NDIA MINE COUNTERMEASURES SUPPORT SHIP (MCS) STUDY

prepared for: Director, Expeditionary Warfare Division (N-85) [now N-75] Department of the Navy

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UNCLASSIFIED

MCS STUDY PARTICIPANTS

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BACKGROUND AND OBJECTIVES

BACKGROUND

- **Present Mine Countermeasures Support Ship USS INCHON (MCS-12) end of service life 2005**
- **Request by N-85 to examine ongoing need for MCS in the near-, mid- and long term**

OBJECTIVES

- **Validate need and roles for MCS**
- **Future requirements**
- **Options**

MCS HISTORY AND STATUS

- **Gulf War - USS TRIPOLI (LPH-10) configured "platform of opportunity"**
- **Lessons Learned - need for dedicated sea-based support**
- **USS INCHON (LPH-12) selected and converted to MCS-12 in 1996**
- **Four years of operation**
  - **Joint Task Force Exercises**
  - **TRIAD Coordination (SMCM, AMCM, EOD)**
- **INCHON under Repair; End of Service Life 2005; PEO-MUW expects extension to 2010 or longer**

PRESENT MCS ROLES (ORD)

- **Embark MCM Commander and Staff**
- **Integrated MCM C^2**
- **Embark and operate AMCM squadron and SAR / Spotter aircraft**
- **Embark EOD MCM detachments**
- **Transport minehunting and minesweeping vehicles and associated equipment**
- **Embark Special Warfare Forces for SW / VSW / SZ clearance**
- **Logistic support and intermediate level maintenance to AMCM, SMCM and EODMCM**

MCM SCENARIO OVERVIEW

PARAMETER	SCENARIO				
	SLOC	**Port**	**Fleet Op Area**	**Independent Operations**	**Follow-on / Sustainment**
MCM Requirement	Open a safe channel	Open a safe channel	Find a safe operating area, clear only if cannot move area	Find a safe transit lane and op area	Find and clear / neutralize **all mines**
Area Size	Small: 1000 yd X 100 nmi	Small: 1000 yd X 50 nmi	Large to Very Large: 400 to 2500 nmi^2	Moderate: 100 to 200 nmi^2	Large to Very Large: several 1000 nmi^2
Water Depths	Moderate to Deep: 100 to >200 ft	Shallow to Deep: 40 ft to >200 ft	Variable – Deep to very shallow: 10 ft to >200 ft	Variable – Deep to Shallow: 50 ft to >200 ft	Variable – Deep to Very Shallow: 10 ft to >200 ft
Sea Bottom Clutter	Moderate	High	Low to High	Low	High to Low
Probability of Encountering Buried Mines	Low to Moderate	High	Low to High	Low to High	Low to Very High
Mine Clearance / Neutralization Requirements	Moderate (mines in channel)	Moderate (mines in channel)	None (change areas) to Heavy (clear area)	Light to None (avoid wherever possible)	Very Heavy (clear / neutralize all mines)

OPERATIONAL ISSUES

- **Projected Forces**
- **Sustained MCM Demands**
- **AMCM Aircraft Equivalencies**
- **Platform / Personnel Exposure**
- **MCS Deployment Responsiveness**

PROJECTED FORCES TIMETABLE

Era ↓	Sustained MCM Operations		BG, ARG MCM Support
Function →	Hunt / Neutralize	Sweep	Hunt / Neutralize / Sweep
2000	Dedicated MCS, SMCM, MH-53E	Dedicated MCS, SMCM, MH-53E	Dedicated only, No "In-Stride"
2005	Dedicated MCS, SMCM, MH-53E	Dedicated MCS, SMCM, MH-53E	Dedicated, Organic IOC
2010	Dedicated MCS, SMCM, CH-60S	Dedicated MCS, SMCM ?	Organic
Beyond	Dedicated MCM-X, CH-60S	Dedicated MCM-X, SMCM	Organic

SUSTAINED MCM DEMANDS

- **High Clearance Levels; Large Areas; Extended Time**
- **"Hunt if you can / sweep if you must"**
- **Unlikely that Organic Forces Alone Can Handle**
- **Force Levels, Support, Endurance Requires Major Support Platform (MCS)**

AMCM AIRCRAFT EQUIVALENCIES

- **Hunting / Neutralization**

  1 MH-53E = 2 CH-60S

- **Sweeping**

  1 MH-53E = 5 or More CH-60S

- **On INCHON (8 MH-53E + 2 CH-46D)**

  Hunting / Neutralization = 18 CH-60S

  Sweeping = 42 CH-60S

SUSTAINED OPERATIONS OBSERVATIONS

- **With transition to CH-60S**
  - **Hunting / Neutralization feasible**
  - **Sweeping doubtful**
- **Sustained sweeping requires either MH-53E, SMCM or both**
- **SMCM minefield exposure undesirable, AMCM preferred**

DEPLOYMENT RESPONSIVEVNESS

- **Major deficiency of present dedicated force**
- **Current dedicated forces**
  - **14 MCM-1 (AVENGER)**
  - **12 MHC-51 (OSPREY)**
  - **MCS-12 (INCHON)**
  - **20 MH-53E in 2 squadrons**
- **Current Deployment**
  - **7th Fleet 2 SMCM**
  - **5th Fleet 2 SMCM + 4 AMCM**
  - **<u>Remainder</u> <u>CONUS-based</u>**
- **Future - more than 1 MCS?**

MCS CANDIDATES

- **Brand new design - unlikely**
- **Modify existing Navy Platform**
  - **LHA-1 unavailable to 2015, too large and too expensive**
  - **LSD-49 - expensive conversion, small flight deck, no hangar**
  - **LHD - too large and expensive to operate**
  - **LPD-4 - expensive conversion, small flight deck**
- **Commercial Platforms - cost prohibitive**
- **Modify existing Navy Design**
  - **LPD-17 possible candidate**
  - **Existing hull, engineering plant**
  - **Eliminate well deck, enlarge flight deck**
  - **Serial production in Class**
  - **PEO-MUW preferred choice**

PERSPECTIVES

- **INCHON Service Life Extension buys time to solidify need and operational requirements, and to examine options and tradeoffs on:**
  - **Platform**
  - **Manning**
  - **Ownership**
  - **Deployment**
  - **Affordability**
  - **Multimission opportunities**
- **Complementary character of organic and dedicated MCM forces will be developed and refined with time and CONOPS**

WRAP - UP

- **MCM requirement continues**
- **MCS as the MCM Lynchpin plays vital near-term and probably long-term roles**
- **Unless MCM-X provides an alternative, the MCS "mother ship" is needed as a focus of dedicated MCM capabilities and particularly for sustained operations**
- **Organic MCM meets a needed BG/ARG "on site" requirement, and enhances USN overall MCM effectiveness**
- **Loss of MH-53E would severely restrict AMCM minesweeping capacity**
- **Deployment concerns drive to multiple platforms**