



# National Transportation Safety Board

## Marine Accident Brief

### Determination of Probable Cause

#### *Fire On Board Passenger Vessel Malaspina*

<b>Accident No.</b>	DCA-12-LM-009
<b>Vessel Name</b>	<i>Malaspina</i>
<b>Accident Type</b>	Fire
<b>Location</b>	Alaska Ship and Drydock (ASD), Ketchikan, Alaska 55°21.3952' N, 131°41.9782' W
<b>Date</b>	February 7, 2012
<b>Time</b>	1155 Alaska standard time (universal coordinated time –9 hours)
<b>Injuries</b>	None
<b>Damage</b>	Est. \$500,000–\$750,000
<b>Environmental damage</b>	None
<b>Weather</b>	Winds light and variable, clear skies, 10-mile visibility Air temperature 45° F
<b>Waterway characteristics</b>	Vessel was out of the water for repairs in ASD's drydock

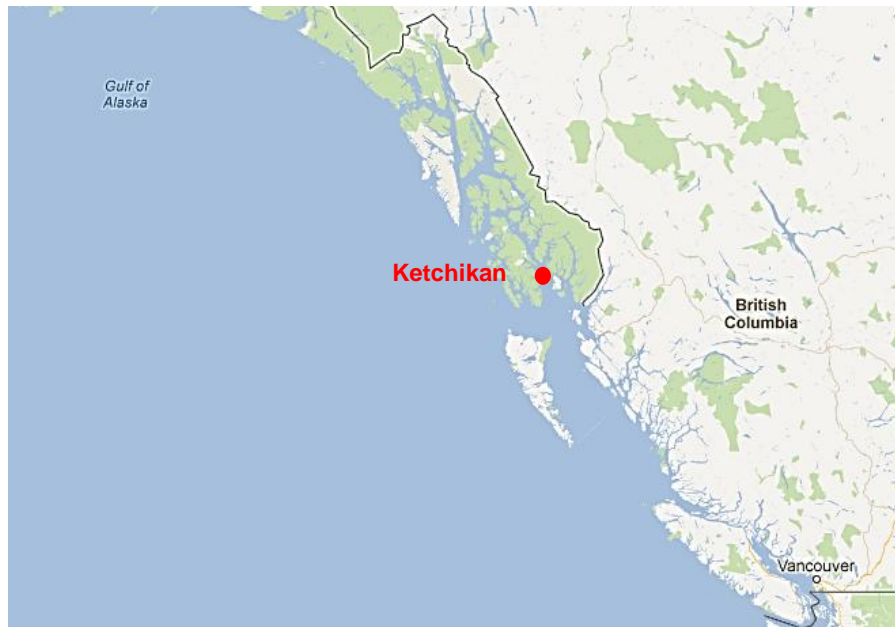
The passenger vessel *Malaspina* was in dry dock in Ketchikan, Alaska, for scheduled repairs when a fire broke out on February 7, 2012, resulting in estimated damage of \$500,000 and \$750,000. No one was injured. The *Malaspina* was undergoing duct repair which required “hot work”—cutting, grinding, and welding. The vessel is shown in figure 1.



**Figure 1.** The passenger vessel *Malaspina* under way.

### Fire On Board Passenger Vessel *Malaspina*

The fire began in the sewage treatment room, also known as the marine sanitation device space, at about 1155 local time. A shoreside work crew employed by Alaska Ship and Drydock, Inc., (ASD) was on board the *Malaspina* to repair a ventilation duct located in a crewmember stateroom with fire watch personnel present. ASD's permit to perform the work did not call for the fire watch to remain on scene for any length of time once the work was completed. The location is shown in figure 2.



**Figure 2.** Ketchikan, Alaska, site of the *Malaspina* fire, on the coast at the far southeastern tip of Alaska, near British Columbia, Canada. Background by Google.

The sewage treatment room was located directly below the stateroom in which the repair work was taking place, and the open ventilation duct directly exposed the rooms to one another. The workers placed a welding curtain horizontally at the opening of the exposed duct to collect slag, the waste produced during high-temperature metal work, and other hot material to keep it from falling into the room below. About noon, after the workers had been cutting away steel tabs inside the duct, they and the fire watch departed for lunch. As they were leaving the vessel, shipyard and vessel personnel noticed smoke coming from the sewage treatment room. The local fire department was notified, and the fire was extinguished.

In the sewage treatment room, the fire burned spare rubber fan belts and hoses; severely damaged the sodium bisulfate injection system, which protects carbon filters from premature exhaustion; and damaged overhead insulation, sewage piping, and electrical power cabling. The fire also caused smoke and soot damage to nearby spaces.

The United States Coast Guard investigation revealed that the welding curtain the workers had placed over the ventilation duct was intended to be used only on a vertical plane to shield against sparks. It was not designed to withstand continuous contact with slag and other hot material as it did when placed horizontally. The hot material burned through the curtain and fell

**Fire On Board Passenger Vessel Malaspina**

down the duct into the sewage treatment room below, where it ignited combustible material. Although the curtain was improperly placed, however, if the workers had remained on site to ensure that the hot materials had cooled sufficiently, they could have detected and quickly extinguished any small flames before the fire spread.

**Probable Cause**

The National Transportation Safety Board determines that the probable cause of the fire on board the passenger vessel *Malaspina* was the failure of the shoreside work crew and fire watch to ensure that proper cooling had occurred before leaving the area where the repair work was conducted. Contributing to the accident was the work crew's improper use and application of a welding curtain, placed horizontally as opposed to vertically, which allowed molten material to burn through the curtain and fall into the space below.

**Vessel Particulars**

<b>Vessel</b>	<b>Passenger vessel <i>Malaspina</i></b>
<b>Owner/operator</b>	State of Alaska
<b>Port of registry</b>	Skagway, Alaska
<b>Flag</b>	United States
<b>Type</b>	Inspected ferry vessel
<b>Built</b>	August 3, 1962
<b>Official number (US)</b>	290288
<b>Construction</b>	Steel
<b>Length</b>	372.2 ft. (113 m)
<b>Draft</b>	10.83 ft. (3.3 m)
<b>Beam</b>	74 ft. (22.5 m)
<b>Gross tonnage</b>	2,928
<b>Engine power</b>	8,000-hp / 5,965 kW diesel
<b>Persons on board</b>	n/a (vessel was drydocked and undergoing scheduled maintenance)

For more details about this accident, visit <http://www.nts.gov/investigations/dms.html> and search for NTSB accident ID DCA12LM009.

**Adopted: February 1, 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 factual information provided by the US Coast Guard from its informal investigation of the accident. The NTSB did not conduct its own on-scene investigation.