

MARINE OCCURRENCE REPORT

GROUNDING

OF THE PRODUCT CARRIER  
"G. ORDZHONIKIDZE"  
ON THE SAINT-AUGUSTIN SHOAL,  
ST. LAWRENCE RIVER  
30 NOVEMBER 1996

REPORT NUMBER M96L0142

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.

## Marine Occurrence Report

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### *Summary*

On 30 November 1996, the Maltese product carrier “G. ORDZHONIKIDZE”, carrying 15,348 metric tons of vegetable oil, was proceeding along the St. Lawrence river from Belawan, Indonesia, bound for Montreal, Quebec.

Abreast of the Saint-Augustin Shoal on the St. Lawrence River, the “G. ORDZHONIKIDZE” grounded on the north edge of the channel when the bulk carrier “LT ARGOSY” was overtaking it.

The “G. ORDZHONIKIDZE” sustained minor damage, and no pollution resulted. The vessel was refloated without assistance during the next rising tide.

*Ce rapport est également disponible en français.*

## *Other Factual Information*

### *Particulars of Vessels*

|                         | "G. ORDZHONIKIDZE"                       | "LT ARGOSY"                      |
|-------------------------|--|----------------------------------|
| Port of Registry        | Valletta                                 | Bombay                           |
| Flag                    | Malta                                    | India                            |
| Registry/Licence Number | 4208                                     | 8200503                          |
| Type                    | Product carrier                          | Bulk carrier                     |
| Built                   | 1988, Split, Croatia                     | 1984, Setoda, Japan              |
| Gross Tonnage           | 10,948 tons                              | 17,825 tons                      |
| Length                  | 151.30 m                                 | 184.99 m                         |
| Draught                 | F: 8.40 m<br>A: 9.73 m                   | F: 9.56 m<br>A: 9.56 m           |
| Propulsion              | One B&W 5,700 kW diesel engine           | One B&W 6,220 kW diesel engine   |
| Registered Owner        | Zonda Shipping<br>London, United Kingdom | Larsen & Toubro<br>Bombay, India |

At about 0250 on 30 November 1996, the "G. ORDZHONIKIDZE" arrived at the Quebec City pilotage station. Two pilots boarded to take turns conducting the vessel, which was proceeding toward Montreal at a surface speed of approximately 11.5 knots against the ebb tide. At about 0311, the "LT ARGOSY" also reached the Port of Quebec City. Following a change of pilots, the vessel continued on its way to Montreal at a speed of approximately 12.5 knots.

Visibility was good, with a light wind from the north-northeast, and a light snowfall.

At 0430, one of the pilots of the "G. ORDZHONIKIDZE" reported to Marine Communication and Traffic Services (MCTS) in Quebec City that the vessel had cleared the Saint-Nicolas calling-in point. At about 0433, an agreement to let the "LT ARGOSY" overtake the "G. ORDZHONIKIDZE" was made between the pilots

<sup>1</sup> Units of measurement employed in this report conform to International Maritime Organization (IMO) standards or, where there is no such standard, are expressed in the International System (SI) of units.

<sup>2</sup> All times are EST (Coordinated Universal Time (UTC) minus five hours) unless otherwise noted.

who had the conduct of the two vessels. Neither of the pilots informed the other that his vessel had a deep draught. The pilots intended to carry out the overtaking manoeuvre upstream of buoy Q22, but they did not confirm this verbally.

Off Pointe Deschambault, the vessels were steered on the Saint-Augustin route using the Pointe-à-Basile range aft of the vessel. At 0437 the "LT ARGOSY" reached the Saint-Nicolas calling-in point. Although the *Vessel Traffic Systems: Operations Manual* (TP 1526) states that the traffic regulator must advise the pilots of ships of any pertinent information in his possession, the pilots were not informed by MCTS that the two vessels each had a deep draught. As agreed between the pilots, the "G. ORDZHONIKIDZE" was manoeuvred toward the north side of the channel between buoys Q18 and Q20 to let the "LT ARGOSY" pass on the south.

Radar was not used to determine the safe limit of navigation along the north edge of the channel. At 0441, the speed was reduced to half ahead and then slow ahead. The overtaking manoeuvre was carried out by visual observation.

The "G. ORDZHONIKIDZE" rounded buoy Q20 at a distance of approximately one ship length while the "LT ARGOSY" overtook it. The pilot not on duty felt an abnormal vibration. The vessel immediately touched the north edge of the channel and then grounded between buoys Q20 and Q22 at 46°42'33" north latitude and 071°28'18" west longitude. At 0445 the speed was increased to half ahead and then full ahead. The vessel remained immobile, course 256.5°G.

On board the "LT ARGOSY" it was observed that the vessel was south of the Pointe-à-Basile range when the wheelhouse was abeam of the bow of the "G. ORDZHONIKIDZE".

At 0448, the main engine of the "G. ORDZHONIKIDZE" was stopped. The decision was made to try to refloat the vessel, and at 0449 the speed slow ahead was ordered, but the attempt was unsuccessful. At 0453 MCTS Quebec City was informed that the vessel was resting on the north edge of the channel with a list to port. At 0459 the main engine was stopped again, waiting for the rising tide.

Because of the strong current setting to the east, the crew could not take soundings around the vessel, but sounding of the vessel's compartments indicated no ingress of water. At 0640, in the presence of a flood current, the vessel was refloated under its own power and proceeded toward the port of Trois-Rivières, Quebec.

Abreast of the Saint-Augustin shoal, the channel is dredged to a depth of 10.7 m over a distance of approximately 1.5 nautical miles between buoys Q19 and Q22. There is an anchorage area upstream and downstream of this dredged channel.

An operational directive instructs vessel traffic regulators to inform vessels in transit of any special situation that might be the cause of a potential conflict between ships. Draught is one of the major parameters affecting vessel manoeuvrability on the St. Lawrence River; vessels whose draught is greater than 9.14 m (30 ft) are considered to have a deep draught, and represent a special situation. Accordingly, mariners are informed of this special situation over the MCTS radio telephone when they report to the calling-in points. The marine usage

established by pilots is to avoid overtaking in a restricted channel (except in special circumstances) when the two vessels are subject to this special situation.

In an overtaking situation in a restricted channel, the vessels are subject to the hydrodynamic forces created by the interaction between the ships, the suction effect and the bank effect. The short distance between the vessels produces a change of hydraulic pressure around the two hulls. This hydrodynamic interaction is composed of lateral and longitudinal forces and turning moments. The combination of these hydrodynamic forces reduces directional control of the vessel.

## *Analysis*

The two pilots thought the overtaking operation would take place upstream of the Saint-Augustin Shoal, but they did not specify the place of overtaking. Furthermore, no information was exchanged concerning the special situation of the vessels and, accordingly, the pilots developed a false sense of security, relying on a brief exchange of information between the vessels and with MCTS. Thus, when the "LT ARGOSY" was observed overtaking the "G. ORDZHONIKIDZE" faster than expected, the two vessels were not manoeuvred to prevent the overtaking from happening in the channel of the Saint-Augustin Shoal.

If the information concerning the special situation of the vessels had been broadcast over the MCTS radio telephone network when the vessels reported at the Saint-Nicolas calling-in point, it is reported that the overtaking manoeuvre would not have taken place abreast of the Saint-Augustin Shoal. The fact that this information was not broadcast by the vessel traffic regulator does not relieve the pilots of their responsibilities of ensuring a safe passage of the vessels of which they had the conduct.

Although it is hard to foresee the onset and magnitude of the hydrodynamic interaction when overtaking in a restricted channel, it is incumbent upon navigators not to underestimate the effect of the hydrodynamic forces that reduce the directional control of a ship. The fact that both vessels had deep draughts and were making way parallel to the axis of a restricted channel indicates that the "G. ORDZHONIKIDZE" suffered the effect of hydrodynamic forces when it travelled along the north side of the channel. The loss of directional control contributed to the grounding.

## *Findings*

1. The vessel traffic regulator did not broadcast over the MCTS radio telephone the information concerning the special deep-draught situation to which the two vessels were subject.
2. Because they did not receive information from the MCTS and did not inform each other of their vessels' draughts, the pilots assumed that there was no special situation.
3. The pilots intended to carry out the overtaking manoeuvre upstream of buoy Q22, but they did not confirm this verbally.

4. The pilots did not manoeuvre the vessels to prevent an overtaking manoeuvre in the restricted channel of Saint-Augustin Shoal.
5. By travelling together in the restricted channel, the two vessels suffered the effect of hydrodynamic forces.
6. The effect of the hydrodynamic forces probably caused the “G. ORDZHONIKIDZE” to draw closer to the north side of the channel.
7. The loss of directional control of the vessel probably contributed to the grounding.

### *Causes and Contributing Factors*

The “G. ORDZHONIKIDZE” probably grounded because it lost directional control when the hydrodynamic forces created between the “G. ORDZHONIKIDZE” and the “LT ARGOSY” moved it close to the north side of the channel. The regulator did not mention the special deep-draught situation of the two vessels on the MCTS radio telephone, and the pilots did not tell each other of this situation. Thus, they did not take it into account before planning the overtaking manoeuvre.

### *Safety Action*

Following this occurrence, a marine safety letter (MSI 01/97) was sent to Fisheries and Oceans to inform them that when information was exchanged between the Marine Communication and Traffic Services (MCTS) and the vessel pilots, the information about both vessels’ deep draughts was not given to the pilots. The MCTS then reminded its personnel of the necessity of providing this information both to vessels performing overtaking manoeuvres and to vessels that are meeting each other. A reminder was also given to use the powers conferred under the *Canada Shipping Act* to ensure that the information is readily obtained, so that the alarm network is set off as soon as possible to inform the proper authorities.

*This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 07 July 1998.*