Optimal Manni
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"But we've always done it this way," is often heard throughout the fleet to explain the seemingly otherwise unexplainable. I even have used this excuse when stumped as to how, or why, I did something. A reason why something was done a certain way usually can be found: existing technology, available human resources, and established procedures. When an idea worked, there was little reason to change it, even if better technology or more resources had become available since the original game plan was established.

To some degree, damage control aboard surface ships embodies this philosophy. Why does a ship go to general quarters when fighting a main machinery-space fire? Why must someone always be on watch in the engineroom to make sure nothing catches fire? Why do we set material condition Zebra throughout the ship for a casualty in an isolated area?

"Because we always have done it that way."

When USS *Milius* (DDG 69) was tasked to participate in the Optimal Manning Experiment, "We've always done it this way," was something to which I no longer could subscribe when it came to damage control. There had to be better ways of fighting damage—underway and in port—while maintaining damage control equipment in top condition but without requiring so many Sailors or so much time.

One of the experiment's immediate effects was *Milius*' reduced manning for three repair lockers, from approximately 90 to 70. Before the experiment, *Milius* had more than 290 enlisted Sailors in her crew; now she has 237. However, the number of people on the damage-control training team, or DCTT, changed little since most DCCT members were chief petty officers and above—they took no cuts in the experiment.

How did the ship cope with the repair-locker-manning reductions? Forty Sailors were assigned to Repair 5, which now consists of four hose teams that can combine into two large hose teams to combat main-space fires. Repair lockers 2 and 3 each has a smaller hose team that functions as a casualty rapid-response team when the ship is at GQ. Each of these smaller teams consists of a nozzleman, two hose-team members, and a plugman.

If these rapid response teams are overwhelmed, they can call for help from Repair 5, which can provide more than one hose team, if necessary. Repair 5 is always ready in case one of the other smaller hose teams calls for backup. If there is no need for backup, each locker functions independently. This system makes sure Repair 5 can send a backup hose team to each locker and still have enough people to take care of damage in its area.

The hose teams in Repair 5 could combine into two large hose teams for a main-space fire or for another major casualty, since these hose teams also are trained on pipe-patching, dewatering, and shoring. The same team of Sailors therefore could be deployed, regardless of the casualty.

This philosophy differs from past repair-locker training in which only one or two individiuals per repair locker were proficient in pipe-patching, shoring, etc. Each hose-team member now is trained to perform these functions. Each repair locker also has an electrician, boundarymen, and others with specific individual responsibilities. This is the traditional way of manning lockers, and these positions are still necessary for each locker.

Repair 2 is located in the forward section of the ship, Repair 5 is amidships, and Repair 3 is aft.

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Training and reassignment of some damage control responsibilities resulted in a smooth transition for *Milius* to the Optimal Manning Experiment.

All are located on the DC deck, although Repair 3 physically is located one deck below the others since DDGs have no one deck that continuously runs the ship's length. Back aft, the 2nd deck also is considered the DC deck. To increase the number of Sailors in Repairs 2 and 3, DCTT was divided into three groups: core DCTT, Repair 2 DCTT, and Repair 3 DCTT.

Core DCTT is used exclusively to assess drills, but DCTT members in Repairs 2 and 3 only assess drills when their lockers are not actively fighting damage. This way, they already are integrated into their lockers and know their roles during a real GQ. Core DCTT, with five members, would supplement the lockers.

For instance, if repair locker personnel from Repairs 2 and 5 were training to combat a casualty, core DCTT and Repair 3 DCTT could critique even while Repair 3 was training. However, when all three lockers are participating in a damage control drill, core DCTT requires assistance from other on-board training teams. Such assistance usually consists of acting as the "torch" or assessing the boundarymen's effectiveness in an area. This system eliminates confusion about DCTT responsibilities during an actual casualty and helps to better integrate the training teams.

For main-space fires, *Milius* has changed her general routine by not going to GQ. The mass confusion from having to relieve almost every watchstander on the ship to man general quarters stations could hinder damage control efforts during a real main-space fire. Instead, all repair lockers are manned while the rest of the ship continues the daily routine out of the way of damage-control efforts. Obviously, those watchstanders who had to man their lockers would have to be replaced, but, nonetheless, disruptions are kept to a minimum without compromising the ship's ability to respond to a casualty.

Material condition Zebra also is not set when combating a main-space fire. The ship is divided into nine zones which—when doors, hatches, and natural ventilation valves are closed—prevent smoke from spreading throughout the ship. During a casualty affecting a greater area of the ship, *Milius* would set GQ.

For nuclear, biological, and chemical protection, Repair 5 again bears the brunt of responsibility for forming decontamination and monitoring teams.

As with all main-space fire scenarios, DCTT and the engineering training team, or ETT, place particular emphasis on training the ship's first line of defense: engineering watchstanders. One engineering watchstander always is assigned to Main 1 and to Main 2, while other main spaces are unmanned. Each watch section also has three additional roving watches who man the affected space if a casualty occurs. If a roving watch rushes to an assigned space and the fire already is beyond the watchstander's capabilities to control or extinguish, instructions call for securing the door or hatch to the space and activating the halon system.

Watchstanders then will be able to monitor 40 different locations from CSMC.

Milius' damage control personnel rely heavily on halon. For one thing, it is almost 100 percent effective. Also, should primary halon fail, watchstanders can activate secondary halon. Although the ship occasionally practices a scenario during which both primary and secondary halon are activated, the chances of actually having to do so are miniscule. After the DCA determines that the halon has put out the fire, there is little reason to enter the affected engineroom right after the minimum 15-minute soak time; doing so unnecessarily could endanger crew members.

Milius also relies heavily on alarms while underway or in port. When pierside and cold iron, CCS (central control station) and engineering spaces are locked after working hours, and the inport equipment monitor responds to alarms monitored by a watchstander in the Combat Systems Maintenance Center (CSMC). Having just one engineer on watch after working hours allows for expanded duty sections and for fewer watches for those engineers in the same section. Besides monitoring alarms from CSMC, the combat systems officer-of-the-watch soon will be able to observe what goes on throughout *Milius* once the ship's camera installation is complete. Watchstanders

then will be able to monitor 40 different locations from CSMC.

In addition to relying on technology, *Milius* also depends on a shore infrastructure to complete some of the ship's damage-control maintenance. While still using a traditional ER09 damage-control petty-officer program exclusively run by the crew, Shore Intermediate Maintenance Activity personnel report almost daily to the ship to performed planned Repair Division maintenance checks. With SIMA performing maintenance for ship divisions, division personnel have ample time and energy for damage-control PMS, despite the reduced manning. The ship has not had any decrease in damage-control capabilities since the experiment began.

Throughout the Optimal Manning Experiment, *Milius*' training requirements have remained unchanged—drills have not been scaled back to adjust to a smaller crew. With proper DCTT training and well-thought-out reorganization, the ship has responded to numerous damage-control scenarios and had results comparable to those of DDGs with larger crews. All *Milius* crew members are expected to maintain their damage-control PQS, just as before the Optimal Manning Experiment. Each crew member must be DC-qualified, ready to supplement duty-section fire parties, and prepared to respond should the day come when their damage-control expertise is required while the ship is underway.

The leadership challenge is making sure the new techniques of combating damage, standing watches in port and underway, and increased dependence on technology and shore support, all provide the crew with an easier way of doing business at no cost to safety.

The author is Milius' *navigator and was the ship's damage control assistant from March 2000 to March 2002.*