AMERICAN PILOTS' ASSOCIATION

GUIDELINES FOR BRIDGE RESOURCE MANAGEMENT
COURSES FOR MARINE PILOTS

October 5, 1993

Introduction

Bridge Resource Management (BRM) generally refers to practices employed in the management of bridge operations to maximize the effective utilization of all resources, including personnel, equipment and information, available for the safe navigation of the ship. The essence of BRM is a safety attitude and management approach that facilitates communication, cooperation, and coordination among the individuals involved in a ship's navigation.

Efforts are currently underway to introduce BRM concepts into ship operations through training courses for bridge personnel. Because BRM is an outgrowth of Cockpit Resource Management (CRM), which was developed in the aviation industry during the late 1970's and early 1980's, BRM courses have typically borrowed heavily from the well-established CRM training programs. The goal of most CRM training has been to teach flight crews how to optimize communication and coordination through the use of a more "team" oriented approach to their tasks.

Effective communication and coordination is as important on the bridge of a ship as it is in the cockpit of an airplane. There is a significant difference between navigating a ship and flying an airplane, however. For the vast majority of large commercial ships, a compulsory pilot who is not a member of the ship's crew[*] plays an important, and many would suggest the most important, role in the ship's navigation through the waters and in the operations involving the greatest demands and risks. This pilot is expected to exercise independent, professional judgment (which may conflict with the desires of the ship's master and crew), has critical information (local knowledge) that is not available to the ship's bridge crew, and in many cases must contend with serious language and cultural barriers between the pilot and the crewmembers. Enhancing teamwork under these circumstances poses challenges that are not addressed in a typical CRM course.

Although many of the existing, first-generation BRM courses in the United States include the interaction of the master and bridge crew with the pilot, these courses were designed for, and are primarily taken by, ship crewmembers, not pilots. As a result, these courses do not provide pilots with the most suitable or effective training in BRM.

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[*] The term "pilot" as used in this document means a compulsory, licensed pilot who is not a member of a ship's crew but who comes aboard the ship and provides pilotage services for a specific movement or operation.

If BRM and BRM training is to make a significant contribution to improving navigation safety, BRM concepts must address the role of the pilot, and pilots should receive BRM training through courses that are specifically designed for pilots. Such BRM training courses for pilots should meet the criteria set forth below.

1. Course Should Be Designed Specifically for Pilots.

The course should focus on the functions, tasks, experiences and needs of pilots. In particular, the course should address the special problems involved in working on different types of ships and communicating with ship personnel having varying degrees of English speaking skills, training (including BRM training), qualifications, and commitment to safety.

2. Objectives of Course.

In general terms, the objective of the course should be to help pilots use the skills and training they already possess in ways that maximize the safety performance of all the individuals on the bridge. Specifically, the course should seek to have each participant gain the following:

      a.   an increase in "situational awareness" skills;

      b.   improved abilities to foresee and prevent potential errors and to detect developing error chains and intervene before an accident becomes unavoidable (error trapping);

      c.   a more developed concept of the appropriate roles of teamwork and leadership in the navigation of a ship;

      d.   a greater regard for the importance of communication, an understanding of the common barriers to effective communication, and an awareness of how BRM practices can improve communication; and

      e.   an enhanced ability to evaluate quickly the resources available for each pilotage assignment and to adjust practices to utilize those resources most effectively.

3. Length of Course.

The course should be two days (14-16 hours). An acceptable course might be expanded beyond two days or be offered in conjunction with other areas or types of instruction, provided that the focus of the course remains on BRM.

4. Curriculum.

The course should include instruction/training in the following subject areas:
a.	situational awareness
b.	error chains (error detection and error trapping)
c.	human factors
d.	dynamics of group performance
e.	special problems in pilot-bridge crew integration
f.	communication and communication skills
g.	command/leadership skills.

5. Class Size and Instruction Methods.

Because one of the primary subjects in a BRM course should be communication and inter-personal skills, class size should be between 5 and 25 individuals. Interactive instruction methods, such as a "workshop" approach involving discussion groups, exercises, etc. are encouraged. Case studies are particularly appropriate for BRM programs; however care should be taken to ensure that the discussion and analysis of cases retains the BRM focus.

6. Sponsors and Instructors.

An acceptable BRM course for pilots would be one be offered by a recognized maritime academy, training center or other school or institute that is engaged in the business of offering training and instruction to licensed marine officers. Instructors for pilot BRM courses should have specific training in BRM concepts and teaching methods. At least one instructor in a course should have experience as a pilot on large, foreign-flag commercial ships.

7. Use of a Simulator.

A simulator is not necessary for a pilot BRM course. Simulator exercises could be offered in conjunction with a BRM course, however. In addition, simulator exercises for pilots who have had BRM training or are in the process of receiving BRM training should involve practice in, and peer review of, a pilot's implementation of BRM concepts.