Sense and nonsense on cruise ship bridges

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If you have been reading the numerous cruise ship articles in our industry publications, you are likely aware that many cruise lines are restructing the functions, navigation practices and even the titles of their bridge personnel. The Carnival companies have been probably the most aggressive in this movement, developing an experimental bridge organisation system currently being taught at their CS/MART training centre in the Netherlands.

The Carnival system is described well in Captain Nick Nash’s article in the July, 2016 Seaways (Bridge Team and Pilot Cohesiveness). The emphasis is on electronic track control of pre-planned, approved routes, with the bridge crew, including the Captain/OOW (rebranded as the operations director), delegated to being monitors. Captain Nash describes the bridge personnel under the new system as ‘instrument navigators’, preferably standing by in a hands-off mode while the ship is driven by a route entered into the ship’s inertial navigation system (INS).

I have been to the CS/MART school and observed mariners being trained in this system. As director and founder of one of the leading mariner training centres in the United States, I have also discussed the CS/MART/Carnival system with a number of pilots and ships’ crews. From what I’ve seen at CS/MART, what I’ve read in Carnival, and what I’ve heard from mariners currently working on cruise ships, the concerns raised by mariners, and especially pilots, are justified.

The Carnival system rests on an openly expressed desire to replace shipboard humans with machines and shore-based control systems.

Pilots and the law
So, you might ask, why talk to pilots about the cruise industry’s new navigation ideas, and why should pilots care how cruise ships organise their bridge teams? Well, eventually cruise ships must come to port, and there they will take a pilot. That is where the new organisation schemes become clunky and in many places illegal. Let’s address the legality of the situation. The Carnival/CS/MART system prefers that ship officers do not give the conn to the pilot, but rather limit the pilot to, as Captain Nash says, “an ‘indirect’ or advisory role”. This notion is contrary to the normal practice and law in many ports in the world, in which the pilot is compulsory, and the law requires that the pilot directs the movement of the ship. Although it is not considered unusual for cruise ship officers to manoeuvre their ships in certain situations while under pilotage, given the unique propulsion systems aboard these vessels, directing the movement of a ship and physically controlling her are different things. In ports with statutory required compulsory pilotage, such as in the United States, the pilot by law must maintain control of the direction of the movement of the ship at all times.

The ship’s bridge team may execute a turn in the channel as directed by the pilot or execute any other manoeuvre, including a docking manoeuvre, as requested by the pilot who is directing the movement of the ship. But regardless of the physical actions on the ship, the pilot is the lead navigator and has the ‘conn’. The pilot thus is in control of the direction of the movement of the ship. Only a ship’s Master can displace a pilot, and only under grave situations such as incapacitation, manifest incompetence or if the ship is in extremis due to the pilot’s actions.

Command-respond-confirm
Even when pilots on cruise ships take the conn, as required by law, they are finding that the bridge teams have been trained to question all commands before executing them. This is contrary to the common practice whereby a pilot gives a command, and it is then repeated and executed. Pilots are trained to stay in the command-respond-confirm ‘loop’. The pilot, especially in tight, busy waterways, will give commands and expect an answer and immediate action. The pilot stays in the loop by observing the helmsman turn the wheel in the correct direction, using practised glances to observe the rudder angle indicator is moving the correct way, and keeping primary focus out the window to stay oriented. This is a trained visual scan by the pilot, to stay in the loop, to trap errors, and to efficiently give quick sequential commands in situations where a few hours of pilotage may entail thousands of commands.

Imagine the pilot orders a heading change of about five degrees to starboard. ‘Come to starboard and steer 300’; sounds the pilot. The co-navigator manning the mini wheel responds, ‘Starboard to 300’ with an audible question in their voice. It was a simple command, and pilot quietly wonders, ‘Maybe the helmsman can’t hear me’. Before the pilot can answer the co-navigator’s question, the navigator and perhaps other members of the bridge crew call out, ‘Yes’. Only then, after the ‘yes’ is proclaimed, will the co-navigator execute the pilot’s command and change the heading. This begins the pilot’s day of giving commands that are systemically questioned before being agreed to by others. This process for conning the ship has now doubled the amount of words and time needed to complete the job and further involves a third party participating in the command dialog.

The role of the pilot
It would be easy to focus on this verbal exercise being played on the bridge as the major problem. However irritating it may be to experienced pilots, it is not the major problem. In the process of changing the bridge leadership and staffing organisation, many cruise ships are trying to force a change in the role of the pilot. According to Captain Nash and other proponents of the Carnival/CS/MART system, the preferred role of the pilot is as an advisor to the bridge crew, neatly tucked away in the back of the bridge while the navigator and co-navigator con the vessel. Captain Nash has even suggested that the pilot is like ‘having a London cab driver in the passenger seat of your car’ to assist in finding your way around the city. It is time to put the brakes on this idea and get a reality check on the role of the pilot.

Pilots have two essential roles, and these roles are increasingly being
challenged by cruise ship operators who are changing their bridge team structure. In the first role, the pilot protects the ship from the dangers of the port. Pilots are expert shiphandlers, with expert local knowledge and are ready, whenever necessary, to use tugs and methods unfamiliar to most ship’s crew. For many ships, especially those that are nearly helpless in the tight confines of a port without tug assistance, the pilot comes, directs the tugs in coordination with directing the movement of the vessel. Clearly in this first role, pilots are shiphandling specialists.

In the second role, pilots protect the port from the danger posed by the ship. No port wants a marine disaster shutting down its waterway. Thus the pilot is commissioned with the responsibility of using independent professional judgment to direct the movement of a ship safely and efficiently in the public interest. Here is where the cruise lines and their experimental bridge team systems are failing to appreciate the role of the pilot. It is agreed that cruise ships, especially those with pod propulsion and lots of thrusters, rarely need the services of tugs. Cruise vessels may have their own expert shiphandlers, who excel at handling and docking their own cruise ships. But if the pilot holds the ship at the dock or seaways due to fog, or delays a sailing due to wind, or adjusts a ship movement due to traffic, these are judgments made by the pilot, external to any commercial pressure, to protect the people, environment and marine infrastructure of his or her licensing authority.

The cruise industry might want to look at the petrochemical shipping industry, which has undergone a safety revolution in the past 30 years. Tankers, LNG ships and the like now foster a sustainable safety culture while maintaining lots of profits and for their companies. These ships are not experimenting with maritime org-chart blue-sky thinking or systemically relying on fancy navigation guidance systems over people. These ships have tough, dedicated Captains and senior staff, and the companies hold officers and crew accountable for safety first above all other concerns.

Creating a true safety culture in the cruise industry is far more difficult than installing identical bridge equipment across 20 cruise brands and forcing navigation teams to talk in scripted, question- ing tones. A real safety culture requires authentic respect by the corporate side of the company in deference to the judgment and decisions of the Captain of the ship. It is the responsibility of the company to select a Captain with a lifetime of leadership and judgment who deserves the respect of autonomy, deserves the respect to operate without constant meddling oversight, and deserves the respect of not having corporate social experiments foisted on the conduct of the ship’s bridge team. If the decisions made aboard the ship cause schedule delays, even aboard a cruise ship in which schedule is a top priority, then this decision is respected.

From a pilot’s perspective, cruise operators enacting bridge team changes should re-think their organisational strategy and the actions of their experimental bridge team structures while in pilotage waters. Pilots believe it is necessary to involve the Captain in the act of navigation, especially in the essential Master-Pilot Information Exchange (MPX). Pilots believe it is time to re-think the use of ‘yes’ pro forma responses on the bridge in busy pilotage waters. Perhaps a simpler, traditional command approach is better.

It is also time to respect the role of the pilot as required by law, giving pilots the call, responding to their orders without automatic questions, and providing quick and ready access to all relevant navigation assets to provide a correct environment for the pilot to direct the movement of the cruise ship in cooperation with the ship’s bridge crew.