

Acquisition Update: Coast Guard Completes Wireless Interior Communications Upgrade

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The Coast Guard's command, control, communications, computers, intelligence, surveillance and reconnaissance program installed upgraded internal communications on Coast Guard Cutter Harriet Lane Aug. 10, completing a three-year effort to improve equipment on in-service cutters.

The C4ISR program upgraded 33 cutters with wireless radio equipment and hands-free interfaces that improve crews' ability to communicate during damage control, engineering, security and training operations. Before the wireless interior communications project, individual cutters bought and maintained their own equipment. As a result, radios differed on each cutter with varying degrees of reliability and quality. Crews across the fleet struggled to cope with radio interference from the ships' metal bulk. The unreliability of the nonstandard radios posed a safety problem that warranted a fleet-wide solution.



Allen Balough, a lead engineer for the C4ISR program (right), tests the new interior communications system with a Coast Guard Cutter Spencer crewmember after installation of leaky coax cable. The installation took place in Boston July 18-21. U.S. Coast Guard photo.

On 19 of the Coast Guard's larger in-service cutters, the program also installed leaky coax cable. Standard coaxial or "coax" cable is normally used to transmit data over long distances and has a shield surrounding the data wires that prevents the signal from leaking out and losing strength along the length of the cable. Leaky coax cable has regular gaps in the shielding that allow signals to flow in and out along the entire length of wiring. On a cutter, leaky coax cable functions as an antenna running the length of the ship and provides a strong radio signal anywhere on the vessel.

The new equipment has also made damage control teams much safer while fighting fires. "The crews absolutely love the interface with their firefighting gear," said Allen Balough, external/internal communications lead engineer for the C4ISR program. Before the WIC project, damage control teams using basic hand-held radios had two options: hold the radio up to the helmet and yell to be heard through the protective gear or hold the radio under the protective gear and risk exposing skin to a fire. They also struggled to hold and operate the radio while operating firefighting equipment and wearing protective gloves. "The hands-free interfaces are specifically designed to be used with damage control gear," said Vik Singh, senior systems engineer. The new radios connect directly to the face mask of the firefighting gear, providing clear voice communications.

The radios and headsets are also designed with protection against sparks often caused by the heat and air conditions in a fire. "They won't make the situation worse by sparking during a fire and causing more problems," Singh said.

The C4ISR program is handing off support for the communications gear to the Command, Control, and Communications Engineering Center, who will provide maintenance and spare equipment. The WIC project ended ahead of schedule and within budget.