



National Transportation Safety Board

Marine Accident Brief

Fire aboard Offshore Supply Vessel *Grand Sun*

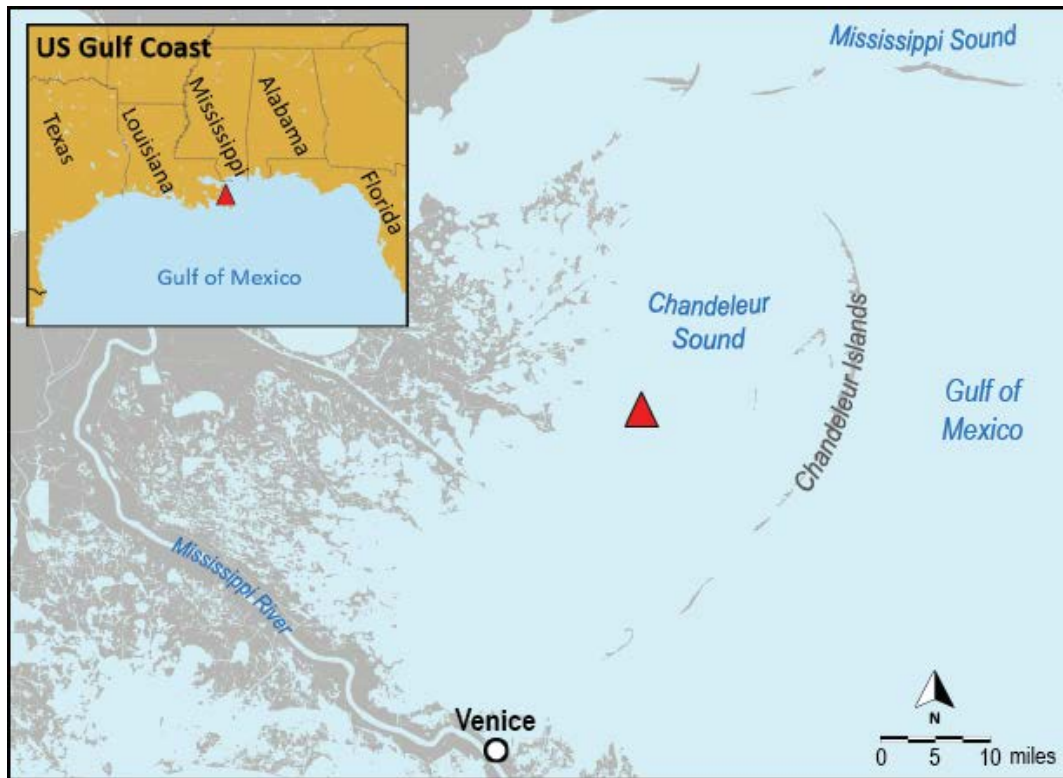
Vessel name	<i>Grand Sun</i>	Accident No. DCA19FM001
Accident type	Fire/Explosion	
Location	Chandeleur Sound, Louisiana 29°45.64' N, 089°09.72' W	
Date	October 8, 2018	
Time	0215 central daylight time (coordinated universal time – 5 hours)	
Injuries	None	
Property damage	Estimated \$1.6 million	
Environmental damage	None	
Weather	Visibility 5 miles, intermittent rain, winds 15-20 knots from the east, air temperature 85° F, water temperature 86° F; civil twilight starts 0630	
Waterway information	Seas westerly at 4 feet; the Chandeleur Sound lies south of Mississippi Sound. The sound offers smoother water to shallow-draft vessels.	

On October 8, 2018, about 0215 local time, the offshore supply vessel *Grand Sun* was transiting the Chandeleur Sound in the Gulf of Mexico, about 15 miles from the Chandeleur Islands, Louisiana, when the vessel caught on fire. The four crewmembers aboard attempted to fight the fire but were unsuccessful. They remained on the stern of the vessel until they were rescued by the US Coast Guard. The fire burned itself out, and the vessel was later towed to port. No pollution or injuries were reported. The vessel, valued at \$1.6 million, was deemed a constructive total loss.



The *Grand Sun* before the accident. (Source: Y & S Marine Inc.)

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Area of the Chandeleur Sound where the *Grand Sun* caught fire, indicated by a red triangle. (Background Source: Google Maps)

Accident Events

The 120-foot-long *Grand Sun* was an offshore supply vessel inspected to small passenger vessel regulations (46 *Code of Federal Regulations* [CFR] Subchapter T). On Sunday, October 7, 2018, the *Grand Sun* departed its homeport of Venice, Louisiana, at 1300 with four crewmembers, en route to Viosca Knoll Block 817 (VK 817), an oil platform about 58 miles offshore. The *Grand Sun* arrived at 1700, loaded 34 passengers and cargo, departed the platform at 1745, and arrived in Pascagoula, Mississippi, at 2200. After discharging the passengers and offloading cargo, the *Grand Sun* departed at 2230 en route to Venice, Louisiana, on a southerly course at 16 knots. Visibility was good (about 5 miles), with intermittent rain, winds from the east 5–20 knots, and seas westerly at 4 feet.

The crew consisted of two captains and two deckhands. Both captains stated the *Grand Sun* was functioning well, with no problems with mechanical, electrical, or navigation equipment. The second captain was in the wheelhouse operating the vessel, and the on-duty deckhand served as lookout and made security rounds. The off-duty first captain and off-duty deckhand were in the galley watching television, and both fell asleep about 0100. About 0200, the on-watch deckhand told the second captain that he noticed an odd smell. The deckhand made rounds of the galley, crew's quarters, generator room, engine room, and passenger compartments, and returned to the wheelhouse, where he expressed concern to the second captain that he was unable to find the exact source of the smell. The second captain slowed the vessel's propulsion to about 4 to 6 knots to see if the reduction of noise and relative wind would help the deckhand locate the source of the odor.

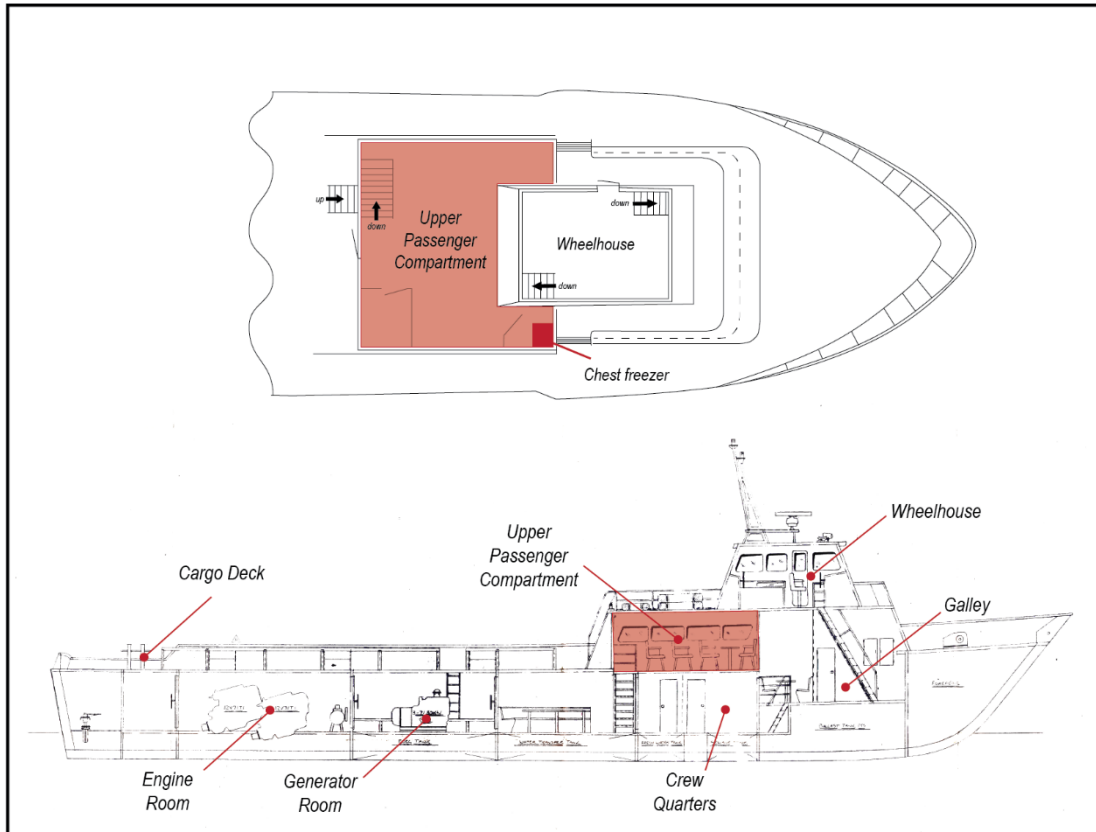
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The *Grand Sun* got under way from Venice, Louisiana, to the offshore platform Viosca Knoll Block 817, where they picked up and transported passengers and cargo to Pascagoula, Mississippi. The *Grand Sun* was en route back to Venice, Louisiana, when the accident occurred. (Background source: Google Maps)

About 0215, on his fourth round searching for the source of the odor, the on-watch deckhand discovered a pile of four foam work vests on fire. The work vests were stored on a chest freezer (a household freezer used to store food for the crew) located on the starboard side forward, in the upper passenger compartment, behind the door leading to the wheelhouse (see image below). He alerted the first captain and off-duty deckhand, who were sleeping in the galley. The off-duty deckhand went to the generator room to start the fire pump, and the first captain followed the on-watch deckhand to the fire. The first captain stated that the compartment was filled with thick smoke, but the flames appeared small, so he used a nearby freshwater “garden hose” located just outside the passenger compartment to attempt to extinguish the flames. About the same time, the wheelhouse filled with thick smoke, forcing the second captain out of the wheelhouse before he could make a Mayday transmission on the vessel’s VHF radio. According to the on-watch deckhand, when the second captain opened the wheelhouse door, the fire expanded into the wheelhouse “like somebody threw gasoline on it.”

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Vessel plans modified to show the wheelhouse, upper passenger compartment, galley, and crew quarters. The passenger compartment where the fire was discovered is highlighted in red, and the chest freezer is marked as a red square. (Source: Y&S Marine Inc.)

The on-watch deckhand told the first captain there was no water pressure to the fire hose. They went to the generator room and found the fire pump operating in recirculation mode, so they opened the discharge valve, and the fire hoses were confirmed to have water pressure. The first captain then went to the port bridge wing door of the wheelhouse, where the second captain was attempting to contact 911 emergency services ashore on his cell phone. The first captain stated he noticed flames on the aft starboard bulkhead in the wheelhouse, so he opened the wheelhouse door and fought the fire with a fire hose for about 8 minutes. The water pressure failed, the vessel lost electrical power, and the windows to the passenger compartment began to “burst.” With no water for the hoses and the heat too intense to retrieve the portable fire extinguishers, the crew ceased efforts to fight the fire and moved to the stern on the cargo deck, closing the remote emergency fuel shutoff valves to the engines as they retreated.

After several attempts, the second captain was able to get cell phone connectivity long enough to report the emergency to a 911 operator, who routed the call at 0235 to the Coast Guard and informed them that the *Grand Sun* was “on fire and sinking” near the Chandeleur Islands, Louisiana. The second captain reported that four crewmembers were on the vessel’s stern, and if they were forced to abandon ship, they would be clinging to ice chests and a life ring with a strobe light (the lifejackets and life floats were located in the passenger compartment and aft of the wheelhouse and could not be accessed because of the fire, heat, and smoke). Coast Guard Sector New Orleans assumed Search and Rescue Mission Coordinator, an MH-65 Dolphin helicopter was

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launched from Coast Guard Air Station New Orleans, and a 45-foot response boat (RB-M) got under way from Coast Guard Station Venice. By 0352, the fire had burned itself out. The MH-65 located and hoisted all four crewmembers, one at a time, from the vessel's stern. The crewmembers were transported to Coast Guard Air Station New Orleans, and all declined to be medically evaluated by EMS.

The owner dispatched a vessel, *Sun Fighter*, with a surveyor on board to assess the damage and tow the vessel to shore. The *Sun Fighter* reached the *Grand Sun* during the afternoon on the day of the fire. The surveyor reported that when the *Sun Fighter* began towing the *Grand Sun*, water flooded through holes at the waterline (caused by the fire), and the vessel filled with about 7 feet of water. The holes were temporarily sealed with plywood, the water in the hull was pumped overboard, and the vessel was towed to Venice, Louisiana, for a damage survey.

Additional Information

On October 15, a fire investigator examined the docked vessel and found significant fire damage in the location of the wheelhouse and the passenger compartment.¹ The fire consumed the vessel's entire superstructure, including the interior main deck and wheelhouse. The aluminum hull was nearly burned to the waterline amidships with a 3-by-3-foot hole on the port side and a 10-by-10-foot hole on the starboard side. The generator room was fire-damaged. The engine room, just aft of the generator room, had no fire damage but had water damage from flooding during the initial tow.



Forward starboard corner of the upper passenger compartment: the red horizontal line represents the location of the chest freezer before the fire, and the red arrow points to the remains of the chest freezer on the deck of the crew quarters. (Source: SEA, Ltd.)

The foam work vests were stored in the upper passenger compartment, where the interior bulkheads were covered with wood paneling. The windows in this area had curtains, and lifejackets for the passengers were stored in shelves above the chest freezer. After the fire, the chest freezer fell through the deck, and the remains were located in the crew's quarters with the power cord was burned away. The electrical wiring in the upper passenger compartment was unable to be traced due to the significant fire damage.

The fire investigator concluded in his report that “the fire originated within the upper passenger compartment of the vessel; specifically, on the starboard side, in the area of the [chest] freezer in the corner of the compartment.” The investigator stated that the only potential ignition sources identified within the area of origin of the fire were the chest freezer, duplex receptacle, and electrical wiring. He determined that “the odor of something burning would be consistent with the overheating of a wire either at the [chest] freezer or possibly the wiring in the wall at the receptacle powering the chest freezer.” In the area of the chest freezer, the only potential first fuels

¹ Hill, Michael R. *Vessel Fire Examination Origin and Cause Analysis*, SEA No. 07.090201, October 25, 2018.

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The upper passenger compartment: the vertical arrow is the ladder to the wheelhouse; the horizontal arrow indicates the open wheelhouse door behind which the chest freezer was located and where the fire was first observed. (Source: SEA, Ltd.)

company for his entire 16 years in the maritime industry. He held a valid master of U.S. self-propelled vessels of less than 100 gross register tons, upon near-coastal waters license for 13 years. The on-watch deckhand was 41 years old and had worked for the company for 3 years and in the maritime industry for 20 years. He had also served as a volunteer firefighter ashore for 10 years. Post-accident toxicological samples were taken from all four crewmembers on October 8—all drug and alcohol results were negative.

The company provided monthly firefighting training logs for January and February 2018. The company could not find monthly training logs for March through September 2018. The crew reported that they had performed monthly fire drills aboard the vessel and had each completed a multi-day course on how to fight a fire.



The *Grand Sun* post-fire. (Source: Coast Guard)

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Analysis

Based on the fire investigator's examination and report, the likely origin of the fire was the overheating of electrical wiring either in the chest freezer or in the bulkhead at the receptacle powering it. The on-watch deckhand discovered the crew's foam work vests on fire on top of the chest freezer, and since the damage to the vessel was greatest in the interior main deck (where the chest freezer was located) and the wheelhouse (above the chest freezer), it is likely that electrical components in or supplying the chest freezer were the source of ignition.

The watch smelled an odor related to the fire and completed four rounds of the vessel over a 15-minute period to find its source; however, by the time the crew identified the location of the smell, the work vests were on fire. The crew attempted to extinguish the fire, but they were hindered by heavy smoke. The fire and smoke spread rapidly to the wheelhouse above the passenger compartment, which prevented the second captain from making a mayday call via the vessel's radio. The combustible materials in the upper passenger compartment, including the wood paneling, window curtains, and passenger lifejackets stowed overhead, allowed the fire to rapidly expand, consuming the superstructure and the accommodation spaces below the main deck. The fire damage caused the vessel to lose electrical power and then the fire pumps supplying the water hoses shortly after the crew began fighting the fire. The crew attempted to reach the fire extinguishers, but they were inaccessible due to the intense heat. Since there were no other accessible fire pumps aboard, the crew was unable to effectively fight the fire and was forced to retreat to the stern of the vessel.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the fire on the *Grand Sun* was the overheating of electrical wiring associated with a chest freezer or the receptacle powering it, which was located in an accommodation space. Contributing to the extent of the fire damage was the substantial use of combustible wood paneling and drapery throughout the accommodation spaces.

Vessel Particulars

Vessel	<i>Grand Sun</i>
Owner / operator	Y&S Marine Inc.
Port of registry	New Orleans, Louisiana
Flag	United States
Type	Offshore supply vessel
Year built	1981
Official number (US)	636097
IMO number	Not applicable
Construction	Aluminum
Classification Society	Not applicable
Length	120 ft (36.6 m)
Draft	6 ft (1.8 m)
Beam/width	25 ft (7.6 m)
Tonnage	98 GRT
Engine power; manufacturer	4 Cummins KTA-19M2 2200 hp (1641 kW), quad screw
Persons on board	4

NTSB investigators worked closely with our counterparts from Coast Guard Sector New Orleans throughout this investigation.

For more details about this accident, visit www.nts.gov and search for NTSB accident ID DCA19FM001.

Issued: November 25, 2019

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*, 1131. 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*, 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*, 1154(b).
