Boat Registration Act. Annual inspections had found Islander III's hull structure & fittings, bridge, navigation & communications, safety, firefighting & life saving equipment, power, electrical & propulsion systems to be without defect.

The investigation also found that The Bahamas' current legislative framework for domestic trading vessels (boats as defined by Boat Registration Act) does not provide prescriptive minimum standards for freeboard, stability and watertight integrity, machinery, electrical installations, lifesaving equipment, operational requirements or an effective methodology for determining the maximum number for persons to be carried onboard. Therefore, it is recommended that:

The Bahamas Ministry of Energy and Transport:

• Adopts an effective regulatory framework for domestic vessels to operate within, such as the Code of Safety for Small Commercial Vessels Operating in the Caribbean, or similar.

The Bahamas Port Department:

- Develops a methodology to determine maximum number of passengers and crew to be carried on board domestic vessels.
- Prescribes minimum standards for hull structure & fittings, bridge, navigation & communications, safety, firefighting & life saving equipment, power, electrical & propulsion and develop a training program to enable universal application of these standards by Port Department Inspectors.

Considering their actions taken, there are no recommendations for Dolphin Encounters Ltd.

8. Glossary and Definitions

Caribbean Trading Area

means the Gulf of Mexico and Caribbean Sea proper including the bays and seas therein and that portion of the Atlantic Ocean within the boundary constituted by a rhumb line from a point on the east coast of the United States of America in latitude 32° 00' north to the intersection 20° 00' north, 59° 00' west; thence a rhumb line to the intersection of 7° 20' north, 50° west; thence a rhumb line drawn south westerly to the eastern boundary of French Guiana. It includes the waters of The Bahamas

VHF

Very High Frequency, radio waves that operate in the frequency range of 30 to 300Mhz