

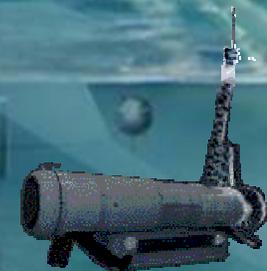


Mine Warfare Program Office Presentation

LCS Advanced Flight Mission Package Industry Day

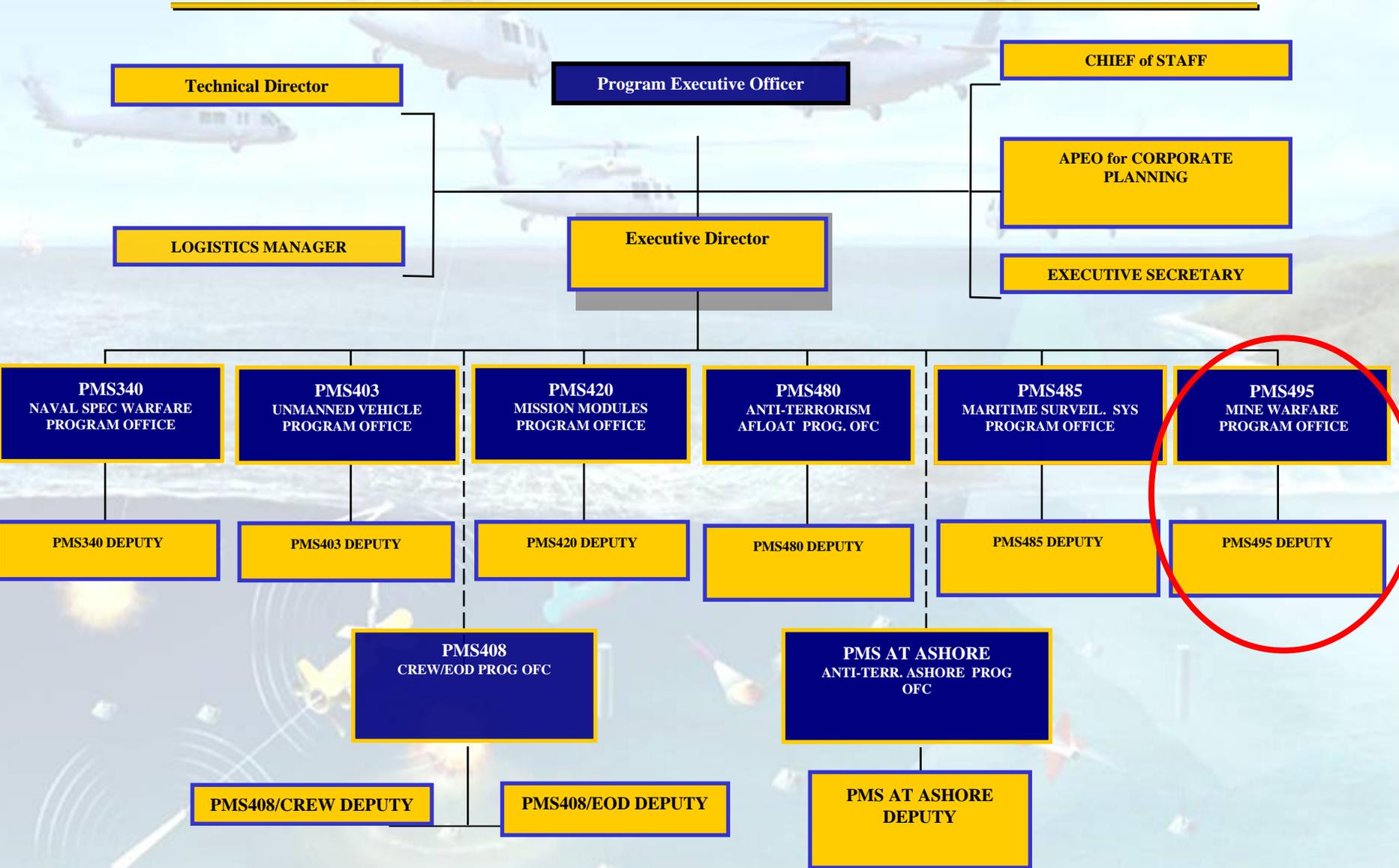
17 April 2007

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PMS495 Director
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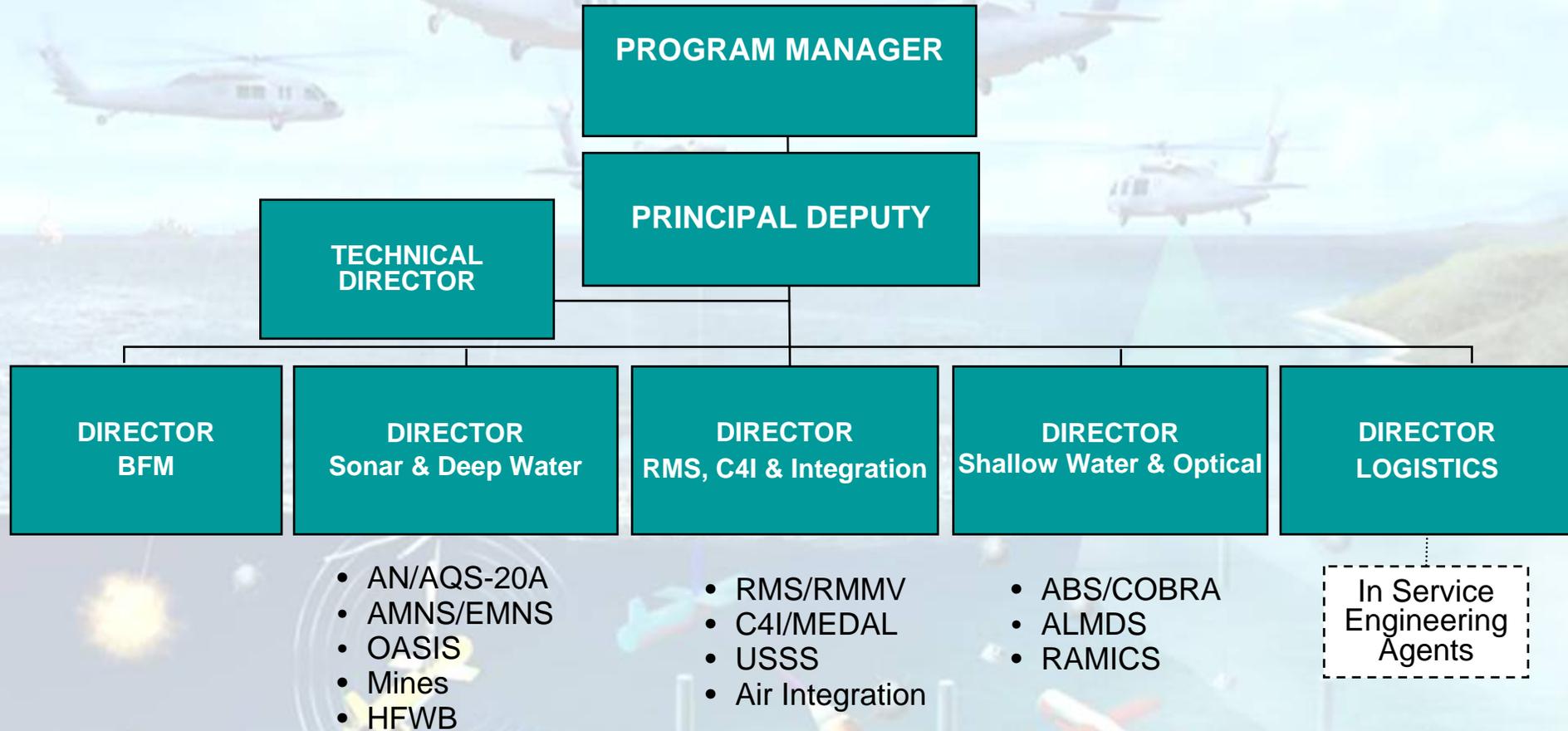


PEO LMW





PMS495 Organization



Mission Statement:

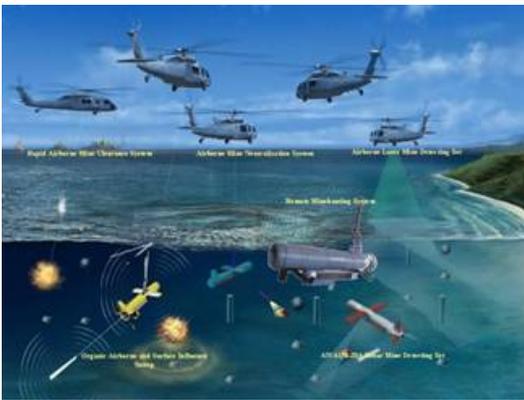
To provide Mine Warfare Capability to the Fleet, when they want it, at reduced cost



Mine Warfare Programs, PMS495

Mission: To provide Mine Warfare Capability to the Fleet, when they want it, at reduced cost.

Organic Mine Countermeasure



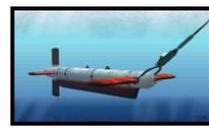
- RMS - *Detect, classify, ID & localize*
- AN/AQS-20A – *EOID sensor & volume search sonar*
- ALMDS - *Detect, classify, & localize floating and near surface moored mines*
- OASIS - *High speed magnetic /acoustic influence sweep*
- AMNS - *Explosively neutralize unburied bottom & moored mines*
- RAMICS – *Reacquire & neutralize near-surface & surface moored mines*

Shallow Water MCM



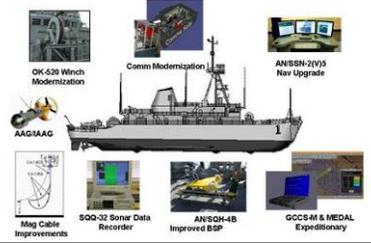
- COBRA - UAV payload & ground processing station for reconnaissance
- JDAM JABS - Neutralize surface and buried mines and obstacles

SMCM and AMCM In-Service



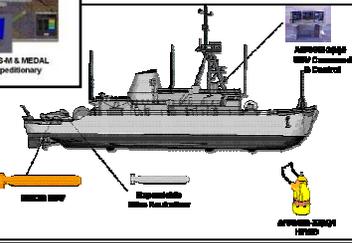
- SQQ-32, OK-520 Winch, AN/SLQ-48
- MK105 Mod4
- AN/AQS-14 and 24,

Phase I



MCM Modernization

- Phase 1
- OK-520 Winch
- Comm Modernization
- AAG/IAAG, BSP
- Mag Cables
- MEDAL & GCCS-M
- SQQ-32 Sonar Data Recorder
- NAVC2
- Phase 2
- EMNS
- HFWB



Mining



- Quickstrike Mod 3
- MK 56
- VEMS
- Exercise & Training Mine Shapes



AN/WLD-1 Remote Minehunting System (RMS)

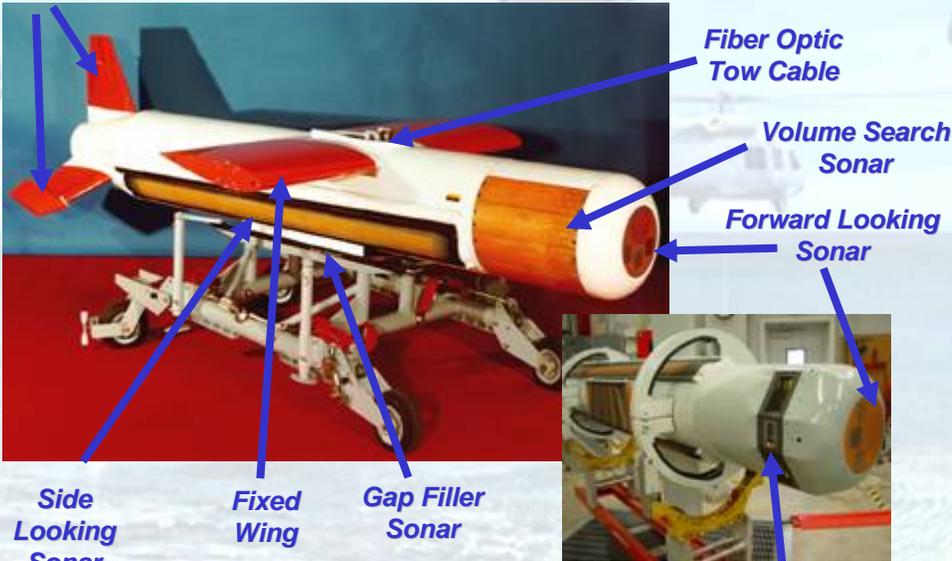
The RMS is a diesel powered semi-submersible vehicle (23' long, 4' diameter, 13klbs) that tows a variable depth sensor, the AN/AQS-20A. It will operate from the DDG 91-96 and LCS. The system determines the presence or absence of mines to an acceptable level of confidence to enable ships to operate in or avoid specific areas.

- ✓ Milestone C 6 Jul 05; RMS in production
- ✓ ACAT IC Designation 25 Apr 06
- ✓ Over 1,000 hours of Off-shore vehicle operations
- ✓ Operational Assessment (OA) completed Aug 06
- ✓ LRIP #2 Decision Milestone Sep 06
- ✓ DT IIC LCS Crew Training Aug – Oct 06
- ✓ Delivery to DDG 96 Jan 07
- » TECHEVAL Feb 07
- » OPEVAL Jun 07



AN/AQS-20A System Description

Controllable Tail Surfaces



The AN/AQS-20A program integrates an existing Electro-Optic Identification Device (EOID) sensor into the AN/AQS-20 baseline system and provides for identification of bottom mines and detection, localization, and classification of bottom, close tethered, and volume mines.



EOID



- ✓ Milestone C 28 Apr 05 - in production
- ✓ Mature, reliable system with over 1,600 tow hours demonstrated performance on 3 platforms.
- ✓ Commenced MH-60S DT Dec 06
- ✓ Meeting or exceeding KPP thresholds
- » OPEVAL 3rd Qtr 07

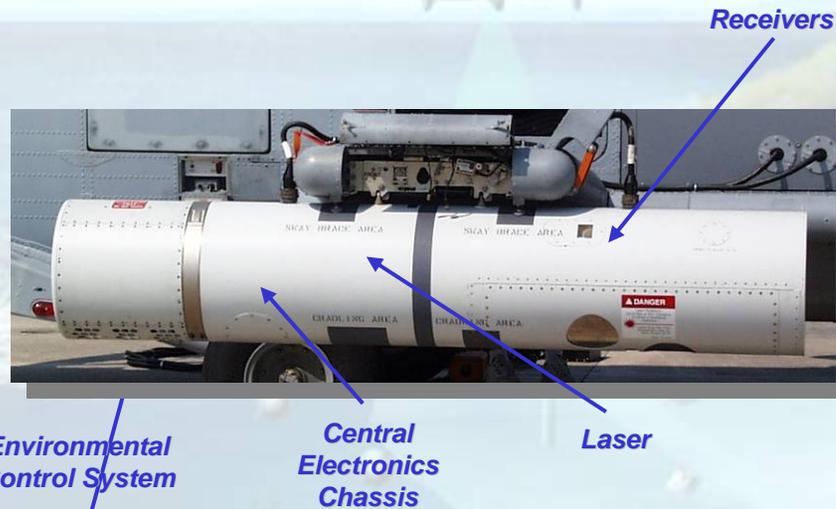


Airborne Laser Mine Detection System



The AN/AES-1 ALMDS is a laser-based AMCM high area coverage system that uses Streak Tube Imaging LIDAR to detect, classify, and localize floating and near surface moored mines. One ALMDS system to be provided for each LCS Mine Warfare Mission Package.

- ✓ Milestone C May 05; ALMDS in LRIP production
- ✓ Completed over 150 flight test hours demonstrating extremely high operational availability
- ✓ First high-speed, wide area search MCM system for surface and near surface mines; fills capability gap
- ✓ DT-IID commences Jan 07
- ✓ LRIP Lot 1 unit delivery Jan 07
- » Contract award for LRIP Lot 2, Jun 07



Common Console for the MH-60S



ALMDS Common Console Sensor Display



Airborne Mine Neutralization System

The AMNS will be employed by the MH-60S helicopters to positively identify and explosively neutralize unburied bottom and moored sea mines that are impractical or unsafe to counter using existing minesweeping.

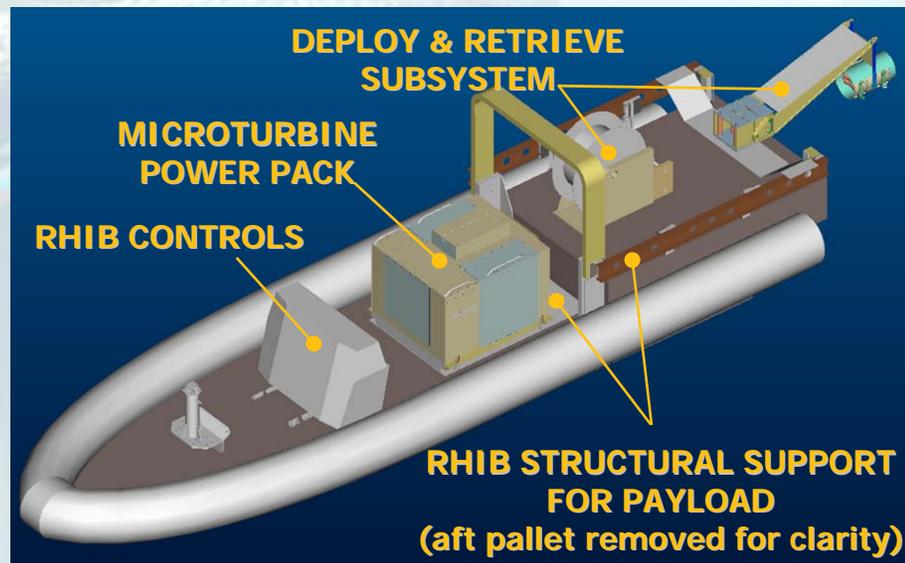
- ✓ CT/DT Athena Test Dec 05 – Apr 06
- ✓ Completed MH-53E Platform CT/DT testing Aug 06
- ✓ Commenced MH-60 CT Nov 06
 - » Live Fire Ground Testing Mar 07
 - » MS C Jun 07
 - » MH-60 DT 4th Qtr 07





Unmanned Surface Sweep System (US3)

- » Modular, influence sweep package for LCS-based unmanned surface vehicles
- » COTS micro-turbine powered magnetic influence via towed cable
- » Modified Mk-104 acoustic signal generator towed on magnetic cable
- » Sweep System Components
 - Power Pack
 - Deploy and Retrieve System
 - Magnetic Sweep
 - Acoustic Sweep
- » FY07 Transition from ONR
- » MS B 1st Qtr FY08





Organic Airborne and Surface Influence Sweep

OASIS will provide organic, high speed magnetic/acoustic influence minesweeping capability where minehunting is not feasible (adverse environmental conditions), where mines are undetectable (buried), and avoidance of the area is not an option.

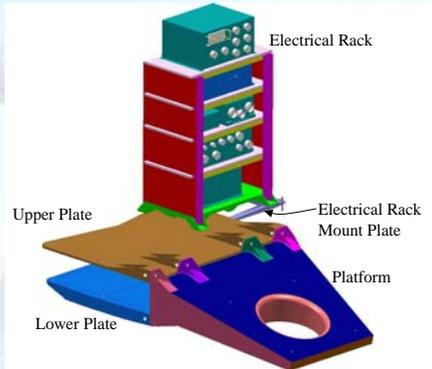
- ✓ First rapid response minesweeping capability
- ✓ Towed body hydrodynamic stability and control validated
- ✓ Completed CT on Athena with common console 4th Qtr 06
- ✓ Commenced MH-53E CT Dec 06
- ✓ Completed electrical ground test on MH-60 and MH-53
 - » MH-60 CT 4th Qtr 07
 - » MS C 3rd Qtr 08



OASIS Delivers with MIW Mission Package (MP) #3



Rapid Airborne Mine Clearance System



Gun Mounting Structure/Electrical Rack

RAMICS is capable of reacquiring and neutralizing near-surface and surface (floating) moored mines. The RAMICS Mission Kit consists of a Targeting Sensor Subsystem, a Gun Subsystem, a Fire Control Subsystem, a Munition Subsystem, the Carriage Stream Tow & Recovery System, and the Common Console.

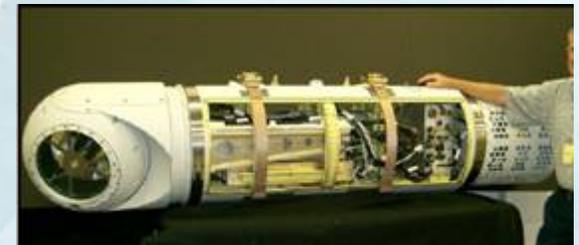
- ✓ Pod Housing delivered Nov 05
- ✓ Laser Receiver Assembly acceptance testing completed Jan 06
- ✓ Gun subsystem delivery Oct 06
 - » EDM ground test Apr/May 07
 - » MH-60S ground test 4th Qtr 07
 - » MS C 4th Qtr 08



MK44 Gun & Turret



MK-258 Mod 1 30mm Munition



RAMICS Delivers with MIW MP #4



AQS-20A in Production, MH60S Testing Underway



AMNS MS C Jun 07



OASIS In Testing



MCM Ship Modernization Underway

QUESTIONS?



JABS Fielded Capability Jun 07



EMNS Development Underway



RMS PRR Nov 06



Live-Live Far Term Demo Nov 06



ALMDS LRIP #1 Delivery Jan 07