



REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION M99-04

Awareness program for marine pilot fatigue

Background

While in Johnstone Strait en route from Vancouver to Kitimat, British Columbia, via the Inside Passage, the *Raven Arrow* ran aground in Boat Bay on the south side of West Cracroft Island when the pilot, who had the conduct of the vessel, ordered an alteration of course.

The Board determined that the *Raven Arrow* grounded in fog when the pilot lost situational awareness and prematurely altered course to enter Blackney Passage after having elected to conduct the navigation of the vessel without assistance from the vessel's complement. Contributing to the occurrence were the following factors: the pilot was probably fatigued; sound navigational principles were not implemented by the bridge team; the exchange of information between the pilot and the officer of the watch was minimal and imprecise; and the officer of the watch did not effectively monitor the pilot's communication with Marine Communication and Traffic Services.

The Board concluded its investigation and released report M97W0197 on 23 June 1999.

TSB Recommendation M99-04 (June 1999)

The Board determined that the *Raven Arrow* grounded in fog when the pilot lost situational awareness and prematurely altered course. Among other factors contributing to the occurrence, the pilot may not have fully appreciated the negative effects that an irregular work schedule and sleep debt can have on performance. As well, the pilot was probably fatigued and there was no formalized education/training program in place regarding conditions conducive to fatigue and the impact of scheduling on fatigue. Therefore, alongside TSB Recommendation M99-03, the Board recommended that

The Department of Transport and the Canadian pilotage authorities develop and implement an awareness program to provide guidance to operational employees, including pilots, on reducing the adverse effects of fatigue on job performance.

TSB Recommendation M99-04

Transport Canada's response to Recommendation M99-04 (January 2000)

The Minister of Transport accepts the recommendation. Each pilotage authority is responsible for its own operational policies and procedures. Certain authorities are already providing courses/seminars, conducted by prominent lecturers, to make their pilots and other operational staff aware of the various factors involving fatigue and their potential negative impact upon job performance. Other authorities intend to take similar action. In addition, some collective

agreements between authorities and pilotage organizations have addressed the subject of rest periods and sleep cycles which have been adopted to reduce the negative effects of sleep deprivation and altering sleep patterns.

The Department will assist the pilotage authorities in furthering their awareness activities, will continue to monitor this issue and will provide the authorities with all available relevant information on the issue of fatigue.

TSB assessment of Transport Canada's response to Recommendation M99-04 (March 2000)

The response indicated agreement with the intent of the recommendations. It stated that the four pilotage authorities recognize the problems associated with pilot fatigue and that some have already developed their own policies and practices to accommodate the heavy workload associated with seasonal fluctuations. As for the fatigue awareness, the response indicated that certain authorities are already providing courses/seminars to make their pilots and operational staff aware of the effect of fatigue on performance. The response also indicated that one of the authorities utilizes recently retired pilots to alleviate seasonal workload problems and more importantly to ensure adequate rest for pilots between assignments. Pilot fatigue and the scheduling of assignments are also being raised during contract negotiations and are reflected in the collective agreements. Under the terms of the service contract between the Pacific Pilotage Authority (PPA) and the British Columbia Coast Pilots Ltd., a Safety and Operational Review Committee (SORC), was formed to address safety and operational problems, in particular, the issue of scheduling and pilot fatigue. The SORC comprises a PPA Board member, industry representatives, representatives from the BC Coast Pilots Ltd and the PPA. The outcome of the SORC will form the basis for the next contract negotiation. TC indicated that it will assist the pilotage authorities and will continue to monitor this issue.

In 1996, the Board identified similar deficiencies and made similar recommendations (M96-17 and M96-18) in its investigation report on an occurrence involving a pilot in the Great Lake Pilotage Authority (GLPA) region. Since then, the GLPA has taken some specific actions, including an awareness program on pilot fatigue.

It appears that while some pilotage authorities (PPA, GLPA) have taken certain actions to address this deficiency, there is no evidence of active initiation by the Department of Transport to ensure that all pilotage authorities take similar action. Therefore, the response to Recommendation M99-04 is considered to be **Satisfactory in Part**.

TSB reassessment of Transport Canada's response to Recommendation M99-04 (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 Great Lakes Pilotage Authority has developed a training package on BRM and fatigue and delivered it to all 65 of its pilots. A *Fatigue Management Guide for Marine Pilots* has been developed for use by marine pilots and trainees in the six-hour Marine Pilot Fatigue Workshop.

Therefore, the Board considers the response to Recommendation M99-04 to be **Fully Satisfactory**.

Next TSB action

This deficiency file is **Closed**.