

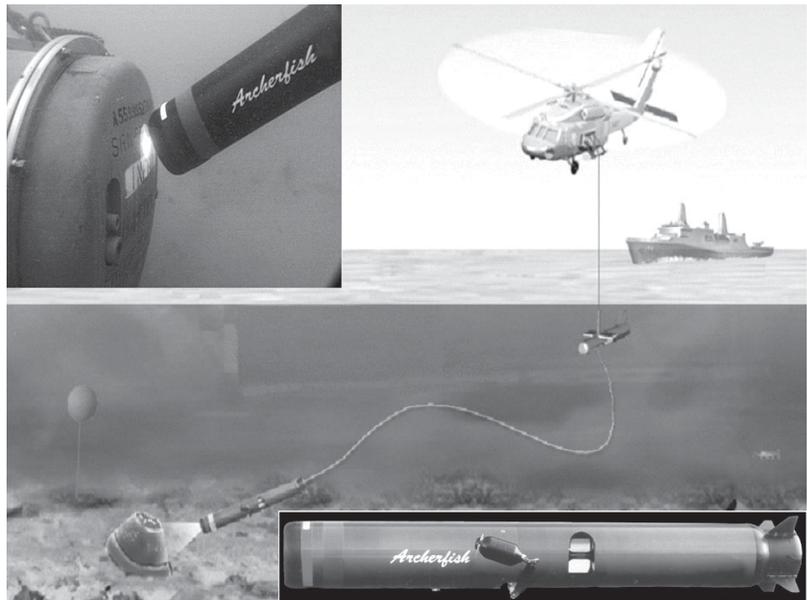
Airborne Mine Neutralization System (AMNS)

The Airborne Mine Neutralization System (AMNS) is a helicopter-deployed mine countermeasure system that is intended to provide rapid neutralization of seaborne mines. The Navy is acquiring two separate and distinct AMNS systems developed by different contractors, one for the MH-53E helicopter (AMNS(53)) and one for the MH-60S helicopter (AMNS(60)). The latter is one of five modular Airborne Mine Countermeasures systems that will be employed from the MH-60S helicopter to provide an organic mine countermeasure capability to Carrier and Expeditionary Strike Groups. The Navy is acquiring seven AMNS(53) systems to provide an interim capability to existing airborne mine countermeasures squadrons. Both systems are designed to relocate, identify, and neutralize mines directly from the helicopter. Target location information obtained from other sources is entered into the AMNS prior to take-off or while the aircraft is flying to the area of operations. The aircraft then hovers at a safe distance from the target position, and lowers an expendable, self-propelled neutralizer device into the water.

The neutralizer can travel autonomously or be driven by the operator to the reported target position to search for the mine. The neutralizer communicates with the operator in the helicopter via a fiber optic cable, sending depth, position, and sensor (sonar and video) information, and receiving control and guidance commands. Once the operator relocates the target and identifies it as a mine, he positions the expendable neutralizer to detonate its shaped charge into the mine. The neutralizer is designed to render the mine inoperable by rupturing its case or causing sympathetic detonation of the mine charge. Each system contains a reusable training version of the neutralizer. An aircraft can carry up to four neutralizers. AMNS(53), derived from a system built for German Navy mine countermeasures ships, uses the Seafox neutralizer vehicle. AMNS(60) will use the British Archerfish neutralizer.

The program sponsor reduced the minimum performance requirements for AMNS(53) in an Operational Requirements Document (ORD) clarification letter on January 27, 2003, citing a compelling fleet need to field the system and the cost/benefit of further system improvements. The Assistant Secretary of the Navy (Research, Development, and Acquisition) (ASN(RDA)) designated AMNS(53) a Rapid Deployment Capability in April 2003, thereby terminating the AMNS(53) Acquisition Category II program and bypasses the planned operational testing described in the approved Test and Evaluation Master Plan and Operational Evaluation Test Plan. ASN(RDA) approved the production of seven AMNS(53) systems and 70 neutralizers and directed an abbreviated operational test known as a Quick Reaction Assessment (QRA) be performed in lieu of an operational evaluation prior to deployment of the system. The Navy plans no additional AMNS(53) procurements.

The Navy's Operational Test and Evaluation Force will conduct the AMNS(53) QRA in February 2004 on production representative systems using the approved ORD as modified by existing clarification letters. The production units will incorporate hardware changes intended to address component obsolescence, water-tightness, and some of the performance issues noted during developmental testing.



The Airborne Mine Neutralization System is a helicopter-deployed mine countermeasure system that is intended to provide rapid neutralization of seaborne mines.

NAVY PROGRAMS

TEST & EVALUATION ACTIVITY

- AMNS(53) concluded developmental testing during 1QFY03 under the direction of the Naval Surface Warfare Center, Dahlgren Division, Coastal Systems Station, located at Panama City, Florida.
- DOT&E observed end-to-end live fire testing at the Underwater Explosive Test Facility at Aberdeen Test Center, Aberdeen, Maryland. Expendable neutralizers were used to detonate moored mines filled with explosive material.
- DOT&E observed high-current testing at Pensacola, Florida, in December 2002.
- DOT&E representatives participated in the development of the Test and Evaluation Master Plan for AMNS(60).

TEST & EVALUATION ASSESSMENT

AMNS(53) performance improved during developmental testing, but did not achieve the minimum performance thresholds for probability of neutralization, expendable neutralizer reliability, and high-current performance required in the ORD. AMNS(53) has not demonstrated satisfactory performance in ocean currents of any appreciable velocity, or the ability of fleet sailors to operate and maintain the system. A team of engineers and technicians provided a higher level of support during developmental testing than would be expected in a typical fleet environment. This system, though purchased, has not demonstrated the necessary performance to allow operational forces to accomplish their mine neutralization mission.

AMNS(53) is lethal against threat mines that are comparable to the U.S. Mark 6 and Mark 56 moored mines when detonated in the correct firing position. Additional data will be collected during the QRA to evaluate the likelihood of correct placement and neutralizer detonation.

AMNS(60) is still in development and has not yet undergone any operational or live fire testing.