

Research for New Submarine Rescue Underway

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The medical research arm of the submarine force is seeking ways to make sure if a Navy submarine ever sinks, its crew can last until rescue forces arrive.

Capt. Michael Curley, MSC, commander of the Naval Submarine Medical Research Laboratory at Naval Submarine Base Groton, recently addressed this topic. "Six years before the Russian submarine Kursk sank to the bottom of the Barents Sea," he said, "the Navy was pushing to make survival, escape and rescue a viable option for submarine crews.

Speaking to a Groton, Conn., chapter of the Navy League, Curley said one of the most significant changes taking place on submarines involves modifications to the escape trunks to accommodate the new Submarine Escape and Immersion Equipment (SEIE). This equipment consists of a Mark 10, SEIE waterproof suit and a personal life raft that would allow submariners to escape from depths of approximately 600 feet.

The Mark 10 is a British-designed suit, and will replace the Steinke Hood, which had covered only the head and neck, offered no insulation for the rest of the body, and had no life raft attached, as does the Mark 10. So far, A dozen Atlantic Fleet submarines have been outfitted with the Mark 10 SEIE, and the remaining submarines are scheduled to be outfitted by the end of 2005.

Other submarine-escape, procedural changes are more simple, Curley said. For instance, previous information about how to deal with conditions

on a disabled submarine was scattered through several technical manuals on a boat, but if, say, a young petty officer third class was the most senior survivor, the men might not know where everything was located.

Today, the research lab has gathered all the information into a single volume, specific to each submarine class and to the different models within each class. That information is now located near the escape hatches.

Another major concern has been removing carbon dioxide from the air if the motors on the scrubbers are not working because of a loss of electrical power. Lithium hydroxide can remove carbon dioxide from the air if it is spread around the ship and fanned, but the granular material is caustic to the skin and respiratory tract. Thus, two new methods to employ lithium hydroxide have been developed.

One involves a blue, curtain-like piece of gear that can be filled with lithium hydroxide, keeping it safely contained but still allowing it to cleanse the air. The other is lithium hydroxide embedded in a polymer matrix that can be rolled out on the deck.

"Our goal is to keep the survivors alive for seven days, which is thought to be the longest it might take to mount a rescue," Curley said. "Presently we don't have that capability, but we're close." ☺

The Day is a New London, Conn., daily newspaper serving eastern Connecticut.



A Navy attack submarine conducts emergency-surface training off the coast of Oahu. If a submarine is unable to surface, the new Submarine Escape and Immersion Equipment will increase crew survivability until they can be brought to the surface.