

## MAIIF/IMPA Joint Education Project

The Marine Accident Investigators International Forum (MAIIF) has completed numerous studies and investigations on the operational relationship between marine pilots and ship masters/watchkeeping officers. For its part, the International Maritime Pilots' Association (IMPA) has completed a number of surveys regarding operational practices on the bridge of vessels under pilotage including matters such as the initial master/pilot exchange and the nature and extent of support received from bridge teams throughout pilotage assignments. Safety deficiencies associated with teamwork on the bridge, including communication between marine pilots and masters/officers of the watch, is a shared concern for our two organizations.

It is well established that the pilot and the bridge team should develop a shared mental model of how a voyage will unfold. The initial master-pilot exchange is an important part of the process by which the master and the pilot can develop such a model and resolve uncertainties about how intended maneuvers are to be carried out. It is also important that adequate communication between the pilot and the bridge team continues throughout the voyage. When the pilot and bridge officers share a similar mental model of the voyage, they are able to individually monitor the progress of maneuvers from their different vantage points on the vessel, thereby reducing the possibility of single point failure.

While the IMO and Member States have demonstrated due diligence and have implemented mandatory training for ships' crews and pilots, the number of accidents in which the cause or a finding as to risk is related to the pilot/bridge team relationship continues to be an object of concern. MAIIF and IMPA have found that, in the absence of effective monitoring, the pilot has little support in the navigation of the vessel.

In marine pilotage operations, effective situational awareness involves: 1) perceiving critical factors in the environment, 2) understanding what those factors mean with respect to controlling the vessel, and 3) projecting what will happen in the near future and taking appropriate action. Situational awareness is enhanced by good communication and, since the bridge team and the pilot work together towards a common goal, ongoing sharing of information is necessary for both parties to be fully effective.

The respective obligations of pilots and bridge teams are well established in various international instruments. The *Standards of Training, Certification, and Watchkeeping Code* emphasize the importance of an ongoing exchange of information between the master and the pilot and state that "*despite the duties and obligations of pilots, their presence on board does not relieve the master or officer in charge of the navigational watch from their duties and obligations for the safety of the ship.*" At the same time, IMO's Resolution A960 states that: "*Masters and bridge officers have a duty to support the pilot and to ensure that his/her actions are monitored at all times*" and "*The master, bridge officers and pilot share a responsibility for good communications and understanding of each other's role for the safe conduct of the vessel in pilotage waters.*" (A960, Annex 2, paragraphs 2.3 and 2.2).