



National Transportation Safety Board

Marine Accident Brief

Fire Aboard Vehicle Carrier M/V Alliance Norfolk

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|--------------------------------|--|
| Accident no. | DCA-12-LM-012 |
| Accident type | Fire |
| Vessel | M/V <i>Alliance Norfolk</i> |
| Location | Mediterranean Sea, about 30 miles northeast of Malta 36° 17.0' N, 014° 39.0' E |
| Date | March 10, 2012 |
| Time | 1030 central European time (universal time coordinated + 1) |
| Injuries | 3 minor injuries |
| Damage | Est. \$1.3 million |
| Environmental damage | 10–15 gallons diesel oil in the water |
| Weather, sea conditions | Gale force winds from 060° at 33 knots gusting to 51 knots and wave heights of 18 to 32 feet |

On the morning of March 10, 2012, while transiting between Malta and Sicily, Italy, in the Mediterranean Sea, the M/V *Alliance Norfolk*, a roll on/roll off vehicle carrier, encountered rough weather and heavy seas resulting in damage to its cargo and a subsequent fire on a cargo deck. The fire was extinguished at sea, but 2 days later while in port, the damaged cargo deck was ventilated, and the fire reflashed, causing further damage to the vessel and its cargo.



Vehicle carrier *Alliance Norfolk*.
Photo by Jeffrey J. Kunce, <http://marinetraffic.com>.

The vessel was on a voyage from Jacksonville, Florida, bound for ports in the Arabian Gulf via the Suez Canal when it experienced rolls up to 30 to 35 degrees during its passage through the Mediterranean (see accident location next page). While experiencing rough seas, the main engine tripped and was subsequently restarted. During this time the crewmembers checked the status of cargo, which included military containers, commercial vehicles, motorcycles, small boats, and

Cargo Damaged During Rough Weather and Subsequent Fire Aboard Vehicle Carrier M/V Alliance Norfolk

electrical and other equipment. During one of these checks, a crewmember observed large engines, generators, air conditioning chillers, and 20-foot containers adrift on cargo deck 5. The cargo was shifting with the rolling of the vessel, and being thrown against each other and the main deck supports of the cargo deck. The crew was unable to safely secure the cargo.



Position of the *Alliance Norfolk* when crew first reported the fire, in the Mediterranean Sea approximately 30 miles northeast of Malta between Sicily and Malta, as shown by the red pin. Chart from <http://itouchmap.com/latlong.html>.

At 1030, the fire detection and alarm system activated in cargo deck 5. The chief mate and chief engineer investigated and saw flames and heavy smoke coming from the area. Ventilation and boundaries for the area were secured in preparation for release of the fixed carbon dioxide (CO₂) fire extinguishing system, which was activated at 1050. Adjoining spaces were monitored for heat or fire, and the master reported the fire was extinguished at 1250.

Coast Guard investigators could not determine the initial source of ignition. However, the dynamic environment of the vessel rolling in heavy seas and shifting cargo in the presence of various flammable liquids (held within the mixed cargo and containers) could have produced an ignition source.

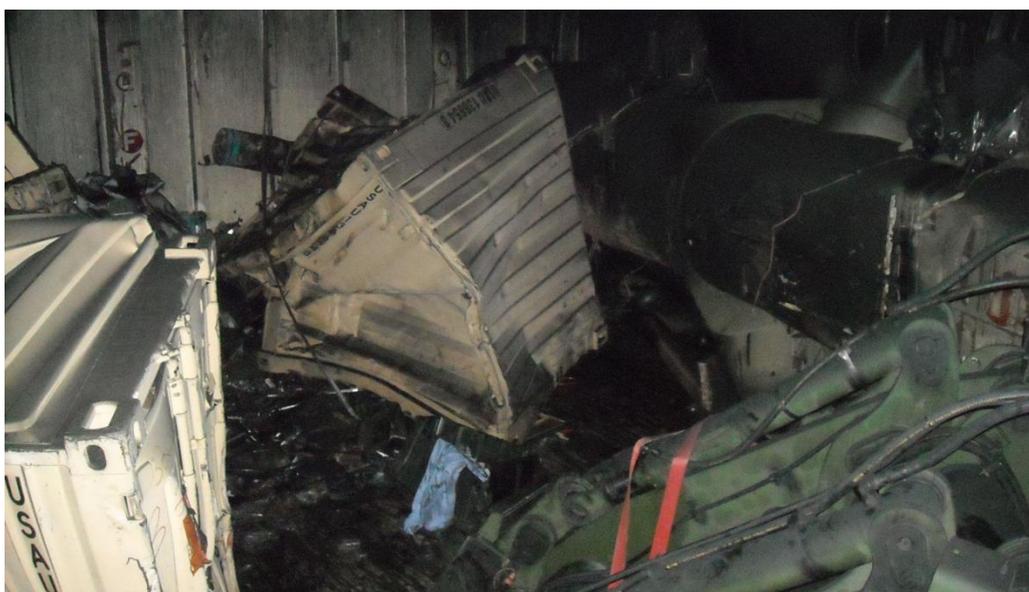
The vessel deviated course to Piraeus, Greece, as a port of refuge, and anchored there 2 days later at 1200 on March 12, 2012. A marine chemist boarded the vessel and at 1700 declared cargo decks 4, 5, and 7 safe for mechanical ventilation. However, at 2000 that evening, heavy black smoke was seen escaping from the ventilation system, indicating the smoldering fire had reflashed when ventilation reintroduced sufficient oxygen to feed the fire. The space was again secured, and the local fire department boarded the vessel and brought the fire under control nearly 9 hours later, at 0445 on March 13, 2012.

Following the accident, test results for illegal drugs and alcohol were negative for *Alliance Norfolk* crewmembers. Three crewmembers reported minor injuries.

**Cargo Damaged During Rough Weather and Subsequent Fire Aboard Vehicle Carrier
M/V Alliance Norfolk**



Cargo remains of Harley Davidson motorcycle and pool of oil on deck. (Photo by US Coast Guard)



Container damage in cargo hold. (Photo by US Coast Guard)

An interim survey report by Scandinavian Underwriters Agency (SCUA) Middle East Ltd., Dubai, June 4, 2012, estimated total damage to the vessel and its cargo caused by the fire was about \$1.3 million. Specific damage was reported to the following vessel areas and cargo:

- Approximately 40 military containers and vehicles;
- Approximately 24.3 tons of the vessel's structure, including fixed car deck 5 and hoistable car deck 6, port-side shell plating, structural pillars, longitudinal frames, and deck-mounted lashing bars;

Cargo Damaged During Rough Weather and Subsequent Fire Aboard Vehicle Carrier M/V Alliance Norfolk

- Drainage system pipes and valves, fire detection system, ventilation system, and lighting system of the cargo deck;
- Heavy fuel oil, compressed air, and fire main seawater pipe lines;
- Automation controls for car deck; and
- Communication system between the navigation bridge and the engine room.

Probable Cause

The National Transportation Safety Board determines the probable cause of the fire on board the *M/V Alliance Norfolk* was ignition of flammable material by an undetermined ignition source ondeck 5 due to shifting cargo while the vessel was rolling in heavy seas after losing power. Contributing to the severity of the damage was the reflash of the smoldering fire when the vessel was in port.

Vessel Particulars

| Vessel | Alliance Norfolk |
|---|---|
| Registered owner | Wilmington Trust Co. |
| Ship manager | Maersk Line Ltd. |
| Flag state | United States |
| International Maritime Organization number | 9332547 |
| Builder/date | Daewoo Shipbuilding & Marine Engineering Co. Ltd., December 2007 |
| Port of registry | Norfolk, VA |
| Classification society | Det Norske Veritas |
| Length overall | 655.8 ft. (199.9 m) |
| Breadth | 105.8 ft. (32.26 m) |
| Gross tonnage | 57,280 (International Tonnage Convention) |
| Engine type and power | 1 MAN-B&W 7S60MC diesel direct Max. power, 14,280 kW |
| Service speed | 20.5 knots |
| Cargo | Cars, trucks, motorcycles, boats; industrial and manufacturing parts and equipment; boxes and containers |
| Persons on board | 23 crew |
| Injuries | 3 minor |

For more details about this accident, visit <http://www.nts.gov/investigations/dms.html> and search for NTSB accident ID DCA12LM012.

Adopted: May 10, 2013

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 49 *United States Code* 1131. This report is based on information provided by the US Coast Guard from its informal investigation of the accident. The NTSB did not conduct its own on-scene investigation.