



**National Transportation  
Safety Board**

**Memorandum**

**Date:** March 26, 2020  
**To:** Acting Director, Office of Marine Safety  
**From:** Eric Stolzenberg, Chief, Product Development Division [REDACTED]  
**Subject:** Close-out memo regarding the loss of propulsion in heavy sea conditions on board the passenger ship *Viking Sky* and the subsequent partial evacuation of the vessel.

<b>Accident no.</b>	DCA19RM027
<b>Accident type</b>	Hull/Machinery/Equipment Damage
<b>Vessel</b>	Norwegian-flagged passenger/cruise ship <i>Viking Sky</i>
<b>Location</b>	Norwegian Sea, about 4 nautical miles northwest of Hustad, Norway (063° 00.3' N, 006° 59.6' E)
<b>Date</b>	March 23, 2019
<b>Time</b>	1359 Central European standard time (coordinated universal time + 2)
<b>Injuries</b>	18 injuries
<b>Damage</b>	Damage to internal spaces and weather deck lifesaving appliances.
<b>Environmental damage</b>	None
<b>Weather</b>	Strong gale to storm force winds (Beaufort 9–10) 45–50 knots from the southwest, seas 26–30 feet
<b>Waterway characteristics</b>	Hustadvika, Norway is in the western part of Norway between Bud and Kristiansand. The Admiralty Sailing Directions state that this portion of the Norwegian Sea is a notoriously dangerous area; the coast is completely exposed to the weather, and extensive shoals lie offshore. Strong winds from the southwest to northwest raise a large, steep swell with hollow breaking seas, especially during the outgoing tidal stream.

**AUTHORITY:**

The National Transportation Safety Board (NTSB) participated in the investigation of this accident under the International Maritime Organization (IMO) *Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident* (Casualty Investigation Code). When a flag State and/or investigating State designates the United States

a Substantially Interested State (SIS), the US Coast Guard represents the US Administration. The NTSB may join the Coast Guard in their role as an SIS.

In this investigation, the Accident Investigation Board Norway (AIBN) was the lead investigating authority. The United Kingdom and the United States were considered SIS in accordance with Norwegian Maritime Code Section 474. The United Kingdom's Marine Accident Investigation Branch and the Coast Guard, with the assistance of the NTSB, worked with the AIBN as representatives of the SIS. In addition, the Australian Transport Safety Bureau (ATSB) also assisted in collecting evidence for the investigation. Two investigators from the NTSB Office of Marine Safety assisted the Coast Guard in this investigation.

### **ACCIDENT DESCRIPTION:**

The *Viking Sky*, a Norwegian-flagged, diesel-electric-propelled, 749-foot, 47,842-gross-ton cruise ship, departed Bergen, Norway, on March 14 for a 13-day "In search of the Northern Lights" cruise that would terminate in Tillbury, England, on March 26. There were 915 passengers (of which 602 were US citizens), 458 crew, and 2 Norwegian coast pilots (mandatory for parts of the voyage) on board. The ship was scheduled to arrive in the port of Bodø on March 22, but this port of call was cancelled due to strong winds. The ship continued toward its next scheduled port of call in Stavanger, where it was due to arrive on March 24.

On the morning of March 23, while the vessel was under way in rough sea conditions, with three of the vessel's four diesel generators operating (one of the four diesel generators was undergoing maintenance and was inoperable at the time), 18 diesel engine lubricating oil low-level and low-volume alarms were registered by the operational generators on the ship's machinery automation system between 0500 and 0904. Each alarm was accepted and cleared within a few seconds by the engineer on watch.

Weather and sea conditions deteriorated, and at 1300, winds were recorded from the southwest at force 9–10 (45–50 knots) and waves reached 26–30 feet, with an outside air temperature of 36°F.

About 1337, a diesel generator registered an alarm indicating that it was shedding electrical load as a result of engine low lubricating oil pressure, and a few seconds later, the generator registered a low lubricating oil pressure alarm. A few minutes later, another diesel generator registered a "low low" lubricating oil engine sump level alarm. About 8 minutes later, both diesel engines shut down. Engineers were able to restart one of the two engines, but the restarted engine shut down again, along with the remaining operating generator, causing a complete black-out and loss of propulsion about 1359. Immediately, the ship's transitional power and emergency diesel generator started, supplying power to essential safety systems on board.

With the combined loss of main power and propulsion, the ship drifted, and the vessel's rolling motion increased due to the sea conditions. Witness statements and video indicated that the vessel was rolling heavily, causing loose objects, furniture, fixtures, and ceiling panels on board to move about the vessel.

The master assessed the wind and sea conditions and the ship's proximity to underwater navigational hazards and then broadcast a mayday at 1400. On receipt of the distress call, Southern Norway Joint Rescue Coordination Centre launched a major rescue operation.

The starboard anchor was dropped in about 85 feet of water; however, the anchor did not hold, and the ship continued to drift in a southeasterly direction towards the shore at a rate of 6–7 knots. The

general alarm was activated, and the passengers and crew began to muster at their designated emergency and assembly stations. The port anchor was then let go.

Engineers transferred lubricating oil to the sump tanks of the diesel generators, thereby allowing an engine to be restarted and restoring electrical power. By 1430, the port propulsion motor and the starboard propulsion motor had been started, and the ship maintained slow speed ahead. Over the next hour, engineers restarted two more diesel generators, which enabled propulsive output between slow ahead and half ahead.

Although the three available generators were operating, engineers had to continuously balance the electrical load manually. The vessel was maneuvered towards open waters with both anchors lowered.

The first rescue helicopter arrived at approximately 1517, and about 5 minutes later, the first passengers were hoisted from an open upper deck on the ship's starboard side and taken ashore. The master had considered evacuating passengers and crew to the lifeboats but believed this to be too dangerous given the environmental conditions. The helicopter continued hoisting passengers and transporting them ashore until the next morning.

The first tugboat arrived about 1640, but the sea and weather conditions were too severe to secure a towline between the tugboat and the *Viking Sky*. Early the next morning, conditions had improved sufficiently to enable tugs to be made fast to the ship, and towlines were secured forward and aft, though the vessel maintained its own propulsion. About 0915, the master determined that the vessel was no longer in danger and that it was safe to stop the evacuation of the passengers by helicopter. Reports indicated that the emergency center ashore had received a total of 479 evacuated passengers. The *Viking Sky* was towed to the port of Molde where it was moored by late afternoon on March 24.

There were 18 passengers injured. There was no environmental damage, nor was there structural damage to the ship. The ship sustained external damage to lifesaving appliances on the starboard-side embarkation deck, and internal damage to mostly public spaces from water and loose objects.


#### **INVESTIGATION:**

The AIBN is producing a report of its investigation; the Coast Guard is not expected to produce a separate report. Following the practices in the IMO Casualty Investigation Code, the NTSB and the Coast Guard Office of Investigation and Analysis will make joint comments to the draft AIBN report. The AIBN will consider any suggested recommendations from the Coast Guard and the NTSB. The NTSB will post the final report on the public docket.

#### **CONCLUSION:**

Because the AIBN will produce a report and the Coast Guard will not pursue a separate investigation, I have determined that this accident does not warrant further investigation and therefore recommend that we close this investigation.

I concur,

  
Morgan Turrell,  
Acting Director, Marine Safety

**VESSEL PARTICULARS:**

<b>Vessel</b>	<b><i>Viking Sky</i></b>
<b>Owner/operator</b>	Viking Ocean Cruises AS/Wilhemsen Ship Management (Norway) AS
<b>Port of registry</b>	Bergen, Norway
<b>Flag</b>	Norway
<b>Call Sign</b>	LAYU7
<b>Type</b>	Passenger/Cruise Ship
<b>Year built</b>	2017
<b>IMO number</b>	9650420
<b>Classification society</b>	Lloyds Register
<b>Construction</b>	Steel
<b>Length</b>	749.3 ft (228.4 m)
<b>Breadth</b>	94.5 ft (28.8 m)
<b>Draft</b>	21.0 ft (6.4 m)
<b>Tonnage</b>	47,842 GT ITC
<b>Propulsion type</b>	Diesel Electric, fuel oil engines, twin shaft fixed-pitch propellers
<b>Propulsion power</b>	2 x 7250 kW DKMEF propulsion motors
<b>Engines and manufacturer</b>	2 x MAN 12V32/44CR (6720 kW) and 2 x MAN 9L32/44CR (5040 kW)
<b>Service speed</b>	17 knots
<b>Persons on board</b>	1375 (915 passengers, 458 crew, and 2 pilots)