

# Human Factors in Maintenance: Coast Guard Adopts Maintenance Resource Management Training



By Dan Steber

Recognizing that maintenance error is involved in one of five Coast Guard aviation mishaps at an annual cost of \$1 million, they established a Human Factors in Maintenance (HFIM) Program. They looked at Federal Aviation Administration, National Aeronautics and Space Administration, and National Transportation efforts to reduce maintenance error in the commercial-airline industry. One initiative had universal acceptance from regulators, manufacturers, and carriers: The use of maintenance-resource management (MRM) training for aircraft maintainers.

MRM, like crew-resource management (CRM), is designed to increase a maintainer's ability to identify hazards that induce errors and to develop skills to overcome them. The Coast Guard was convinced this program would make a difference in maintenance operations, leading to reduced maintenance errors, higher availability, and less risk of mishaps.

They decided to use MRM training; however, they wanted tailored training and believed no commercially available, off-the-shelf option was suitable. The team decided to modify an MRM course developed and tested at the Naval Safety Center.

The working group assigned CWO2 Randy Jenkins as the "point man" for this effort. He worked with Capt. John Schmidt—the Navy's expert in human factors research. They adapted the naval aviation MRM program to meet their requirements. The MRM course then was pilot-tested at USCG Air Station Port Angeles, Wash. The concept was well-received, and feedback from those sessions showed maintainers learned the basic tenets of MRM and felt the program significantly would benefit maintenance operations and job safety.

The Coast Guard implemented MRM training fleetwide, using a "train the trainer" approach. WO2 Jenkins and Capt. Schmidt developed and facilitated a three-day MRM workshop, and representatives from every Coast Guard aviation maintenance and training activity attended that session at USCG Station Elizabeth City, N.C.

The workshop introduced real-life case studies of maintainers who had made mistakes and caused mishaps. These scenarios led workshop participants to identify hazards, brainstorm solutions, and focus on prevention. 

Dan Steber is the editor of *Mech*.

For more information on our efforts with MRM and HFIM, check out our website at [www.safetycenter.navy.mil](http://www.safetycenter.navy.mil).