

Bridge team command and control – managing the navigational plan

Morgan Turrell

Vice President, Marine Investigation Programs, Princess Cruises

In an effort to improve navigation safety aboard its vessels, Princess Cruises has implemented two major initiatives in the past several years. With shared management responsibilities over the Professional Marine Standards at Princess Cruises, Carnival UK, and Carnival Australia, Captain David Christie of Princess Cruises was tasked with addressing the human element within the bridge team and to improve officer training. The process began with a fleet assessment aboard company vessels and a review of best practices across the cruise industry.

One result of these assessments recommended a change in the way bridge teams conduct their navigation plan. Another area of improvement identified the need to standardize the training of bridge watchkeepers. As a result, Princess Cruises developed new protocols for its bridge teams and constructed its own dedicated training center, with simulators using its own ship models and equipment.

Princess Cruises adopted the Bridge Team Command and Control concept, modeled after the pilot-copilot model used in aviation. It has been successfully used aboard cruise vessels and ferries. The concept establishes Navigator, Co-Navigator, Operations Director and Administrator roles within the bridge team. Simplified and specialized task checklists have been developed to recognize these changes. Perhaps the most important relationship is between the Navigator and Co-Navigator. The Navigator is responsible for the conduct of the vessel and executing the passage plan. The Co-Navigator, who is the second officer of the watch in all phases of navigation, handles other functions and checks the Navigator's actions. When operating with a pilot, the pilot communicates his intentions directly to the Navigator. All communications within the team utilize closed loop communications. When an order or vital navigation information is passed, the initiator issues the command, the receiver repeats the order, and the initiator then closes the loop with a verbal affirmation, ensuring every opportunity to catch a human error.



The Operations Director and Administrator functions are added as the vessel enters more restrictive environments to handle additional duties. The new protocols do not preclude the Master from acting to insure safety, but mandate a uniform framework for all officers to safely conduct a watch. Each role is assigned by the Master at a briefing held prior to each maneuver.

Bridge Team Command and Control has been fully implemented and will now be used in the company's new simulator facility opened in July 2009 in Almere, Netherlands outside of Amsterdam. This dedicated facility consists of two full-mission bridge simulators for procedural and human factors training, and six part task simulators dedicated to Integrated Bridge System (IBS) training. The simulators will use the same IBS and Emergency Management Systems equipment found on the newest vessels in the fleet. The simulator will include top cruise destinations in North America, Europe and Asia. The full mission bridge simulators provide berth-to-berth exercises including realistic bridge wing operations.

All Princess Cruises, Carnival UK and Carnival Australia deck officers will attend the facility once per year. The reinforcement of the Bridge Team Command and Control concepts, while using familiar equipment will make training more effective and responsive to the company's training requirements.