



REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION M96-18

Marine pilot fatigue awareness program

Background

On 11 December 1993, the bulk carrier *Nirja*, carrying a partial load of steel, was attempting to berth at a slip in Hamilton Harbour, Ontario. While turning off the entrance to the slip in strong stern winds and with three tugs assisting, the *Nirja* did not successfully negotiate the turn and struck the tanker *Hamilton Energy*, which was moored alongside the oil barge *Proovmar Terminal I* at the entrance to the slip. There was no injury or pollution, but the wharf and the vessels involved sustained some damage.

The Board determined that the *Nirja*, while manoeuvring in strong wind conditions under the conduct of a pilot, did not successfully negotiate the turn into the slip and struck the *Hamilton Energy* because the vessel was not stopped in the available distance. The fact that the tugs were not secured to the vessel, that the anchor was not deployed and that the performance of the pilot was probably less than optimal contributed to the accident.

The Board concluded its investigation and released report M93C0003 on 23 December 1996.

TSB Recommendation M96-18 (December 1996)

The Board had two specific concerns arising out of this occurrence. First, current pilotage assignment practices permit extended duty days such that significant performance degradation can occur. Secondly, both the Great Lakes Pilotage Authority and the pilots themselves apparently do not fully appreciate the negative effects of fatigue on performance and the strategies for mitigating those effects.

Given the vulnerability of individuals in safety-sensitive positions to significant errors in judgement when fatigued, and given the potential consequences of such errors, the Board believes that mandatory rest provisions should be strictly enforced in the assignment of marine pilots.

The Board also recognized that strict enforcement of mandatory rest periods would not in itself ensure that pilots would not suffer the adverse effects of fatigue. Many factors beyond scheduling can affect performance while on duty. Significant literature is available to assist employees in developing personal strategies for coping with the natural physiological effects of shift work, irregular work schedules, or extended duty hours. To assist pilots in coping with the natural stresses of operating in a "24-7" industry, the Board therefore recommended that:

The Great Lakes Pilotage Authority develop and implement an awareness program to provide guidance to dispatching staff and pilots on reducing the adverse effects of fatigue on job performance.

TSB Recommendation M96-18**Transport Canada's response to Recommendation M96-18 (May 1997)**

The Minister of Transport accepts the recommendation. The GLPA has committed to ensure that all operational employees are provided with appropriate information with respect to reducing the adverse effects of fatigue on job performance. The GLPA will continue to monitor findings in this area (sleep cycle effects and fatigue) as well as traffic patterns, flow and pilot availability in order to assure a continued safe and efficient pilotage service.

TSB assessment of Transport Canada's response to Recommendation M96-18 (July 1997)

TC stated that the GLPA will continue to monitor findings in the areas of sleep cycle effect and fatigue. The GLPA has also committed to ensure that all operational employees are provided with appropriate information with respect to reducing the adverse effects of fatigue on job performance. In follow-up to the TC reply, staff learned that the GLPA has been gathering relevant reference materials on the subject for a seminar in 1998 and consulted with subject specialists including TSB and Université Laval. The impact that the proposed GLPA awareness program will have on reducing the potential for fatigue-related accidents may not be known or realized for some time; therefore, the response to Recommendation M96-18 is considered having **Satisfactory Intent**.

TSB reassessment of Transport Canada's response to Recommendation M96-18 (March 2003)

Three documents are available as a result of the fatigue management program (FMP). The research report (TP 13958); the FMP guide (TP 13959); and the trainer's handbook (TP 13960). These documents were made available to the authorities and their pilots in January 2003. Training sessions were offered in 2003. Each authority will be able to review its practices to take advantage of the principles of the FMP. The Transportation Development Centre (TDC) hired professional advisers to provide assistance to the pilotage authorities on this issue.

The Board considers the response to Recommendation M96-18 to be **Fully Satisfactory**.

Next TSB action

This deficiency file is **Closed**.