



Reducing Deck Hazards on Commercial Fishing Vessels

Almost every year, commercial fishing ranks as the most dangerous occupation in the United States. Commercial fishermen died on the job at a rate 36 times more than the average U.S. worker in 2006, according to the Bureau of Labor Statistics. Equally significant is the number of serious injuries in commercial fishing. In Alaska alone, between 1991 and 2002, there were 798 fishermen hospitalized for severe injuries. Many of these injuries were due to being entangled or struck by lines or gear, or being trapped in a winch, pulley, or other deck equipment. Deck machinery hazards are compounded by the nature of fishing: a strenuous job, conducted on a constantly moving, slippery, and crowded work platform, often in bad weather and with little rest.

In 2004, CDC's National Institute for Occupational Safety and Health (NIOSH) began to develop engineering interventions to reduce the number of fishermen entangled in deck machinery, specifically the capstan-type winches typically found on purse seine vessels that are often used for salmon fishing. NIOSH researchers met with vessel owners, seine fishermen, and winch manufacturers to discuss safer design options. The final design, an emergency-stop (e-stop) push button system, is mounted directly on the winch. The button is within easy reach of the winch operator, should the operator become entangled. The e-stop system has been installed on three operat-



The emergency-stop button can eliminate capstan winch entanglements

ing purse seine vessels, and has been tested during the 2005–2007 salmon fishing seasons in Alaska and Washington. NIOSH researchers continue to evaluate the e-stop's performance and provide technical assistance to the vessel owners.

The initial sea trials of NIOSH's e-stop system have been successful. Fortunately, there have been no actual emergencies or winch entanglements aboard any of the test vessels. However, all of the crews recognize the extra safety provided by the e-stop system. They have showcased the system in fishing ports throughout the west coast and Alaska, and serve as ambassadors of this important technology. Due to significant fishing industry interest, the e-stop technology has been licensed to a manufacturer in Seattle, and is now commercially available to any vessel owner committed to safety. NIOSH researchers continue to work with vessel owners, fishermen, equipment manufacturers, and the U.S. Coast Guard to develop other innovations that will make commercial fishing a much safer occupation.



The working deck can be a maze of machinery, gear, and slippery fish.

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