

**MARINE OCCURRENCE REPORT**

**COLLISION**

**BETWEEN THE PASSENGER VESSEL "LOUIS JOLLIET"  
AND THE PLEASURE CRAFT "MERLIN"  
PORT OF QUEBEC, QUEBEC  
24 AUGUST 1994**

**REPORT NUMBER M94L0024**

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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### **SUMMARY**

During an evening excursion in the port of Québec on 24 August 1994, the passenger vessel "LOUIS JOLLIET", with a crew of 21 and 999 passengers on board, encountered the sailboat "MERLIN" which was returning, with an operator and one guest, to her marina at the entrance to the Chaudière River.

At the Pointe à Puiseaux, the "LOUIS JOLLIET" altered course to head on the centre span of the Québec bridge. Ahead of the passenger vessel, the "MERLIN" was crossing the river from the south to the north shore. The sailboat maintained her port tack in the prevailing light wind condition because it was assumed that the passenger vessel would proceed toward the centre of the river and pass astern. The sun had set and the navigational lights of the "MERLIN" were not operational. The "LOUIS JOLLIET" did not observe the progress of the "MERLIN".

As it was realized that a close-quarters situation was developing, the sailboat attempted to pass ahead of the passenger vessel by proceeding under both power and sail, but the operator was unable to start the outboard motor. To minimize the impact in a last-minute effort, the sailboat altered course to port. When the upper part of the sailboat's mast was observed bearing four points on the port bow of the passenger vessel, the helm of the "LOUIS JOLLIET" was turned hard over to port. However, the two vessels collided in estimated position Lat. 46°45.37'N, Long. 71°16.13'W, about 1.4 nautical miles south-west of the Pointe à Puiseaux. The starboard rigging on the "MERLIN" parted and the sailboat was dismasted. The port side of the "LOUIS JOLLIET" sustained negligible damage, and there were no injuries as a result of this accident.

**FACTUAL INFORMATION**

**Particulars of the Vessels**

Name	"LOUIS JOLLIET"	"MERLIN"
Port of Registry	Québec, Quebec	
Home Port		Québec, Quebec
Flag	Canadian	Canadian
Official Number	170718	
Licence Number		13D7608
Type	Passenger vessel	Sailboat
Gross Tonnage	2,437.63	
Length	50.29 m	5.6 m
Draught	Forward: 2.59 m Aft: 3.81 m	Retractable centre board keel
Propulsion	Four GM 671 diesel, 746 kW (1,000 BHP)	Outboard Chrysler 6 HP
Crew	21	1
Passengers	999	
Guest		1
Owners	Croisière AML inc. Québec, Quebec	J. Dufour St-Romuald, Quebec

The "LOUIS JOLLIET" is a rebuilt side-loading ferry boat. The upper deck comprises a wheel-house forward with bridge wings running to the side of the vessel. The forecandle deck is situated one deck below the bridge and is used as an observation deck and lounge. During evening excursions, this deck is lit with three spotlights mounted on the forestay. In addition, the outline of the vessel is highlighted from bow to stern by a series of low-intensity light-bulbs mounted on the stays.

The "MERLIN" is a sloop with a fibreglass hull, aluminium spars and stainless steel rigging. The vessel has a coach roof midships with a cockpit aft. The pleasure craft is steered by an exterior rudder blade and propelled by an outboard motor, both mounted on the transom.

The "LOUIS JOLLIET" and the sailboats "MERLIN" and "GECKO" were the only vessels present in the fairway between the Pointe à Puiseaux and the Québec bridge. This stretch of water is approximately 2.5 nautical miles long and, although the river narrows down before the bridge, it spans over a six-cable width. The navigation channel is approximately 4.5 cables wide.

The "LOUIS JOLLIET" departed Section No. 91 at 2005<sup>1</sup> and travelled at an average speed over the ground of 12.54 knots (kn). The surface speed of the vessel was approximately 9.5 kn, and the tide was flooding. Off the Pointe à Puiseaux, the "LOUIS JOLLIET" altered course to steer for the centre span of the

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<sup>1</sup> All times are EDT (Coordinated Universal Time (UTC) minus four hours) unless otherwise stated.

Québec bridge. The passenger vessel maintained a course of approximately 230° (T). The downbound sailboat "GECKO" was the only vessel observed, and it was assumed she would follow the south shore.

The "MERLIN" was close hauled with her genoa jib and main sail raised, but her progress was slow due to the prevailing westerly winds estimated at 3 to 4 kn with 6 to 7 kn gusts. On the sailboat, it was initially believed that the passenger vessel would pass astern and, therefore, the "MERLIN" maintained a course of approximately 275° (T) to reach the north shore.

To assist the master and chief officer who were present in the wheel-house, the "LOUIS JOLLIET" had seven deck-hands and a bosun to carry out look-out duty and supervise the passengers. The chief officer at the helm had the conduct of the vessel. The windows of the bridge were closed. The "LOUIS JOLLIET", the "MERLIN" and the "GECKO" each confirmed that the sky was clear, but visibility was reduced by darkness. The "GECKO" was the only vessel observed on the radar screen of the "LOUIS JOLLIET". The "MERLIN" was not equipped with a radar reflector as required by law.

It was realized on board the "MERLIN" that the sailboat's speed was insufficient, and an attempt was made to start the motor and pass ahead of the "LOUIS JOLLIET" but the outboard motor would not start. Risk of collision was not deemed to exist by those on board the "LOUIS JOLLIET" until the mast of the "MERLIN" was observed for the first time approximately 45° (four points) on the port bow at a distance of 3 to 5 m.

The navigation lights of the "MERLIN" failed on the second to last tack before the collision. There were no other sources of light on board. On the "LOUIS JOLLIET", there is a blind vertical sector under the overhang of the bow which extends approximately 85 m ahead of the bow, obscuring the view forward from the steering station on the bridge.

The weather was clear, but the sun had set and the moon had not risen.

The "MERLIN" did not have a radiotelephone and was not required to carry one by law. The operator and guest on the "MERLIN" shouted before the impact; however, music playing on the exterior decks of the "LOUIS JOLLIET" could have muffled their voices. The "MERLIN" used neither a flare nor a whistle to attract the attention of those on board the "LOUIS JOLLIET".

After the impact, the sailboat "GECKO" assisted the "MERLIN" until the CCG cutter "STERNE" arrived on the scene and pushed the sailboat to her marina.

## ANALYSIS

The "LOUIS JOLLIET" was designed as a harbour vessel and is considered capable of manoeuvring safely in the fairway where the collision occurred even though the deep water channel narrows down in this part of the harbour. Evidence suggests that the "LOUIS JOLLIET" was proceeding as near as possible to the starboard side of the fairway.

The progress of the "MERLIN" favoured the development of a risk of collision. As a sailing vessel of less than 20 m in length proceeding along the course of a fairway, the "MERLIN" was required to keep preferably to the starboard side, as far as practicable. Following the electrical failure which caused the navigation lights of the "MERLIN" to become non-operational, it would have been good seamanship to motor directly toward the marina upriver on the south shore.

As the "LOUIS JOLLIET" was approaching the "MERLIN" from a direction approximately 45° abaft the beam of the "MERLIN", an overtaking situation was developing. The Collision Regulations require the overtaking vessel, in this case the "LOUIS JOLLIET", to keep out of the way of the other vessel, the "MERLIN", whether or not the other vessel indicates agreement and takes appropriate action.

Although the "LOUIS JOLLIET" did not see the "MERLIN" and, therefore, did not assess that an overtaking situation was developing, it was both her duty to keep a proper look-out and her prime responsibility to keep out of the way of the overtaken vessel. Where background shore lighting affects visibility and there is a high concentration of pleasure craft, mariners must exercise due diligence when carrying out look-out duty. Contrary to the usual practice of turning off all non-navigation lighting forward of the bridge on passenger vessels while under way, the present lighting installation of the lounge on the forecastle deck of the "LOUIS JOLLIET" does not offer optimum forward visibility.

The fact that the "MERLIN" was the stand-on vessel did not relieve her of her obligation to continuously assess the situation. The slow overtaken sailboat may have realized that risk of collision existed when it was too late to get clear by her own action. When there was doubt as to the intentions of the overtaking passenger vessel, it was the sailboat's duty to indicate such doubt. The "MERLIN" did not have a radiotelephone, but a whistle and emergency flares were available. Proper means were not used in ample time to attract attention.

When the collision was deemed unavoidable by the give-way vessel alone, the stand-on vessel was required to take action to avert collision. Neither vessel made a last-minute alteration of course in time to effectively avert the collision.

## **FINDINGS**

1. The "MERLIN" was not equipped with a radar reflector and her navigation lights were non-operational. The "LOUIS JOLLIET" made neither radar nor visual contact with the "MERLIN" until the mast was seen only a few metres off.
2. At the last moment, the crew of the "MERLIN" shouted to indicate their presence, but the whistle was not used, and those on board the "LOUIS JOLLIET" did not hear the shouts coming from the sailboat.
3. The lighting installation on the forecastle deck of the "LOUIS JOLLIET" does not offer a forward visibility suitable for keeping a look-out at night. The windows of the bridge were closed and music was playing on the exterior decks.

## **CAUSES AND CONTRIBUTING FACTORS**

The "LOUIS JOLLIET" and the "MERLIN" collided because neither vessel took action in ample time to avert the collision. The "MERLIN" did not have operational navigation lights in the darkness and was not equipped with a radar reflector, thereby reducing her capability of being detected visually and by radar.

The "LOUIS JOLLIET" maintained a lighted forecastle deck while under way which impaired visibility forward of the bridge and, therefore, did not make use of all available means to maintain a proper look-out.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Zita Brunet and Hugh MacNeil, authorized the release of this report on 13 July 1995.