NDIA Expeditionary Warfare Operations Conference
13 October 2016

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Expeditionary Warfare, OPNAV N95
Key accomplishments over the last year

- ESB-3: Delivered
- LPD 26: Delivered and Commissioned
- LPD 27: Christened
- LPD 28 and LHA 8: Awarded
- RQ-21: 1st system delivered (FRP approved)
- MK18 Mod 2: Program of Record

We stay committed to finding the best solutions for the Warfighter
N95 Program Priorities

- Promote amphibious force structure & readiness (capacity, maintenance, modernization)
- Ensure effective F-35B integration
- Recapitalize our legacy surface and airborne mine countermeasures capability
- Recapitalize surface connectors to prevent gaps
- Effectively shepherd UONS/Fastlane systems
- Achieve Navy Expeditionary Combat Enterprise (NECE) wholeness/readiness
- Support alignment of service-common Naval Special Warfare (NSW) capabilities
- Field, support mature alternative platform (ship) capability
- Optimize expeditionary manpower & training

Priorities are aimed at investing in technologies to secure the future
EXPEDITIONARY FORCES are an **Asymmetric Force**

- We must be the asymmetric threat to future enemies
- We’re not building a 21st century Marine Corps to refight Iwo Jima
- Never send a Sailor or Marine into a “fair” fight

EXPEDITIONARY FORCES are part of an Integrated Naval Force: “**Green in Support of Blue**”

- Old assumptions must be revised. CS-21, New USMC Operating Concept
- Joint Strike Fighter—5th Generation aviation deployed aboard LHDs in 2018
- Tilt-rotor enabled amphibious force. Range and speed create options.
- Distributed Lethality / Distributed Maritime Operations / “Kill Webs”
- Expeditionary Advanced Bases

**Forward deployed Expeditionary Forces embody and enable Distributed Operations**

- Ready to respond, to form an aggregated Naval Force in crisis or contingency
- Maintaining access, building partner capability and mutual Interoperability
- Gaining experience—Humanitarian Assistance / Disaster Relief (HA/DR) = Expeditionary Logistics
- Reassurance & Deterrence – Demonstrating capability, readiness and interest

*We must bring Navy and Marine Forces together into a true Naval Campaign*
“The Chief of Naval Operations and Commandant of the Marine Corps have determined that the force structure requirement to support a 2.0 MEB lift is 38 total amphibious assault ships.” – SecNav/CNO/CMC memorandum, Jan 2009

“...Frankly, we need about 50 amphibious gray hulls to get done what we need to around the world today.” ADM Greenert, Navy League’s Sea Air Space Exposition, Apr 2014

“...We’d like to have 50 amphibious ships today to answer all of the demands. Those are workhorse ships.” – Secretary Sean Stackley, ASN RDA, HASC Seapower Hearing, July 2014

“...If we could meet all the [COCOM] requirements, it would take 50 ships.” – Gen Neller, SASC testimony, Sep 2016

Demand continues to outpace capacity
**Mine Countermeasures Roadmap**

### Current MCM Force
- **Platform End of Service Life**
- **Man in the minefield**
- **Limited flexibility**
- **Slow response time**

### Future Force

#### Transition
- **Minehunting Unit (MHU)**
- **US and Coalition Surface Assets & Shorebased operations**

#### Bridge
- **ExMCM Capabilities**
- **Targeted Sensor Upgrades**
- **Expanded Adaptive Force Experimentation**
- **Operational Assessment of MCM MP components**
- **Initial LCS deployments with MCM systems**

#### MCM VISION:
1. Reduce MCM timelines for Combatant Commanders
2. Reduce risk from sea mines to allow Joint Force mission execution

#### Future Performance
- **Unmanned Systems**
- **Fast, Agile, Flexible**
- **Modular**
- **Optimized use of Manpower**

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**Current Systems**
- Platform End of Service Life
- Man in the minefield
- Limited flexibility
- Slow response time (MCM-1)

**Future Systems**
- **LCS-2**
- **LCS-1**
- **MH-60S**
- **CUSV**
- **AMNS**
- **ALMDS**
- **AQS-20A**
- **UISS**
- **Knifefish UUV**
- **Barracuda**
- **VTUAV**
- **COBRA**

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**Abbreviations**
- ALMDS: Airborne Laser Mine Detection System
- AMNS: Airborne Mine Neutralization System
- COBRA: Coastal Battlefield Reconnaissance & Analysis
- CUSV: Common USV
- EOD: Explosive Ordnance Disposal
- JABS: JDAM Assault Breaching System
- JDAM: Joint Direct Attack Munition
- LCS: Littoral Combat Ship
- MP: Mission Package (for LCS)
- MHU: Mine Hunting USV
- MNV: Mine Neutralization Vehicle
- RIB: Rigid hull Inflatable Boat
- RMMV: Remote Multi-Mission Vehicle
- UISS: Unmanned Influence Sweep System
- USV: Unmanned Surface Vehicle
- UUV: Unmanned Undersea Vehicle
- VTUAV: Vertical Takeoff Unmanned Aerial Vehicle
Canceled and defunded components while maintaining the same requirements

Delivery strategy often misunderstood
- Use of “Increments” – full system capability is achieved only with final increment
- Each increment adds requirements to existing systems to meet MP ACRS

Platform Integration
- Example: RMMV designed for DDG, “Come as you are” to LCS
- Lack of underway integration prior to test
- “Platform Agnostic”
**MCM Transition Roadmap**

- **Imperatives:**
  - Bring capacity and capability (and operational experience) to the Fleet before the sundown of legacy systems (FY24/25)
  - Decrease coverage timelines and manage risk using unmanned technology

- **2016 Independent Review Team (IRT) Implementation Plan:**
  - FY 17 IOC for airborne systems
    - System operational performance verified through TECHEVAL
  - FY 17-18 MCM Mission Package (MP) Testing
    - Continue to exercise the end-to-end detect to engage sequence w/ all mission package components
      - Shift to CUSV as tow platform, using RMMV as near-term surrogate
    - Decide on MP composition to support FY20 (IND) /21 (FRE) IOC
    - CONOPS validation and tactical integration
    - Fleet Sailor evaluation and operational feedback
  - Manage fiscal hurdles

*Provide Capability and Capacity to the Fleet in Time for Legacy Sundown*
From 2016 Maritime Mining Program Interim Review:

- Continue advanced mining CDD development
- Establish mining POR
- POM18 funding support AUWS FNC
- Leverage ONR MUSE
- OPNAV coordinate execution of Resource Management Decisions (RMD) #1, #2, #3
- Include Maritime Mining in MIW IPT organization

**Air delivered Quickstrike:**
- Mk 62 500 lb
- Mk 63 1000 lb
- Mk 65 2000 lb

**Submarine delivered:**
- SLMM
- MUHV
- FMAUV

**USV, UUV delivered:**
- CDM
- AUWS
- MUSE

Encapsulated moored effectors (CRAW/Mk54)
Distributed network of sensor and effector nodes
Opportunities in Mine Warfare

- Abundance of ideas from numerous partners
  - Multi-national collaboration
  - Industry
  - Labs (Government and Academia)
    - Resourcing drives need for coordination
    - Leverage data exchange and capability development
    - Widely varied environments and threats require multiple technologies and tactics

- User Experimentation process
  - RPED - Opportunity to equip the fleet faster
  - Use lessons learned to inform future decisions and CONOPS development

- Venues for learning and experimentation
  - Industry opportunities to demonstrate systems in realistic environments
    - UNMANNED WARRIOR 16
    - IMCMEX
    - Ship to Shore Maneuver Exploration and Experimentation (S2ME2)
    - Fleet Exercises (ex. RIMPAC, Bold Alligator)

Mine Warfare is a Team Sport
Questions