

# Crash course: US Navy revamps training, oversight to fix surface-fleet operations

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**Buffeted by a spate of recent surface-ship collisions, the US Navy is changing the way it trains its sailors, inspects ships, and operates vessels. *Michael Fabey* reports on the service's internal overhaul**

On the night after Arleigh Burke-class guided-missile destroyer USS *John McCain* (DDG 56) collided with the oil tanker MV *Alnic MC* near the eastern entrance of the Strait of Malacca on 21 August 2017, resulting in the deaths of 10 sailors, Admiral John Richardson, the US Navy's (USN's) chief of naval operations (CNO), called Admiral Phil Davidson, commander, US Fleet Forces Command, and told his subordinate, "We're going to have to move out on this now."



*Arleigh Burke-class guided-missile destroyer USS John S McCain (DDG 56) is towed away for repairs. (US Navy)*

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Adm Davidson knew exactly what the CNO had in mind. Ever since the collision between Arleigh Burke-class destroyer USS *Fitzgerald* and Philippine-flagged merchant cargo ship MV *ACX* off the Japanese coast on 17 June 2017 – leaving seven sailors to drown in flooded berthing compartments inside the ship – the US Fleet Forces commander had been planning a fleet-wide review of safety, preparedness, and readiness.

Counting the *McCain* mishap, the USN suffered five serious surface-fleet accidents in the Pacific during 2017 – resulting in the deaths of 20 sailors – and the navy needed to uncover what was going wrong with its surface operations.

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The USN immediately embarked on a pair of reviews that would do more than pick apart surface-naval operations. The makeup of the reviewers, investigators, and other experts would set the service on course to dissect the way the USN does its job – especially in far-flung places such as the Western Pacific.

If the service wanted to focus on its surface forces, it would have stacked the review boards with officers from that community. While there were plenty of those among the investigators, the USN also included experts from other disciplines, including those outside the navy or even the military.



*USS John S McCain (DDG 56) departs Subic Bay, Philippines aboard heavy lift transport vessel MV Treasure . (US Navy)*

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The first of the enquiries, a Comprehensive Review (CR) undertaken by Adm Davidson, was led by a team made up of 34 experts both in and out of uniform, including specialists in navigation, underway operations, institutional training, equipment and systems research, development, acquisition, and ship maintenance. Besides tapping the USN warfare communities, the group also included members with substantial experience in conducting investigations and audits. There were flag officers from the army, the US Marine Corps, a naval aviator, and a naval submariner as well as the president of the Association of Maryland Pilots, an academic from the Massachusetts Institute of Technology, navy chiefs, and representatives from the US Coast Guard and Merchant Marine.

“We incorporated people such as Crowley Marine and examined how they did their work,” USN Secretary Richard Spencer testified on 18 January during a House Armed Services Committee hearing on the fatal mishaps. “We incorporated the Mayo Clinic. We talked to Maersk and Boeing and other organisations that had cathartic events.”

How, for example, did companies, government agencies, and their people make it through such disasters as the Challenger and Columbia space shuttle accidents? How did they rebound?



*USS Fitzgerald (DDG 62) returns to Fleet Activities (FLEACT) Yokosuka, following a collision with a merchant vessel. (US Navy)*

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The team visited simulators, Adm Davidson said, specialising in the assessment of marine navigation skills. The CNO wanted the group to examine USN individual training and find any shortcomings. Adm Richardson wanted a review of the processes to ready the forces from the small unit up to the cultural level, to make sure propulsion and other ship systems were materially ready.

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### **Matter of principle**

To do that, Adm Davidson said, the service had to get to the principles of the matter: basic seamanship and only going to sea when the ships and crews are ready to do so.

Adm Davidson likened the process to what Hannibal Lecter told FBI agent Clarice Starling in the movie ‘Silence of the Lambs’ about solving the case: “What is the first and principal thing?”

Adm Davidson said the USN investigation needed to understand the underlying principles of the problems. Otherwise, whatever recommendations his team came back with would be little more than a laundry list of things to do.

By the end of October 2017, the CR had been completed and presented to Adm Davidson. The Strategic Review, which would focus more on the USN structural leadership pitfalls associated with the surface-ship mishaps, would complete in December. It would be the job of the USN Readiness Reform and Oversight Council, which was established on 30 January, to integrate and implement the recommendations of the two reports.



*The US Navy is putting greater emphasis on improving its simulated bridge trainers to provide its future surface warfare officers with a better sense of basic seamanship, navigation and maritime situational awareness. (US Navy)*

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However, USN leadership wanted to move as quickly as possible to address the problems with its surface fleet before another mishap occurred. The CR underscored USN failure to adhere to basic fundamentals of seamanship and naval surface-ship principles – issues the service needed to rectify as soon and as much as it could.

“The review reinforced that the fleet is stretched, that operational needs increasingly resulted in more time spent on operational missions than on the training,” then Naval Surface Forces commander vice admiral Tom Rowden (now retired) told SNA attendees.

“It reinforced the time-tested truth that familiarity with the resources on the bridge, as well as the ship’s steering equipment and how to operate it in casualty modes, is not to be learnt on the fly, but practised and drilled – relentlessly. It reinforced the precept that not only should someone be qualified to stand the watch he or she is standing, but that the qualification process should have integrity and should be verified when moving to another ship. It reinforced the need for proper rest.”

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## **Risky business**

Other fundamentals had been ignored, for example: the ability to ensure a ship was ready to go to sea to properly execute the missions and operations that would be demanded of it; the ability to make sure the crew was properly prepared, vetted, and trained to operate those ships; and the ability for officers and crew to appreciate that every time they went to sea they were facing risks and needed to respect the risks involved.

“Risk is a profound part of our business,” Adm Davidson said. “It becomes almost second nature. But it has to be learnt.”

This was the basic principle the USN had to get at to put its surface-fleet operations back on course, he said. “We have to [properly] assess the risk.”

In reassessing risk, the USN has already taken steps at the deck-plate level it believes will lead to safer surface-ship operations.

Possibly the easiest initial fix was to require US warships to actively transmit on their automatic identification systems (AIS) to make them electronically visible to commercial vessels, which often rely on such identification to help them avoid collisions. For various operational reasons, USN ships have traditionally locked their systems in passive mode, enabling them to see the transmission of other ships while masking their own.

But, as the recent collisions underscored, an electronically invisible US warship can become a hazard, especially ships built to evade radar detection operating in congested areas such as the Western Pacific. Unless there is a valid over-riding operational requirement, all surface force ships now employ AIS in full two-way mode when operating in restricted waters and in high-traffic areas.

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As Adm Davidson and other USN flag officers pointed out, however, AIS can help avoid collisions between merchant and USN vessels, but those aboard US warships still need equipment and training to properly maintain situational awareness for potential security threats commercial ship operators do not have to worry about.

To that end, USN vessels need to operate different radar systems than commercial ships. The navy also needs a well-maintained combat information center (CIC) and the trained crew to operate it. What Adm Davidson and other USN leaders learnt from the CR, however, is that there is a plethora of different radar systems on their surface ships, the CIC is not communicating and collaborating properly with the bridge, and even the bridge layouts and system sets can vary to startling degree from ship to ship. The service is now taking steps to streamline its radar deployments, create better choreography between its CIC, and bridge and align its bridges along more common lines.

And the USN said it now has “ongoing immediate actions focused on upgrading the training of navigation fundamentals” as it accelerates electronic navigation system upgrades. Over the longer term, the USN will be evaluating core officer and enlisted curricula with an emphasis on fundamentals and navigation skills.

Shortly after visiting the Surface Warfare Officers School in late January, Vice Chief of Naval Operations (VCNO) Admiral Bill Moran, co-chair of the new oversight board, said, “We need to build confidence back in the force.” While there, Adm Moran observed a recreation of the USS *Fitzgerald* (DDG 62) incident in the Conning Officer Virtual Environment trainer.



*The US Navy is looking to streamline and modify its surface-ship bridge layouts to match more automated systems like those found on the Littoral Combat Ship USS Freedom . (US Navy)*

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To create a fleet with better mariners, the USN is starting Bridge Resource Management (BRM) workshops with mobile teams of experts in seamanship, watchkeeping, and training.

The surface force is also moving towards greater standardisation of standing orders to ship watchstanders. These are battle orders that specify the configuration and operation of the ship's combat system. Every commanding officer establishes his or her own and a doctrine for how the engineering plant is operated under conditions known as 'restricted manoeuvring', which include underway replenishment, flight operations, piloting waters, and at battle stations. This variation, USN officials said, adds a degree of uncertainty from ship to ship and detracts from the establishment of force-wide standards.

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## **Assessments**

One of the controversial immediate measures the USN took in the wake of the CR was the establishment of the naval service group in the Western Pacific: an independent body in Yokosuka, Japan, to inspect ships, review crews, and generally oversee readiness efforts to make sure they meet new Pacific Fleet standards. The group will assess the ships' ability to safely navigate, communicate, and operate as well as assess the critical mission areas of navigation, propulsion, steering, communications, and damage control. Based on these assessments, the group has the

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authority to rescind an existing certification if necessary or, if deficiencies are less severe, to direct remedial training on a priority basis.

The group ensures ships get their entitled training and maintenance time so that they can get certified for at-sea operations.

The USN is starting to look at the force-generation process for maintaining, training, and certification, Adm Richardson told lawmakers in January. “We’ve started by re-baselining every cruiser and destroyer in the forward-deployed forces in Japan. Now, it’s just matter of sticking by that plan.”

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Nevertheless, as the USN will not iron out any wrinkles between the two reviews for weeks to come and Adm Richardson – along with surface-fleet leadership – is anxious for improvements now, the group is moving ahead with its assessments in Japan.

There are a number of lingering questions regarding the long-term benefits of the assessments. Some surface-warfare officers (SWOs) question what is really being assessed: readiness to operate or the long-term health of ship equipment such as tanks, pipes, structural integrity, and so on. A ship can be declared “safe to steam”, for example, and still be far from being sound internally.

Some SWOs are also privately questioning the financial commitment the USN appears to be willing to make to address the surface-ship issues. The service has budgeted USD79 million in fiscal year 2019 (FY 2019) to fix the problems identified in the review and then USD137 million per fiscal year for the next four years after that.

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### **Early warning**

In October 2012, then Naval Surface Forces commander Vice Admiral Tom Copeman (now retired) sent a message to the fleet that charged his commanders to “accurately assess and report the material condition of your ship. Your chain of command must know the operational impact of your maintenance condition. There is no shame in having broken or degraded equipment; the only shame is failing to properly report and then accepting and living with the broken equipment”. He added, “We are delivering readiness. In order to man our ships correctly, it is vitally important that we report our manning readiness based upon the true requirement.”

Vice Adm Copeman detailed some of his perceived readiness issues – echoed later by the post-collision reviews and some now being addressed in the reports’ recommendations – in a 16 May 2014 memo to then CNO Admiral Jonathan Greenert, viewed by *Jane's* .

“The surface force continues to encounter a persistent shortage of properly trained and experienced sailors,” Vice Adm Copeman wrote. “The number-one limiting factor in achieving acceptable levels of readiness is having the correct number of ‘properly trained’ sailors.”

He warned, “If we continue to invest in the latest and greatest equipment and the most capable weapon systems without making the equivalent investment in our workforce, we will move further away from being a ready force.”

The USN, he said, also needed to address training education and update the “out-of-date curriculum and training devices” at the majority of USN schools that failed to deliver properly skilled sailors to the fleet.

Also, he said, the USN needed to man its ships “to achieve/sustain mission-readiness standards instead of manning to what we can afford”.

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In 2013, a destroyer based in Japan had about 13 missions for which the ship and crew needed to be certified, he said. Today, the tally is more than 20. At the same time, Aegis maintenance and modernisation was being carried out on the forward-deployed ships to help meet new threats, including BMD missions. The average number of days underway in 2015 for cruisers and destroyers assigned to the 7th Fleet was 116 days, the CR noted, increasing to 162 days in 2016. In other words, the ships were doing more missions during more days at sea even as the USN was trying to maintain them and cram them with even more technology.

“The demand for ready and certified ships to support operations required in the Western Pacific ultimately exceeded the quantity that could be generated from surface forces based in Yokosuka,” the CR said.

As a result, naval officers on land and sea in the Western Pacific began to take risks “insidiously”, the report said – to a point where accidents were bound to happen.

From a force deployment point of view, Adm Davidson said, officials were in nonstop “crisis-planning mode”. It is that kind of atmosphere, he added, that prompts some to take shortcuts. “Over time, risk assessment breaks down.”

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The two reviews have focused mostly on the Western Pacific and there is a view among USN officials, US lawmakers, and Pentagon strategists that the region is different because of its distance from the US mainland and the changing security threats there. However, the service leadership has remained adamant that the problems need to be addressed across the whole surface fleet. That is the reason why the schoolhouse curricula is being revamped to better train, continually retrain, and assess the training.

“As time goes by, skills atrophy,” Adm Davidson said. “Mariners can have difficult time in extremis situations. We have not tested our folks in high-grade simulators that would test them in emergency and extremis situations. Assessment in training needs to be key. We need to do a better job of teaching risks and risk assessment at the schoolhouse.

The new training will take a more holistic element from now on, too, with greater emphasis on fatigue, diet, and health.

Adm Richardson said, “We’ve reinstated the basic division officer courses, we’ve reinstated an advanced division obstacle course, and have been making steady improvements to both the officer and enlisted training throughout.”

He contended, “They certainly have more training than they got when there was a box of compact discs and on-the-job training, so we have been reinstating that training steadily. It’s more than just about hours, it’s about the quality of the training, and overall, the hours is a false metric and so this

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is exactly what the Comprehensive Review looked at: it identified some areas we can beef that up and we're moving out to do that.”

However, Adm Rowden emphasised, the recommendations are more than just a to-do list for the USN fleet. “This is a cultural shift for the surface force and navy to be safer.”

That shift will have to be most evident and visible on the bridges of the USN destroyers, cruisers, and other surface ships, where the commanding officers will now be pushed and expected to truly assess their ships and crews for missions and operations and decline assignments when they are not ready.

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