



# National Transportation Safety Board

## Fire aboard Private Yacht *Andiamo*

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<b>Accident type</b>	Fire/Explosion	<b>No.</b> DCA20FM007
<b>Vessel name</b>	<i>Andiamo</i>	
<b>Location</b>	Island Gardens Deep Harbour Marina, Miami, Florida 25°47.09' N, 80°10.74' W	
<b>Date</b>	December 18, 2019	
<b>Time</b>	1921 eastern standard time (coordinated universal time – 5 hours)	
<b>Injuries</b>	None	
<b>Property damage</b>	\$6.78 million est.	
<b>Environmental damage</b>	Oil sheen reported	
<b>Weather</b>	No precipitation, partly cloudy, winds from southeast at 3 mph, air temperature 79°F, water temperature 76°F, sunset 1733	
<b>Waterway information</b>	Island Gardens Deep Harbour Marina is located on the man-made Watson Island, northeast of the Main Turning Basin near the Port of Miami. The marina has a depth of 27 feet.	

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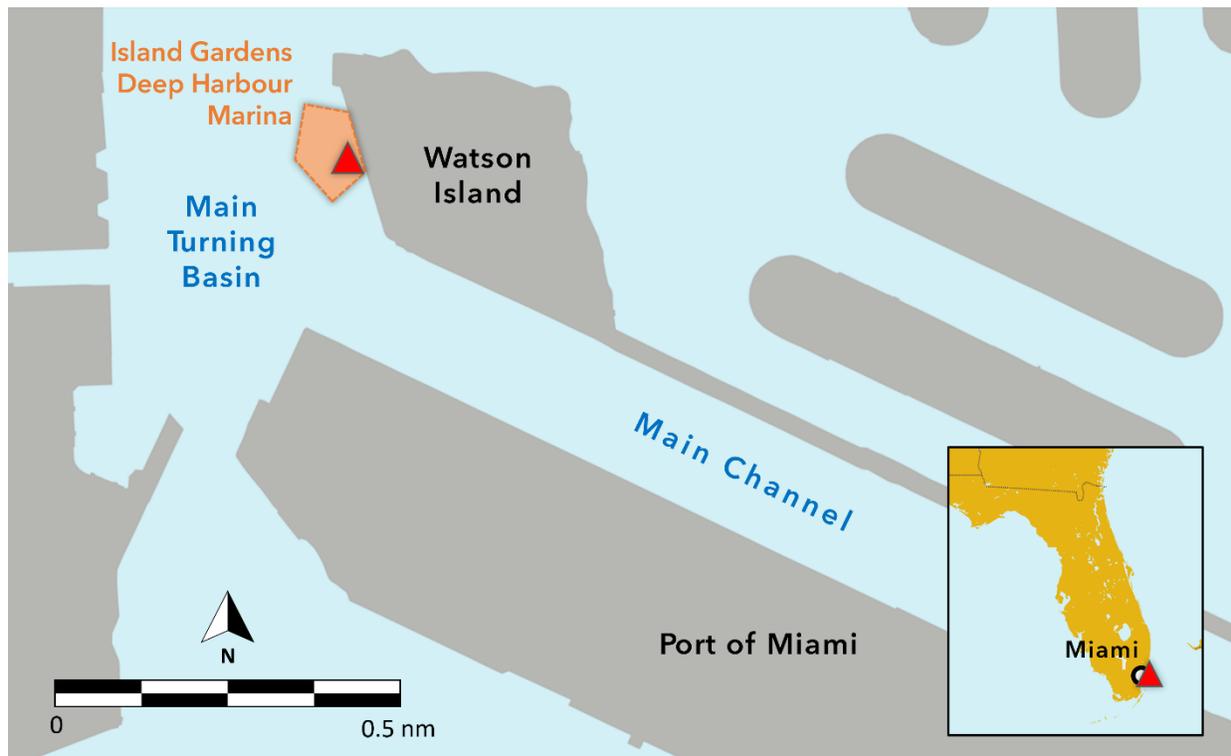
On December 18, 2019, about 1921 local time, a fire broke out aboard the privately owned yacht *Andiamo* while moored at the Island Gardens Deep Harbour Marina on Watson Island in Miami, Florida. The crew of four and a guest on board safely evacuated the vessel as the fire quickly spread. While local firefighters and crews from neighboring yachts attempted to extinguish the fire, the yacht capsized onto its starboard side. No injuries were reported, but an oil sheen was observed. Total damage was estimated at \$6.78 million: the *Andiamo*, valued at \$6.3 million, was declared a constructive total loss; repair costs for the marina and adjacent vessels were \$480,000.



*Andiamo* docked in Miami before the accident. (Source: MarineVideoProduction.com)

## Background

The *Andiamo* was a 120-foot-long, 299-gross-ton twin-propeller yacht flagged in the Republic of the Marshall Islands. The vessel was built in 2006 by the luxury yacht shipbuilder Azimut Benetti Group in Viareggio, Italy, and sold in 2011 to the current owner, MAB 120, LLC. The interior spaces were framed in wood with veneer and outfitted and furnished with wood and other combustible materials. The yacht was used solely for recreational purposes (not to carry passengers for hire or engage in trade or commerce).



Area of accident where the private yacht *Andiamo* caught fire while moored at the Island Gardens Deep Harbour Marina in Miami, as indicated by a red triangle. (Background source: Google Maps)

The vessel had four decks and accommodations for crewmembers and up to 12 guests. On the main deck, forward to aft, were the owner's suite, the galley, and the main salon. On the lower deck were the crew's quarters and, via a spiral staircase from the main salon, four guest cabins: two VIP suites adjacent to two guest rooms, one of each on the port and starboard sides of the vessel. On the upper deck was the wheelhouse and the upper salon. Above this deck was the sun deck, which was referred to as the sky lounge.

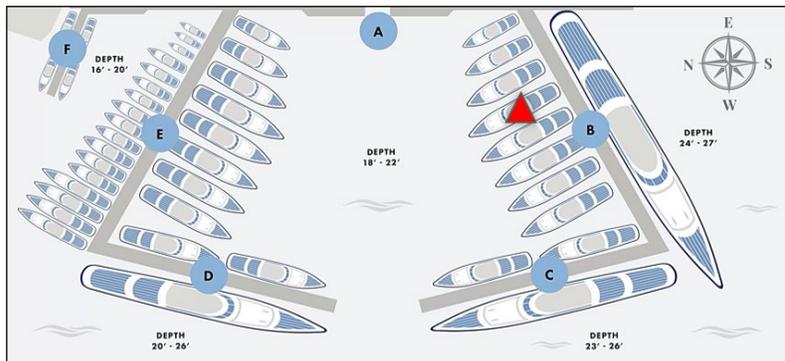
## Accident Events

At the time of the accident, the *Andiamo* was med-moored (secured by the stern) at the Island Gardens Deep Harbour Marina on pier B. Since returning to its inner harbor slip (no. 21) in late October 2019, the vessel had been under way on four occasions.

Island Gardens was a deep-water, mega-yacht marina in Miami that had 7,000 linear feet of slips with a depth up to 27 feet. It was designed to accommodate a wide array of vessels, particularly yachts 500 feet long or more in length, along with smaller tenders servicing these yachts. (In October 2020, the marina was renamed Yacht Haven Grande Miami.)

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The typical crew of the *Andiamo* consisted of a captain, first officer, chief engineer, chief stewardess, second stewardess, deckhand, and chef. On the afternoon of December 18, the crew (except for the chief engineer, who was on personal leave) was preparing for the arrival of a guest of the owner, who was planning to stay on board for a few days. Moored on the port side of the *Andiamo* was the motor yacht *C Star* and on the starboard side was the motor yacht *Namaste*.



**Marina berth layout. Location of the *Andiamo* marked by a red triangle. (Source: IslandGardens.com)**

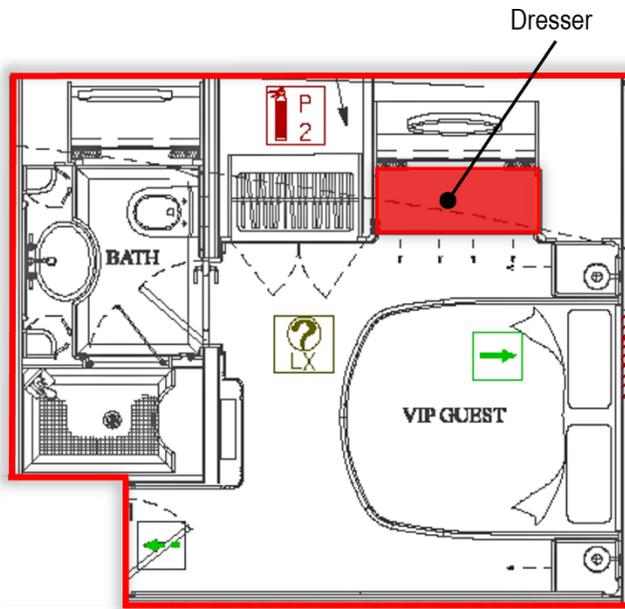
While making final preparations in the port VIP suite, the chief stewardess and second stewardess noticed that the lights throughout the lower deck and in the main salon on the main deck above were not working. They reported the issue to the captain. The captain then proceeded to check the circuit breakers on the lower deck and the automated lighting system's main interface from the bridge. He told investigators that he believed the problem was connected to the automated lighting computer on the bridge and "was going to be something we'd remedy quickly." Since the chief engineer was not on hand, the captain solicited guidance from an "engineer friend" over the phone.

About 1910, the owner's guest arrived on board the vessel and was escorted to the VIP suite. The lighting issue, however, was not remedied. According to the first officer and engineer, the overhead lighting in the main salon was out the previous day, but they were unaware of the lighting not working on the lower deck. At 1918, the first officer departed the *Andiamo* with the deckhand to prepare the owner's other vessel in the marina as another option for the guest.

To illuminate the VIP suite, the chief stewardess lit three candles—two of which were new, 8 inches tall, and about 4 inches in diameter, while the other was about half their size and contained in a glass jar—and placed them about 6 inches apart in the center of a wood veneer dresser top. Candle holders or secondary containment were not used with the two new candles. The dresser was located directly below a porthole, which was decorated with two curtains that were usually drawn open (pushed to either side of the porthole) during the day and closed in the evening. The chief stewardess told investigators the curtains were open when she placed the candles on the dresser. She stated that after the candles were lit, the candle in the glass jar was flickering due to the wick being too long, so she covered it with the lid to extinguish the candle. The other two candles remained burning. The second stewardess then departed the suite; the guest proceeded to the sky lounge to make a few phone calls, followed by the chief stewardess.

When the chief stewardess went down to the galley to get refreshments for the guest—she estimated about 3 minutes later—the second stewardess and chef told her that they noticed "a funny smell" in the main salon. The chief stewardess then opened the door to the main salon and saw a plume of black smoke about 4 feet high from the deck.

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**Profile view of the port VIP suite on the lower deck where the candles were lit on the dresser. (Source: Benetti Fire & Safety Plan)**

The captain, who was on the bridge still consulting with his friend on the phone about the lighting issue, heard the two stewardesses yelling, “Fire!” The captain proceeded to investigate the location of the smoke in the main salon but could not determine the origin of the fire. He instructed the chief stewardess to have everyone on board evacuate the vessel and to call for help, which included notifying the first officer. (The captain did not activate the general alarm on the bridge.) At 1923, while standing on the dock with the guest, the second stewardess placed a 911 emergency call.

The *Andiamo* was equipped with an Autronica integrated fire-detection and alarm system that consisted of a combination of smoke and thermal detectors throughout the vessel spaces. The

main fire alarm panel was in the wheelhouse, and there was a repeater panel in the galley. The VIP suites, guest rooms, and guest lobby (through which the staircase ran) were outfitted with Autronica “luxury type” smoke detectors and portable fire extinguishers. The guest lobby was also equipped with a manual (pull-type) fire alarm and an audible alarm. The crew told investigators that they neither heard nor saw any fire alarms at that time.

With most of the crew having evacuated the vessel, the captain went to the starboard-side aft fire station to connect a fire hose. The chef came to assist him, and they made their way forward on the port side toward the galley entrance. The captain’s intention was to start the fire pump from the pilothouse, being that it was the shortest distance to travel to fight the fire. But on the way to the galley door, they both “realized it was over, and there was no fighting it,” so they proceeded to evacuate the burning vessel. The first officer and deckhand, who had just returned from the other vessel, saw the aft main salon doors open with what looked “like a flame ball” and therefore decided it was unsafe to enter the vessel to assist the crewmembers’ firefighting efforts.

After all the crewmembers and guest were safely on the dock, the captain instructed them to alert adjacent vessels. Assuming the fire was electrical in nature, he also shut down the shore power to the vessel by opening the breakers at the electrical power pedestal on the pier. At 1926, crews on neighboring vessels, including the *C Star*, took immediate action and charged a fire hose on the starboard quarter of the *C Star* to fight the fire.

At 1930, the City of Miami Fire Rescue arrived on scene with their water assets, followed shortly afterward by Miami-Dade Fire Rescue with additional fireboats. By this time, the *Andiamo* was engulfed in flames. Firefighters worked on extinguishing the fire alongside other responding

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agencies to help prevent the spread of the fire to adjacent vessels. The crew aboard the *Namaste* charged two fire hoses and started fighting the fire at 1946. The captain and crew of the *C Star* got their vessel under way to escape the fire at 1954, followed by the *Namaste* at 2005.

The fire was reported to be under control within two hours. However, as firewater flooded the upper decks of the vessel, the *Andiamo* started to list to starboard, rolled, and capsized on

its starboard side, coming to rest on the marina's sea floor at 2130. The fire was extinguished at 2220. Aside from putting out the fire, the Miami-Dade Fire Rescue deployed an oil-absorbent boom to minimize the environmental impact from an oil sheen.

The fire did not spread beyond the *Andiamo*, but adjacent vessels sustained smoke and heat damage, and the marina's power pedestal and dock floats required repair.

### Additional Information

**Fire damage and origin.** The cause of the fire was ruled accidental by the Florida Bureau of Fire, Arson, and Explosives Investigations, whose assistance was requested by the City of Miami Fire Rescue. A post-fire forensic examination by investigators and other party members that included the *Andiamo*'s flag state, the Marshall Islands; the US Coast Guard; and the American Bureau of Shipping (ABS) was conducted at a secure facility where the vessel had been towed.

The fire report from the Florida Bureau of Fire, Arson, and Explosives Investigations found that the exterior of the *Andiamo* sustained varying degrees of fire, heat, and smoke damage. Most of the damage was located toward the forward end on the port side, given that the starboard side had submerged under water as the fire was being extinguished. A set of exterior stairs connecting the bow to the portside walkway was destroyed, leaving a gaping hole. The sun deck sustained minimal damage.

In contrast to the exterior damage, the interior sustained severe fire, heat, and smoke damage. The interior of the upper deck and salon were thoroughly destroyed by the fire. The deck, bulkheads, and ceilings were heavily damaged and partially collapsed. The area located forward of the salon primarily sustained soot damage.

The fire, heat, and smoke damage continued into the lower deck down the spiral staircase. The guest lobby overhead and open spiral stairway received minor fire damage, and the adjacent spaces received minimum smoke damage. The four rooms on the lower deck displayed varying degrees of damage, with the greatest fire damage to the port VIP suite, which was heavily charred, especially near the portside bulkhead, porthole, and overhead (ceiling). This side of the room,



***Andiamo* listing to starboard as fireboats attempt to extinguish the fire. (Source: Courtesy of Miami-Dade Fire Rescue)**

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where the lit candles had been placed on the dresser beneath the room's porthole, was identified as the lowest point of burning. A V-pattern toward the fore end extended upward and out from the dresser.

The area of fire origin was determined to be at the top of the dresser in the port VIP suite. From there, the fire spread upward, vented through the overhead air-conditioning duct and open stairway in the guest lobby, and subsequently burned a hole through the ceiling above the dresser. The burned hole in the exterior staircase aligned with the dresser and base of the V-pattern in the main salon. The port VIP suite had minimum fire damage below the dresser.



Promotional and postaccident photos indicate location of the candles (yellow rectangle) in the unattended port VIP suite. (Source [top photo]: MCA Yachts, annotated by NTSB)

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**Inspection and Maintenance.** ABS initially classed the *Andiamo* in August 2006 but suspended the vessel's class in June 2019 due to an overdue survey. (Although private yachts are not required to be approved by a classification society, which establishes a set of safety standards that a vessel must meet, some owners choose to class their vessels to reduce insurance costs and maintain their value.)

While the *Andiamo* was drydocked from June to October 2019 to bring the vessel into compliance, ABS found several deficiencies with the vessel. On October 2, ABS documented two findings concerning the fire-detection and alarm system that remained open until the day of the accident: the system was found in "inoperable condition," and the remote fire-safety shutdown system, the louvers, and ventilation fans in the engine room could not be remotely shut down from the emergency shutdown station.

On several occasions, ABS attended the vessel to clear the deficiencies. However, the *Andiamo* crew did not successfully repair the smoke and heat sensors for the operational test, as several smoke detectors on the bridge, main salon, and lower deck failed to provide audible or visual alarms. ABS returned to the vessel the day before the accident to test the fire detectors but found the same sensors inoperable.

The owner of the *Andiamo* deferred maintenance decisions to the captain and crew. While the captain and owner provided investigators several invoices documenting vessel repairs for the firefighting equipment and systems, there were no records of work conducted on the vessel's fire-detection and alarm system for smoke and heat sensors. There was no indication the captain and crew attempted to contact or consult the fire-detection and alarm system's manufacturer or a certified technician to repair the inoperable system over a two-month timeframe when the crew lived on board the vessel.

**Postaccident Actions.** As a result of the fire, the Marshall Islands issued a yacht safety advisory on April 20, 2020, based on its investigations of four registered yacht fires during the previous year. The advisory highlighted three major areas of concern: preventing fires; ensuring fire-detection and extinguishing systems are fully functional; and ensuring yacht crews are prepared to respond to a fire. Identified as a fire risk posed by human activity was "leaving open flames such as...candles unattended."

## Analysis

About 10 minutes prior to the crew first noting smoke, the chief stewardess escorted the guest to the port VIP suite, where she lit three candles and placed them on top of the wood veneer dresser beneath a porthole decorated with curtains above. The candles were lit to illuminate the space because the lighting was out throughout the lower deck (as well as in the main salon on the main deck above). After leaving two lit candles unattended, the chief stewardess followed the guest to the sky lounge.

The fire report revealed the fire originated in the port VIP suite. As the safety advisory issued by the *Andiamo*'s flag state warned, "leaving open flames such as...candles unattended" poses a fire risk. The candles also had not been secured on candle holders or any other type of secondary containment to ensure they would remain stationary, a precaution particularly important on a vessel likely to sway even within its berth. As the open flames burned, the curtains hanging alongside the porthole above the dresser nearby likely provided the combustible material that

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started the fire. Further, the vessel's interior spaces were framed in wood with veneer, as well as outfitted and furnished with wood and other flammable materials, allowing the fire to spread upward.

Although several of the rooms and adjoining spaces on the lower deck were equipped with smoke detectors, the fire-detection and alarm system for the vessel had been inoperable during the two months before the fire, as reported by ABS on October 2. While attempts were being made by the crew to repair the system, multiple visits from ABS indicated the system and alarms were not functioning. If fully functional, the fire-detection and alarm system would have alerted the crew of the fire's location at its onset and thus provided an opportunity for a direct response. Earlier detection of the fire likely would have allowed the crew to suppress the fire with onboard equipment such as handheld fire extinguishers.

### Probable Cause

The National Transportation Safety Board determines that the probable cause of the fire aboard the private yacht *Andiamo* was burning candles left unattended that resulted in an undetected fire in a guest cabin. Contributing to the severity of the fire was the crew's failure to complete timely repairs to a fire-detection and alarm system known to be inoperable for two months.

#### **Avoiding Candle Use on Vessels**

According to the National Fire Protection Association, burning candles results in hundreds of millions of dollars in damages ashore in the United States, including injury and loss of life. Candle usage on a vessel, whether attended or not, also poses a fire risk. Given the dynamic environment of a vessel, candles can move, and their open flames can ignite combustible materials. The abundance of flammable materials on board can allow a fire to quickly spread out of control. Flashlights and battery-powered lighting are safer alternatives to use during a loss of electrical power.

## Vessel Particulars

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Vessel	<i>Andiamo</i>
Owner/operator	MAB 120, LLC
Port of registry	Bikini, Marshall Islands
Flag	Republic of the Marshall Islands
Type	Private yacht
Year built	2006
Official number (US)	71133
IMO number	9446233
Construction	Fiberglass-reinforced plastic (FRP)
Length	120 ft (36.57 m)
Draft	12.9 ft (3.93 m)
Beam/width	25.8 ft (7.86 m)
Tonnage	299 GRT
Engine power; manufacturer	3,000 hp (2,238 kW); MTU marine diesels
Persons on board	5

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**NTSB investigators worked closely with our counterparts from Coast Guard Sector Miami throughout this investigation.**

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For more details about this accident, visit [www.nts.gov](http://www.nts.gov) and search for NTSB accident ID DCA20FM007.

### Issued: August 27, 2021

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The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under Title 49 *United States Code*, Section 1131(b)(1). This report is based on factual information either gathered by NTSB investigators or provided by the Coast Guard from its informal investigation of the accident.

The NTSB does not assign fault or blame for a marine casualty; rather, as specified by NTSB regulation, “[NTSB] investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” Title 49 *Code of Federal Regulations*, Section 831.4.

Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by conducting investigations and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. Title 49 *United States Code*, Section 1154(b).

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