14th ANNUAL EXPEDITIONARY WARFARE CONFERENCE

"Expeditionary Warfare in a Complex Joint Operating Evironment"

Panama City, FL

16 - 19 November 2009

Agenda

Tuesday, 17 November, 2009

PANEL - *The QDR and the Potential Impact on the Services*
Panel Members
- Mr. Jim Strock, Director, Seabasing Integration Division, Combat Development and Integration, HQMC
- Captain Michael Megan, USCG, OPNAV N512

PANEL - *EXWAR Challenges/Way Ahead in the Future JOE*
Panel Members
- Rear Admiral Robert O. Wray, USN, Deputy Commander, Military Sealift Command

Wednesday, 18 November, 2009

GUEST SPEAKER
- Vice Admiral Kevin McCoy, USN, Commander, Naval Sea Systems Command

PANEL - *Achieving the Right Capability Balance*
Panel Members
- Rear Admiral Chris Paul, USN, Deputy Commander, Navy Expeditionary Combat Command
- Brigadier General Walter L. Miller, Jr., USMC, Director, Joint Capabilities Assessment & Integration Directorate, MCCDC
- Captain Bruce Baffer, USCG, Program Manager, Surface Programs, HDQTRS USCG

PANEL - *Industry - Small Business*
Panel Members
- Mr. Mike Melo, President & CEO, ITA International Corporation
- Mr. Tony Gioffredi, President, Fairbanks Morse Engine

Thursday, 19 November, 2009

KEYNOTE SPEAKER
- Mr. Brian Detter, Deputy Assistant Secretary of the Navy (RDA), Expeditionary Warfare

PANEL - *Balancing Resources in Support of Expeditionary Warfare in Complex Joint Operating Environments*
Moderator: Rear Admiral Kevin Scott, USN, Deputy Director for Expeditionary Warfare, OPNAV N85B
Panel Members
- Captain Bob Wilson, USN, OPNAV N851 Special Warfare
- Captain Mark Rios, USN, N852 Mine Warfare
- Captain Ed Barfield, USN, OPNAV N853 Amphibious Warfare
- Captain Barry Coceano, USN, OPNAV N857 Naval Expeditionary Combat Command/Non-Lethal Weapons & Crew
- Mr. Vincent Goulding, Director, Experiment Division, MCWL

NDIA
National Defense Industrial Association

PROMOTING NATIONAL SECURITY SINCE 1919

14th Annual Expeditionary Warfare Conference

EXPEDITIONARY WARFARE DIVISION

"Expeditionary Warfare in a Complex Joint Operating Environment"

AGENDA
FLOOR PLAN
DISPLAYER & SPONSOR PROFILES
SPEAKER BIOGRAPHIES
ATTENDEE ROSTER

NOVEMBER 16 - 19, 2009
WWW.NDIA.ORG/MEETINGS/0700
BAY POINT MARRIOTT HOTEL, PANAMA CITY, FL
EVENT #0700

NDIA
National Defense Industrial Association

AGENDA

AGENDA AT A GLANCE

Monday, November 16, 2009

8:00 - 2:00 PM	Golf Tournament
3:00 - 4:30 PM	Spouse Tea
4:00 - 7:00 PM	Open Registration
6:00 - 7:00 PM	Reception
7:00 - 10:00 PM	Dinner with Guest Speaker

Tuesday, November 17, 2009

6:45 - 7:30 AM	Breakfast & Registration
7:30 - 9:00 AM	General Session
9:00 - 9:30 AM	Networking Break
9:30 - 11:30 AM	General Session
11:30 - 12:45 PM	Networking Lunch
12:45 - 2:30 PM	General Session
2:30 - 3:00 PM	Networking Break
3:00 - 4:30 PM	General Session

Wednesday, November 18, 2009

6:45 - 7:45 AM	Breakfast & Registration
7:45 - 9:50 AM	General Session
9:50 - 10:20 AM	Networking Break
10:20 - 12:00 PM	General Session
12:00 - 1:30 PM	Lunch with Speakers
1:30 - 2:45 PM	General Session
2:45 - 3:15 PM	Networking Break
3:15 - 4:30 PM	General Session
5:00 - 10:00 PM	Pig Roast Dinner

Thursday, November 19, 2009

6:45 - 7:45 AM	Breakfast & Registration
7:45 - 9:45 AM	General Session
9:45 - 10:15 AM	Networking Break
10:15 - 12:05 PM	General Session
12:05 PM	Boxed Lunch

Monday, November 16, 2009

8:00 - 2:00 PM — **Golf Tournament**

3:00 - 4:30 PM — **Spouse Tea**

4:00 - 7:00 PM — **Open Registration in the St. Andrews Foyer**

6:00 - 7:00 PM — **Reception**

7:00 - 10:00 PM — **Dinner with Guest Speaker**
Lieutenant General George J. Flynn, USMC, Deputy Commandant for Combat Development and Integration, HQMC

Tuesday, November 17, 2009

6:45 - 7:30 AM — **Continental Breakfast & Registration**

7:30 - 8:00 AM — **Welcome & Opening Remarks**
Captain Duane Covert, USN (Ret), Site Manager, Northrop Grumman Corporation Information Systems, Conference Chairman

Rear Admiral Michael Nowakowski, USN (Ret), Vice President, Defense Contracting Group, Colonna's Shipyard, Inc., Division Chairman

Major General Barry D. Bates, USA (Ret), Vice President, Operations NDIA

8:00 - 9:00 AM — **Keynote Speaker**
General James N. Mattis, USMC, Commander, United States Joint Forces Command

9:00 - 9:30 AM — **Networking Break**

9:30 - 11:30 AM — **Panel - The QDR and the Potential Impact on the Services**
Session Focus: The purpose of the Quadrennial Defense Review (QDR) is to determine the nation's defense strategy and establish a defense program for the next 20 years in a constrained fiscal environment. The Secretary of Defense has issued guidance for the development of the force, as well as his principle themes which include: enhanced capabilities to fight wars we are now in, more ISR and rotocraft, grow the Special Operations Force, and procure more lift, mobility and refueling aircraft. The QDR process will continue well into 2010 before the final report will go to Congress. In the interim this session will focus on some of the service initiatives as well as potential investment decisions regarding force structure and programs that may have to be made in order to meet established guidelines. Service representatives will provide perspective on their initiatives as appropriate for this point in the process.

Moderator: Major General Harry Jenkins, USMC (Ret), President, Soaring Eagle Consulting, LLC
Panel Members
- Mr. Jim Strock, Director, Seabasing Integration Division, Combat Development and Integration, HQMC
- Rear Admiral (Sel) David Woods, USN, OPNAV (QDR)
- Mr. Timothy S. Muchmore, (QDR), Office of the Deputy Chief of Staff, G-8, U.S. Army
- Captain Michael Megan, USCG, OPNAV N512

11:30 - 12:45 PM — **Networking Lunch**

12:45 - 1:30 PM — **Guest Speaker**
Rear Admiral Philip H. Greene, Jr., USN, Director, Navy Irregular Warfare Office (N3/5)

1:30 - 2:30 PM — **Panel - EXWAR Challenges/Way Ahead in the Future JOE**
Session Focus: The challenges of meeting the full spectrum of Conventional, Asymmetrical and Hybrid Threats in an

Expeditionary, Joint Operating Environment are immense. Our forward engaged and surging warfighters must be ready to deal with the gamut of potential scenarios, from humanitarian support to armed conflict, in concert with Joint, InterAgency, Coalition and "pick-up team" forces, all in the most dangerous of climates – the littorals. This panel will select a number of associated areas, to examine the potential stresses put on planning, equipping and operating.

Moderator: Mr. Ned Wilt, Program Manager, Raytheon Corporation
Panel Members
- Brigadier General David H. Berger, USMC, Director, Operations Division, HQMC
- Rear Admiral Robert O. Wray, USN, Deputy Commander, Military Sealift Command
- Colonel Tom Connally, USMC, USMC Strategic Vision Group
- Brigadier General (Sel) Robert F. Hedelund, USMC, Commanding General, Marine Corps Warfighting Lab

2:30 - 3:00 PM **Networking Break**

3:00 - 4:30 PM **Panel Continues**

4:30 PM **Adjourn for the Day**

Wednesday, November 18, 2009

6:45 - 7:45 AM **Continental Breakfast & Registration**

7:45 - 8:00 AM **Conference Remarks**

8:00 - 8:45 AM **Guest Speaker**
Vice Admiral Kevin McCoy, USN, Commander, Naval Sea Systems Command

8:45 - 9:50 AM **Panel - Achieving the Right Capability Balance**
Session Focus: Secretary Gates has emphasized an underlying theme in the QDR and in his budget recommendations that we need to think about future conflicts in a different way. The black-and-white distinction between conventional war and irregular war is an outdated model. SECDEF stated, "The future will be more complex, where all conflict will range along a broad spectrum of operations and lethality, where even near-peer competitors will use irregular or asymmetric tactics, and non-state actors may have weapons of mass destruction, mines, or sophisticated missiles." This session will include discussions on how the Joint Force will adapt to this future environment, not only developing the requisite capabilities, but determining the right "balanced" capability mix. It will include discussions of harbor and coastal defense, mine warfare, Marine Corps Operations, Joint Integrated Air and Missile Defense, and the connection of these operations to overall global maritime and littoral dominance in furtherance of U.S. National Security.

Moderator: Vice Admiral James Amerault, USN (Ret), CEO, Oto Melara North America, Inc.
Panel Members
- Rear Admiral Chris Paul, USN, Deputy Commander, Navy Expeditionary Combat Command
- Captain Bob Hospodar, USN, Commodore, Mine Countermeasures Squadron TWO
- Brigadier General Walter L. Miller, Jr., USMC, Director, Joint Capabilities Assessment & Integration Directorate, MCCDC
- Captain Bruce Baffer, USCG, Program Manager, Surface Programs, HQCG

9:50 - 10:20 AM **Networking Break**

10:20 - 12:00 PM **Panel Continues**

12:00 - 1:30 PM **Lunch with Guest Speakers**
General James F. Amos, USMC, Assistant Commandant of the Marine Corps
Admiral Jonathan W. Greenert, USN, Vice Chief of Naval Operations

1:30 - 2:15 PM **Keynote Speaker: How Small Businesses Adapt During a Change of Administration and Changing Budget Priorities**
Mr. Jerry Miller, President, Earl Industries, LLC

2:15 - 2:45 PM **Panel - Industry - Small Business**
Session Focus: With a change of Administration comes a new National Security Focus, and this has been highlighted by Secretary Gates' changes in the Defense Department and impact of the FY10 Presidential Budget. This session will focus on how small businesses adapt to the challenges of a new Administration and new National Security concerns, such as Irregular Warfare and the cancellation of ongoing Defense programs. The Panel Members are Small/Medium Business Leaders who will address the issues and concerns of small businesses as DoD programs are cancelled, created and modified in a "new" FY10 Defense Budget.

Moderator: Mr. Steve Lehr, Director, Special Projects, Gryphon Technologies
Panel Members
- Mr. Chuck Nash, CEO, Emerging Technologies, Inc.; Fox News Commentator
- Mr. Mike Melo, President & CEO, ITA International Corporation
- Mr. Tony Gioffredi, President, Fairbanks Morse Engine

2:45 - 3:15 PM **Networking Break**

3:15 - 4:30 PM **Panel Continues**

5:00 - 6:00 PM **NSWC PCD Open House & Pig Roast Reception**
(Revolving Coach Transportation Service Provided)

6:00 - 10:00 PM **Pig Roast Dinner**

Thursday, November 19, 2009

6:45 - 7:45 AM **Continental Breakfast & Registration**

7:45 - 8:00 AM **Conference Remarks**

8:00 - 8:45 AM **Keynote Speaker**
Mr. Brian Detter, Deputy Assistant Secretary of the Navy (RD&A), Expeditionary Warfare

8:45 - 9:45 AM **Panel - Balancing Resources in Support of Expeditionary Warfare in Complex Joint Operating Environments**
Session Focus: Secretary Gates' 2010 Defense Budget recommendation focused on balancing valuable resources among programs that support the full range of military operations. While that is the overarching focus for the expeditionary warfare community, an area of particular interest has become bridging the gap between conventional and irregular warfare in a complex Joint Operating Environment. This session will provide insight into the Navy and Marine Corps resource allocations in order to meet the Secretary's intent within the scope of expeditionary warfare. The Panel Members are the resource sponsors who provide the funding for these programs of record.

Moderator: Rear Admiral (Sel) Kevin Scott, USN, Deputy Director for Expeditionary Warfare, OPNAV N85B
(Colonel Brian McGovern, USMC on Behalf of RDMA Scott)
Panel Members
- Captain Bob Wilson, USN, OPNAV N851 Special Warfare
- Captain Mark Rios, USN, Branch Head, N852 Mine Warfare
- Captain Ed Barfield, USN, Branch Head, OPNAV N853 Amphibious Warfare
- Captain Barry Coceano, USN, Branch Head, OPNAV N857 Naval Expeditionary Combat Command/Non-Lethal Weapons & Crew (Liutenant Commander Naki Cooper, USN on Behalf of CAPT Coceano)

- Mr. Vincent Goulding, Director, Experiment Division, MCWL

9:45 - 10:15 AM **Networking Break**

10:15 - 11:30 AM **Panel Continues**

11:30 - 12:00 PM **Q&A Led by Moderator**

12:00 - 12:05 PM **Concluding Remarks & Conference Adjourns**

12:05 PM **Boxed Lunch**

Acquisition Directorate

Surface Program

Achieving the Right Capability Balance

CG-932 | Capt Bruce Baffer USCG Surface Program Mgr

NDIA Expeditionary War Conference | 18 November 2009

US Coast Guard Authority

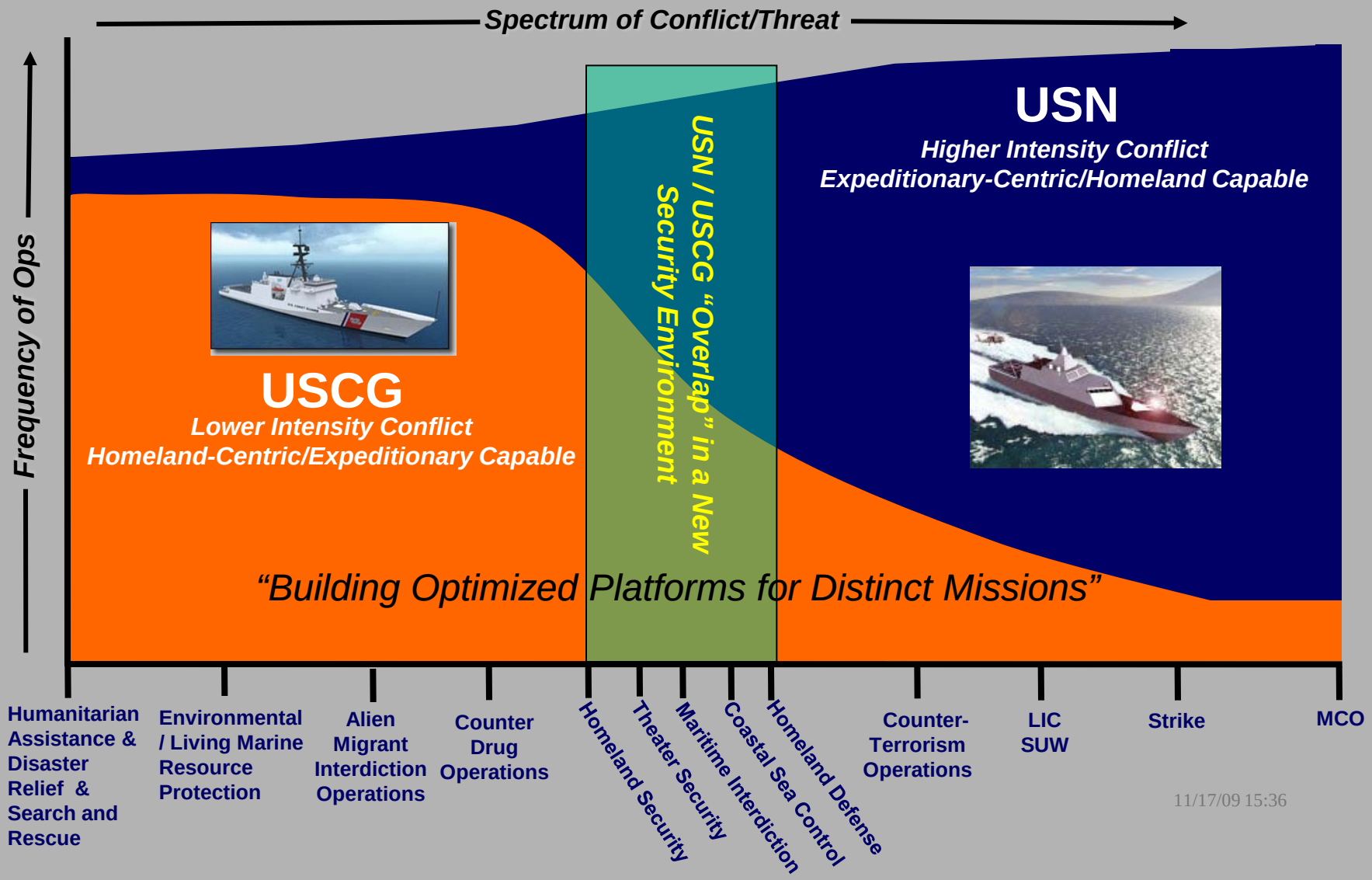
One of the five U.S. military services

- Only branch not located in the Department of Defense
- Not constrained by the *Posse Comitatus Act*

- Title 10 USC addresses the Coast Guard operating as a service in the Navy
- Title 14 USC 1: The Coast Guard is "a military service and a branch of the armed forces of the United States at all times"
- Title 14 USC 2: "…maintain a state of readiness to function as a specialized service in the Navy in time of war…"
- Title 14 USC 89: The Coast Guard "may make…inspections, searches, seizures, and arrests upon the high seas…for the prevention, detection, and suppression of violations of laws of the United States"
- Title 14 USC 141: … authorized "to assist any federal agency . . . performing any activity for which . . . [the CG] is especially qualified"

Military…Multi-mission…Maritime

Protecting the Global Commons with a Cooperative Strategy



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USCG Expeditionary Support to Combatant Commanders

Littoral Operations

MIO/Law Enforcement

Aids to Navigation

Port and Force Security

International Engagement

"Coast Guard patrol boats are highly maneuverable, fast, multi-mission vessels able to operate in shallow water and are therefore especially well-suited for operations in the Northern Arabian Gulf." ***VADM David C. Nichols Jr., USN Commander, Commander, U.S. Fifth Fleet 2004***

Achieving the Right Capability Balance

SURFACE ACQUISITION PROJECTS


NSC (8)

OPC (25)


FRC (58)


RB-M (180)


CPB (75)


MEP

AVIATION ACQUISITION PROJECTS


HC-130J (6)


HC-130H (17)


MH-65C (102)


HC-144A (36)


MH-60T (42)

C4ISR ACQUISITION PROJECTS


COP


IOC/C21


NAIS

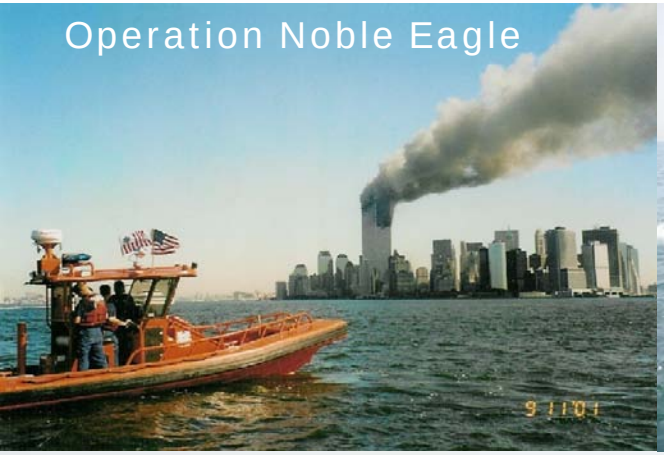

Rescue 21

National Security Cutter (WMSL)

Offshore Patrol Cutter (WMSM)

Fast Response Cutter – Sentinel Class

All Hazards - All Threats

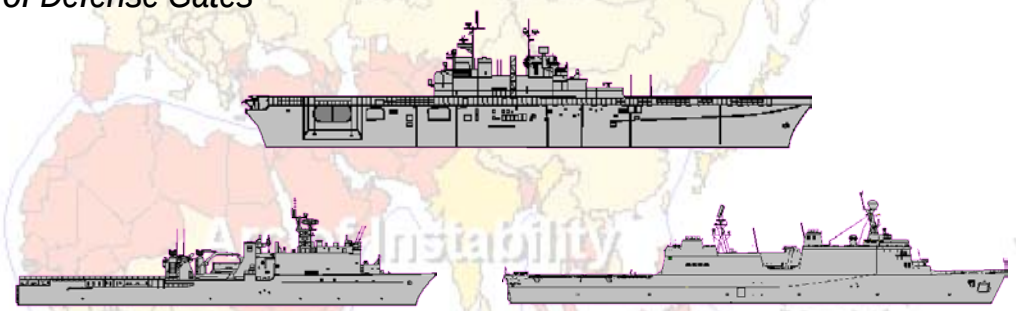


The Coast Guard is uniquely suited to respond to the threats our Nation faces today

CAPT Ed Barfield, USN
OPNAV N853
Branch Head, Amphibious Warfare

Balanced Capability

"The future will be more complex, where all conflict will range along a broad spectrum of operations and lethality, where even near-peer competitors will use irregular or asymmetric tactics, and non-state actors may have weapons of mass destruction, mines, or sophisticated missiles." - Secretary of Defense Gates



Demand Exceeds Supply

Independent Deployer

Amphibious Readiness Group

Amphibious Task Force

Train/Advise/Assist

Relief Operations

Nation Building

Peace Enforcement

Show of Force

NEO

Act of Terrorism

COIN

Civil War

Limited War

Major Combat

Global War

Irregular Warfare

Frequency

Shaping/ Engagement/ Maritime Security (14-20 days)

Lesser Contingencies (21-28 days)

Major Contingency (40-45 days)

Peacetime and Crisis

Low Intensity Conflict

Mid-Intensity Conflict

High Intensity Conflict

Amphibious Combatant Evolution

ARG - Now

LHD/LHA

LPD 4 → LPD 17

LSD 41/49

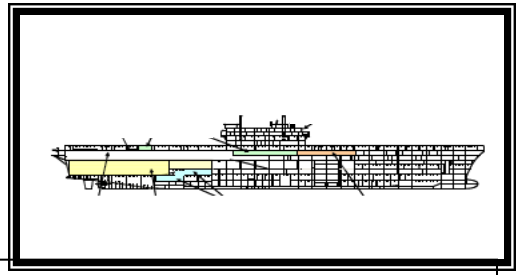
Enable Operational Maneuver From the Sea

Improved:

- **Capacity for Larger / Heavier Aircraft/Vehicles**
- **Self-Defense**
- **Survivability**
- **C4I**
- **Flexibility (Split ARG)**
- **QOL**

Enable Ship-to-Objective Maneuver

ARG - Future



LHD/LHA(R)→LHA(R) Flt 1?

LPD 17

LSD 41/49 → LPD 17 Flt 1?

Amphibious Combatant Recapitalization CBA

- **Capability-Based Assessment (CBA) considering**
  - LSD and LHD recapitalization
  - Projected USMC lift requirements (2020s timeframe)
  - USMC air/ground vehicles are becoming heavier/larger

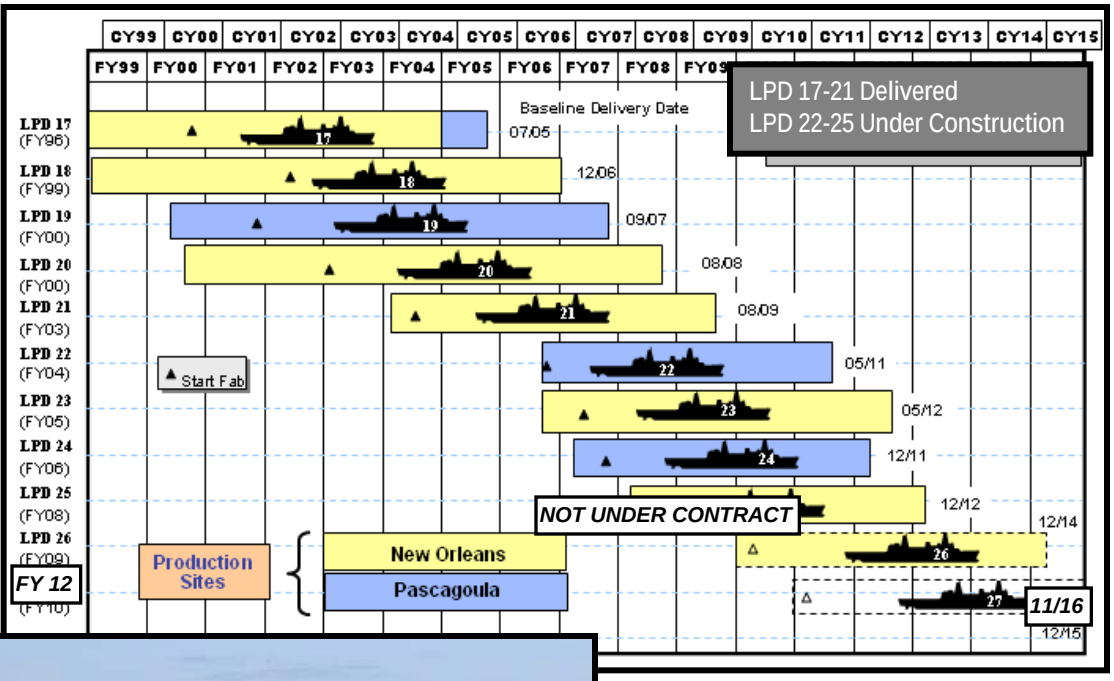
- **CBA studying Replacement options**
  - For LSD Recap
    - LPD 17 design (repeat or modified repeat)
    - New design (small--similar to LSD 41/49 size)
    - New design (large--carry 100% of lift requirement)
  - For LHD Recap
    - LHA(R) Flight 0 (existing LHA 6 design)
    - LHA(R) Flight 1 (with well deck)
    - New design (carry 100% of lift requirement)

- ***CBA will report to the Resource, Requirements Review Board in Jan 2010***
  - *Enable POM12 decision on options (repeat/mod repeat or new design)*

RECAPITALIZING TO PROVIDE MODERN, AFFORDABLE AMPHIB FLEET

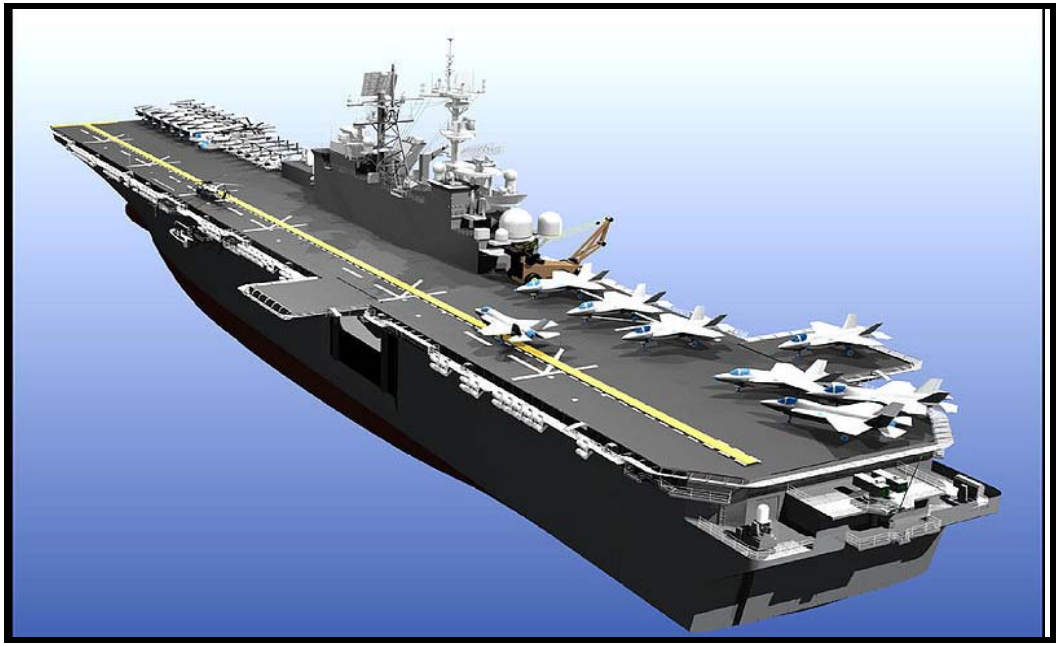
Major Program Update

LPD 17



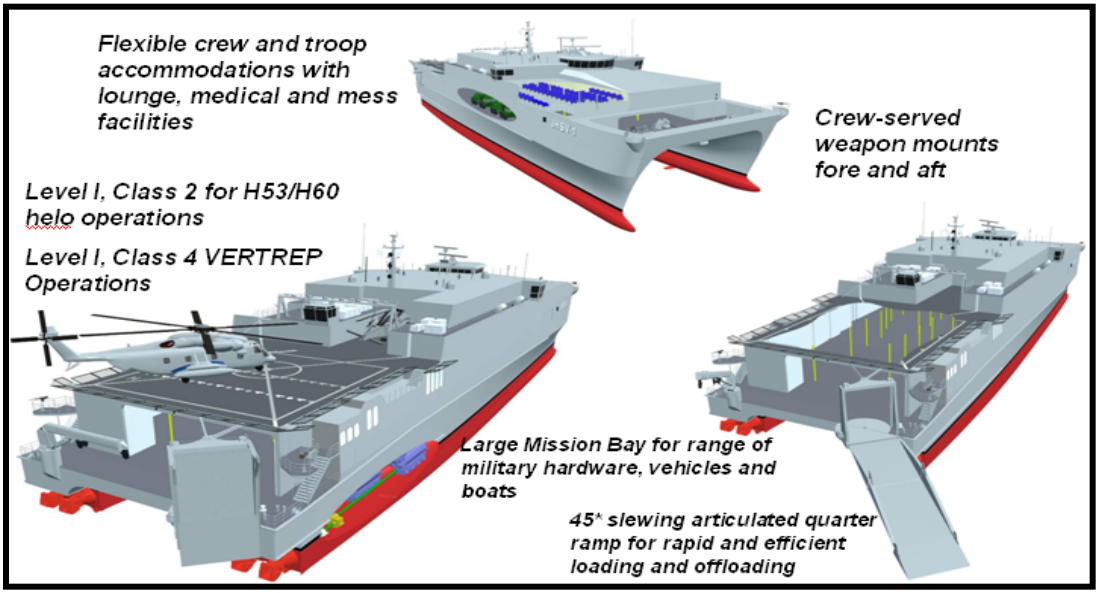
- LPD 17 class are flexible, multi-mission ships
- Functionally replaces LPD 4, LSD 36, LKA 113, and LST 1179 Ship classes
- LPD 17 missions include:
  - Forward Presence,
  - Deterrence,
  - Sea Control,
  - Power Projection,
  - Maritime Security
  - Humanitarian Assistance / Disaster Response

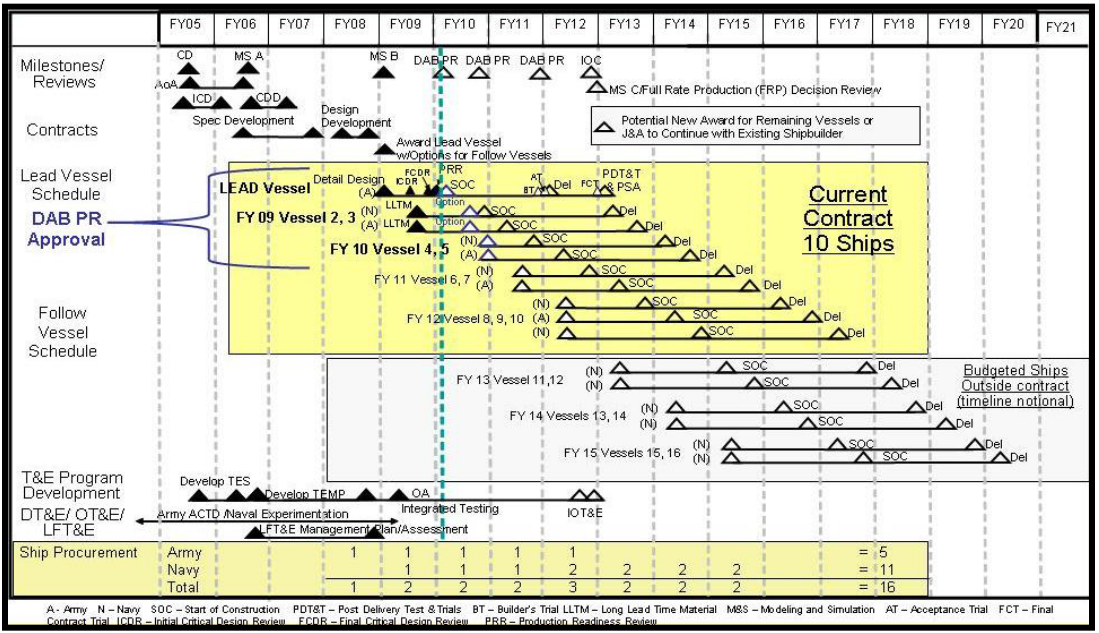
LHA 6



- LHA(6) provides flexible, multi-mission platforms
- LHA(R) is a modified LHD 8 design
- Increased aviation capacity to better accommodate JSF/MV-22
- Provide adequate weight and stability margins for 40 year service life

Joint High Speed Vessels (JSHV)





- Intra – theater lift and littoral maneuver
- Combines speed, range, and payload while providing shallow water/austere port access.
- Bridges the gap between rapid/low volume airlift (C-17/C-130) and slow/high volume sealift (LCU-2000/LSV)

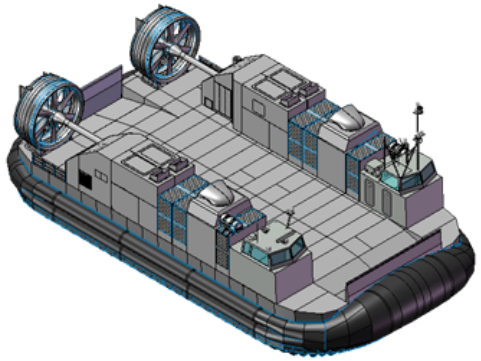
Ship to Shore Connector (SSC)

Mission: Land Surface Assault Elements of USMC from ship to shore

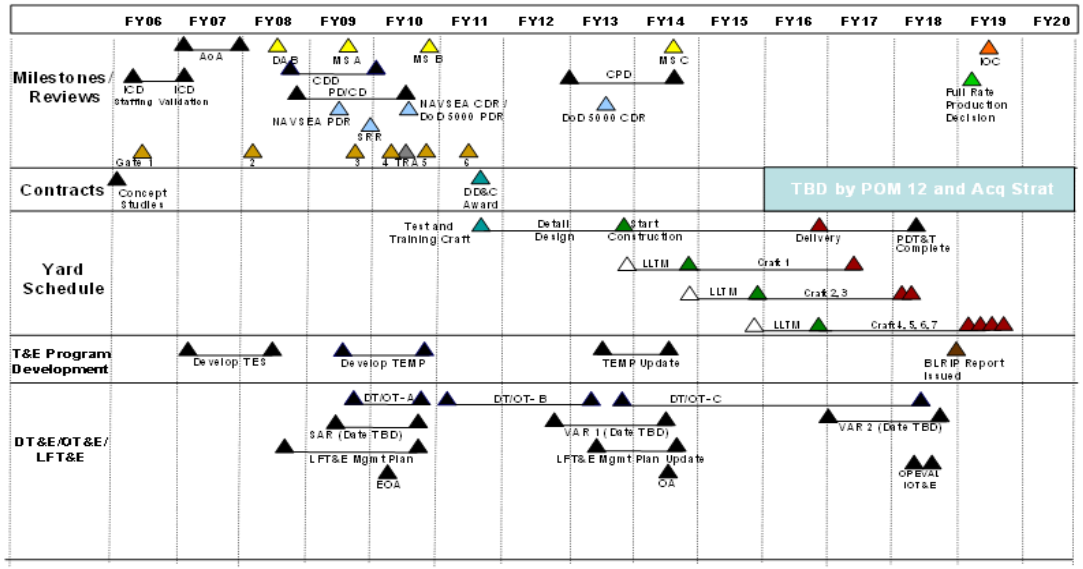
Description: Landing Craft Air Cushion (LCAC) replacement

Platforms: Air Cushion Vehicle; Same footprint as LCAC SLEP

Employment: Ship to shore surface connector in support of STOM and MPF(F)



Notional Schedule



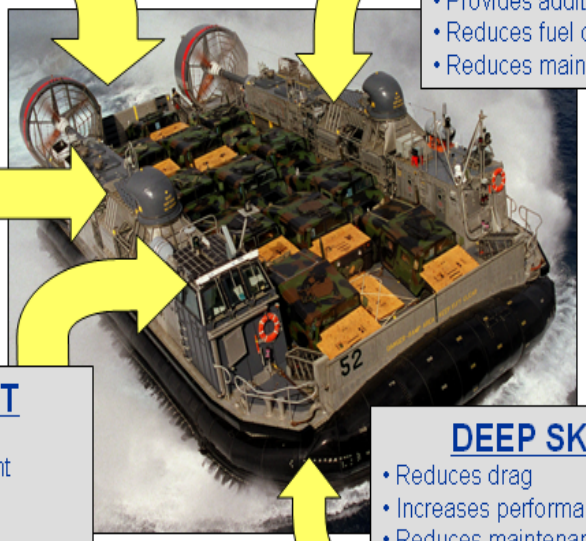
- Mission: conduct ship-to-shore movement in support of surface assault elements of the MAGTF
- LCAC replacement possesses same footprint as LCAC SLEP
- Draft formal requirements (CDD) and Key Performance Parameters in Joint Review

LCAC SLEP

BUOYANCY BOX
- New buoyancy box thru FY03
- Refurbishment of buoyancy box in FY04 and beyond

ENHANCED ENGINES
- Provides additional power
- Reduces fuel consumption
- Reduces maintenance

ROTATING MACHINERY REFURBISHMENT
- Extends useful life of equipment
- Reduces maintenance



C4N REPLACEMENT
- Introduces Open Architecture
- Introduces modern COTS equipment
- Provides precision navigation
- Provides Common Tactical Picture
- Provides Comm Suite interoperability

DEEP SKIRT
- Reduces drag
- Increases performance envelope
- Reduces maintenance
- Increases obstacle clearance

FY04 Recipient of the DoD Value Engineering Award

OCT 09: 24 of 72 SLEPs complete

- Preserves amphibious warfare triad (LCAC / EFV/MV-22)
- Allows execution of Operational Maneuver From The Sea (OMFTS) and Ship to Objective Maneuver (STOM)
- Defers requirement to fund next generation LCAC from FY00 to FY10
- *Challenges*
  - *COTS obsolescence, Technology Insertion*
  - *Growth work increasing due to the degraded condition of the craft entering SLEP availabilities*

LCU R

"No one craft can do it all."	LCAC (SLEP)	SSC	LCU
High Speed (>25 kts)	🟢	🟢	🔴
Beach landings in Assault Echelon	🟢	🟢	🟡
Access to world beaches	🟢	🟢	🟡
Dry-Well Operations	🟢	🟢	🔴
Heavy-Lift	75 ST*	75 ST*	147 ST
Platform for buoyant hose fuel systems	🟡	🟡	🟢
Beach landings in AFOE	🟢	🟢	🟢
Extended (10 day) Ops (SOF/Riverine)	🔴	🔴	🟢
Independent Operations	🔴	🔴	🟢
Afloat Forward Staging Base (small boats)	🔴	🔴	🟢
Peacetime port operations	🔴	🔴	🟢
Passenger (400 per craft) Ferry	🔴	🔴	🟢

** Limited by temp and sea state*

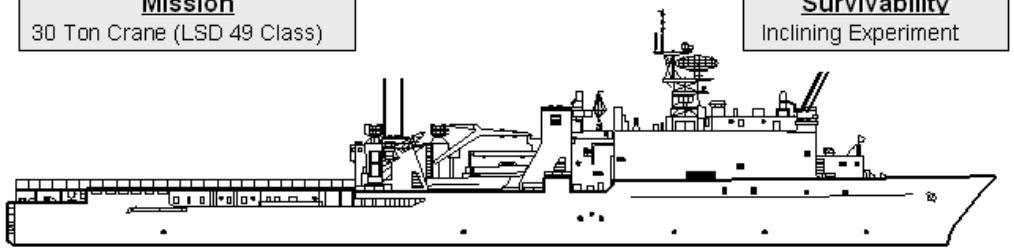
- AMW OAG has ranked this as a top five Fleet need over the last two years
- Current LCU 1600 craft have an average age of 38 years and suffer from obsolescence and increased maintenance costs
- Way Ahead
  - Initial Capability Document is required to proceed through Navy staffing
  - Brief to NCB in NOV 09 for approval to proceed to the CBA and ICD.

LSD MID LIFE

Ensure ships reach expected 40 year service life

Mission
30 Ton Crane (LSD 49 Class)

Survivability
Inclining Experiment

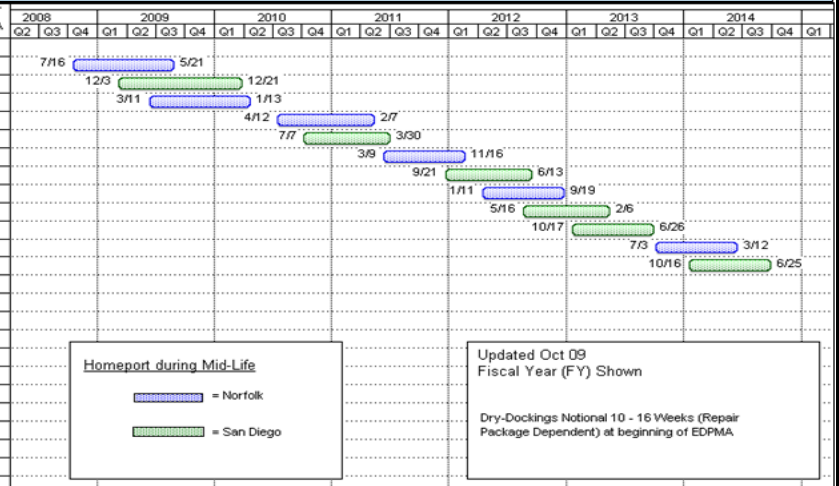


Technology Insertion
Advanced Engineering Control System (AECS)
- LAN
- Machinery Monitoring System (MCS)
- Steering Control System (SCS)
- On Board Trainer (OBT)
- DEXTER
- Electronic Gov Act (Digital Fuel Rack Control)

Hull Mechanical & Electrical
Fuel & Engine Maint Savings Sys (PLMU)
All Electric & Distribution Upgrade
Power Mgmt Platform (PMP)
Additional A/C Plant
CW Distribution Mods
SSDG Lube Oil Polisher
LPAC Replacement (LSD 41 Class)
Canned Lube Oil Pump (CLOP)

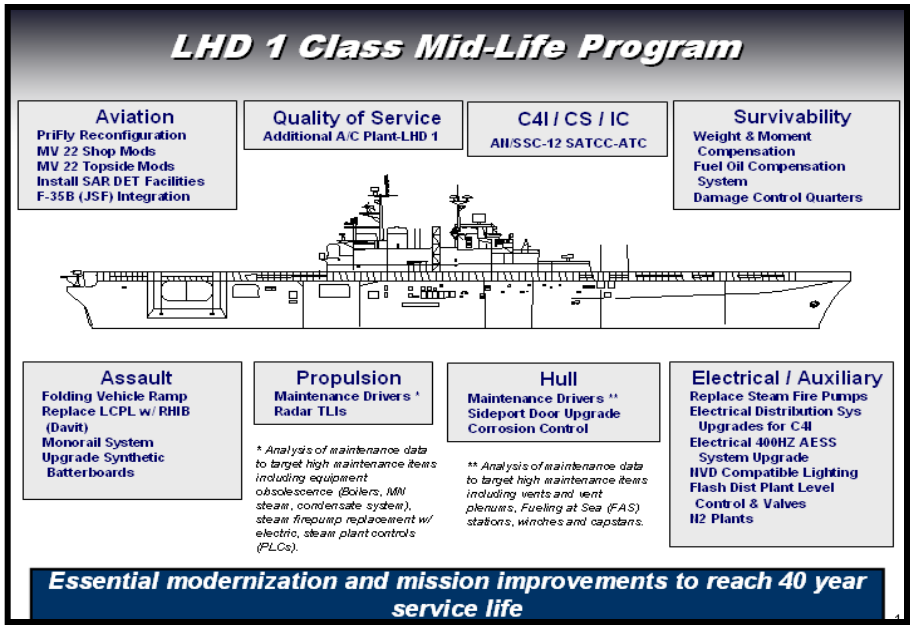
Installs Per FY: 1 - 2 - 2 - 2 - 2 - 2 - 1

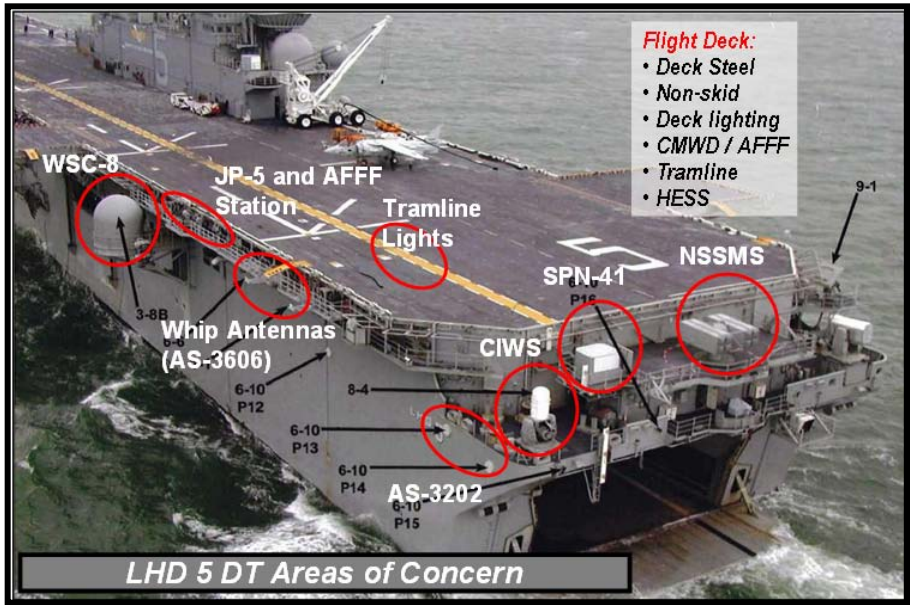
HULL	NAME	HOMEPORT FOR EDPMA
LSD-44	GUNSTON HALL	NORFOLK
LSD-42	GERMANTOWN	SAN DIEGO
LSD-41	WHIDBEY ISLAND	NORFOLK
LSD-43	FORT McHENRY	NORFOLK
LSD-47	RUSHMORE	SAN DIEGO
LSD-48	ASHLAND	NORFOLK
LSD-45	COMSTOCK	SAN DIEGO
LSD-51	OAK HILL	NORFOLK
LSD-49	HARPERS FERRY	SAN DIEGO
LSD-46	TORTUGA	SAN DIEGO
LSD-50	CARTER HALL	NORFOLK
LSD-52	PEARL HARBOR	SAN DIEGO



- Return ships to capable Fleet Asset status; able to meet amphibious mission requirements through 2038
- Objective is to
  - Improve declining material condition and readiness,
  - Replace obsolete equipment and
  - Reduce total ownership costs through technology insertion
- 1 of 12 LSD Mid-Life (GUNSTON HALL (Norfolk) completed May 2009)
- GERMANTOWN (San Diego) completes in DEC 2009 and WHIDBEY ISLAND (Norfolk) completes in Jan 2010

LHD MID LIFE & JSF INTEGRATION





- Essential modernization and mission improvements to reach 40 yr service life
- Nine identified ship changes required for JSF on LHDs funded with fielding plans in place
- Six cornerstone alterations – nine separate SCDs – identified
- Enabler ship alterations
  - MV 22 service and shop mods (hangar and stowage)
  - Fuel Oil Compensation (stability)
- JSF Integration
  - JSF External Environment mitigation pending technical analysis

Maritime Prepositioning Force Future (MPF (F))

Auxiliary Cargo and Ammunition Ship
MPF (F) T-AKE 3

Mobile Landing Platform
MPF (F) MLP 3

General Purpose Amphibious Assault Ship Replacement
MPF (F) LHA(R) 2

Multipurpose Amphibious Assault Ship
MPF (F) LHD 1

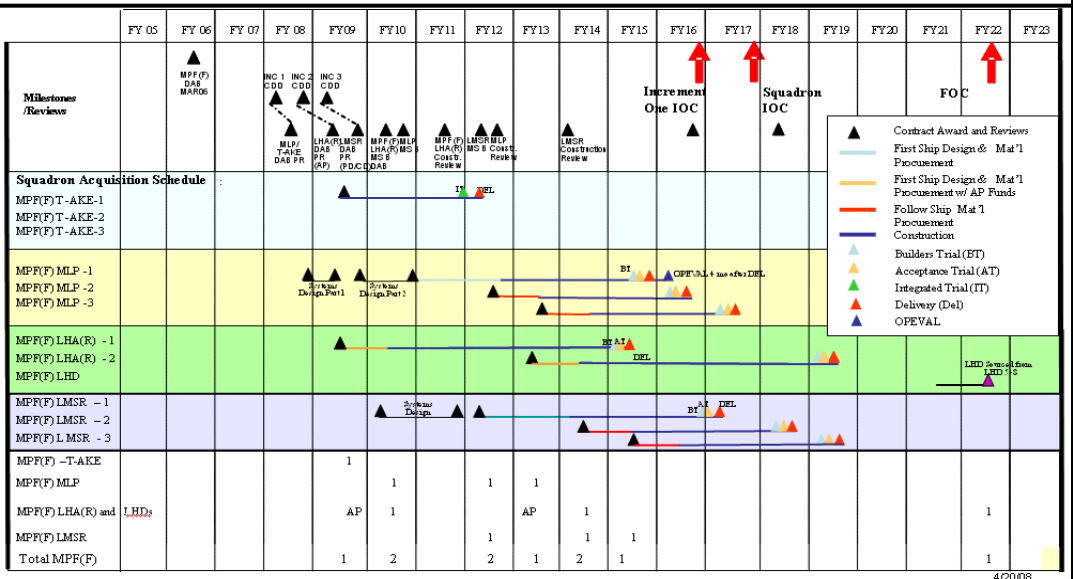
Large Medium Speed Roll-on, Roll-off Ship
MPF (F) LMSR 3

Increment One:
- Surface employment of combat ready forces
- Persistent sustainment from the sea

Increment Two:
- Vertical employment and command and control

Increment Three:
- Prepositioning
- At Sea Arrival & Assembly

Legacy Sealift Ship (Dense Pack)
T-AK 2



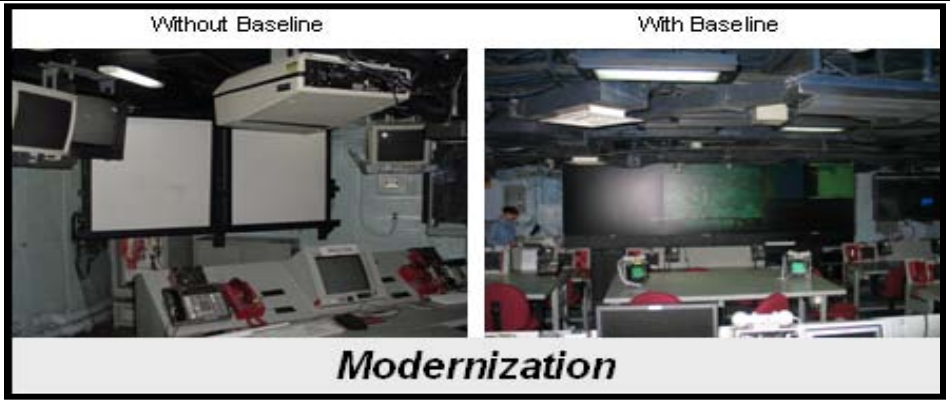
- The MPF(F) Program
  - Consists of a family of ships that significantly enhances the current Maritime Prepositioning Force (MPF) program
  - Key enabler of seabasing, providing "combat ready" forces from over the horizon.
  - 3 Increment Acquisition Strategy
- Program under significant scrutiny in QDR 12

MPF (F) requirements remain valid

CAPT Ed Barfield	Branch Head	703 614 0385
LtCol Mike Chambers	Deputy Branch Head	703 614 0395
CDR Dan Bryan	In-Service Amphib Combatants	703 614 0393
LtCol Steve Ware	MPF Requirments	703 614 2236
Mr. Marty Bodrog	Future Amphib Requirements	703 695 0917
LCDR Greg Baker	Future Amphib Requirements	703 695 0917

Questions?

Naval Amphibious Baseline



- Naval Amphibious Baseline (NAB) is a single SCD developed by the Service HQs, Fleet, USMC Operating Forces, and in conjunction with the SYSCOM
  - Standardizes MEU and PHIBRON command and control spaces across LHD 1 class
  - Removes obsolete equipment
  - Installs modern equipment
  - Considers work flow and human factors engineering
- Significant cost avoidance
- DRAFT NAB Charter prepared for staffing
- N85 and PPO (Operations) are proposed to co – chair NAB Boards for future changes

Amphibious Combatant Fleet Transformation

1990 62 Ships

LHD

LHA

LPH

LPD 4

LSD 36

LSD 41

LST 1179

LKA 113

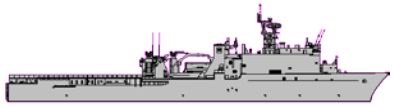
2009 31 Ships

Requirement for 38 ships, risk accepted at fiscally constrained 33 ship force structure

LHA / LHD

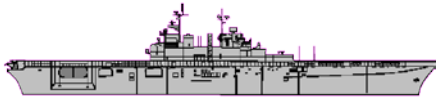
LPD 4

LPD 17



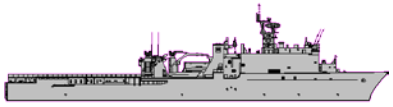
LSD 41 / 49

2021 33 Ships



LHD / LHA 6

LPD 17



LSD 41 / 49

Design Improvements

SMART TECHNOLOGY

- Ship's Wide Area Network
- Engineering Control System
- Integrated Bridge System
- Wireless Communications
- Waste Stream Management
- Fire/Smoke Sensing System
- Integrated Condition Assessment System (ICAS)

PLUS

- Fiber Optic Cable Plant
- Radar Cross Section Reduction
- Integrated Product Data Environment
- Advanced Boat Handling
- Medical Complex
- Mixed Gender design for max flexibility

REDUCED TOC/MAINTENANCE

- Optimized Manning
- Phased Maintenance Concept
- Extended Dry Dock Cycle
- AEMS Mast
- EFV Gun (Mk 46)
- Eliminated internal stowage of MOGAS
- 25% Maintenance Reduction in PM/CM Maintenance Reduction Initiatives
  - High Solids Coatings in tanks and Well Deck Overhead
  - Synthetic Well Deck Planking
  - Corrosion Control Changes
  - Latest WTD Changes
  - Twin Screw Reefer Compressors
  - SCBA vs. OBAs
  - Self Cleaning Lube Oil/Sea Water Strainers

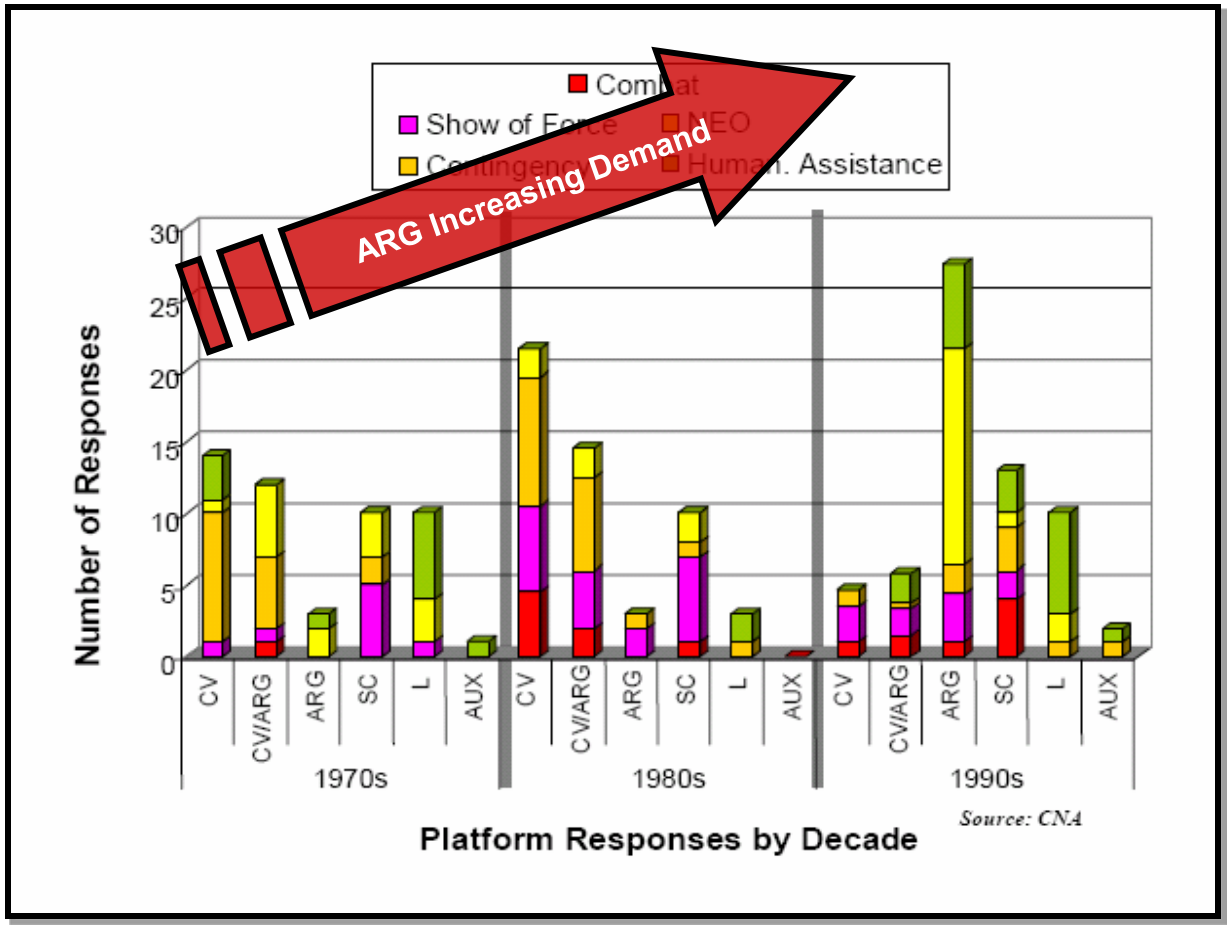
QUALITY OF LIFE

- AC Plant Capacity
- Modular Berthing
- Sit Up Berths
  - Crew and Troop
- Physical Fitness Centers
- Ship-wide Access to SWAN drops
- Training Department
  - 1 Officer, 4 Enlisted
- Training Spaces
  - Electronic Classroom
  - Learning Resource Center (50 Laptops for checkout)
  - Interactive Coursewear
  - Marine Training Spaces

Enhanced Operations - Reduced Workload - Improved QOL

As of November 2009

Demand Signal



30 yrs of responsive and successful employment across the operational spectrum has yielded demand in excess of supply

The Marine Corps Air Ground Task Force

Certain Capabilities in an Uncertain World

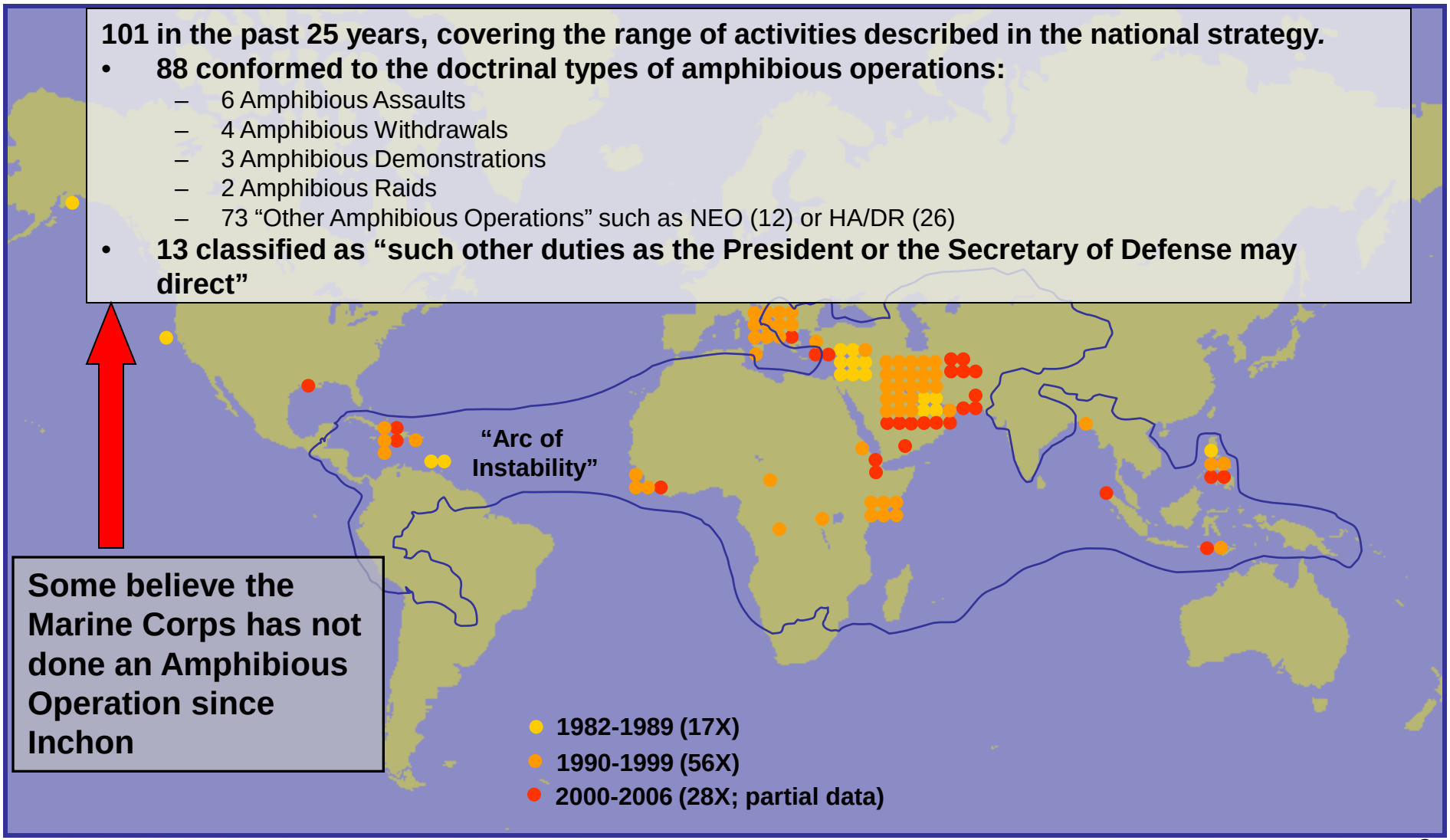
18 November 2009

Brigadier General Walter L. Miller, Jr., USMC
Director, Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia

Recent Applications of U.S. Amphibious Capability

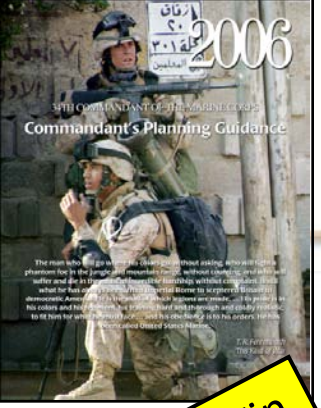
101 in the past 25 years, covering the range of activities described in the national strategy.

- **88 conformed to the doctrinal types of amphibious operations:**
  - 6 Amphibious Assaults
  - 4 Amphibious Withdrawals
  - 3 Amphibious Demonstrations
  - 2 Amphibious Raids
  - 73 "Other Amphibious Operations" such as NEO (12) or HA/DR (26)
- **13 classified as "such other duties as the President or the Secretary of Defense may direct"**



Some believe the Marine Corps has not done an Amphibious Operation since Inchon

CMC Guidance



"Win the Fight You're In…"

SecDef Gates

Fight & Win

Sustain the MAGTF, Remain Relevant, Maintain Balance

Transition the Force

- ***Achieve victory in the Long War.***
- **Right-size our Corps to achieve a 1:2 deployment-to-dwell ratio.**
- **Provide our Nation a naval force that is fully prepared for employment as a MAGTF across the spectrum of conflict.**
- **Reset and Modernize to "be the most ready when the Nation is least ready."**
- **Improve the quality of life for our Marines and our families.**
- **Rededicate ourselves to our Core Values and warrior ethos.**
- **Posture the Marine Corps for the future.**

Getting Back to our Naval Roots!

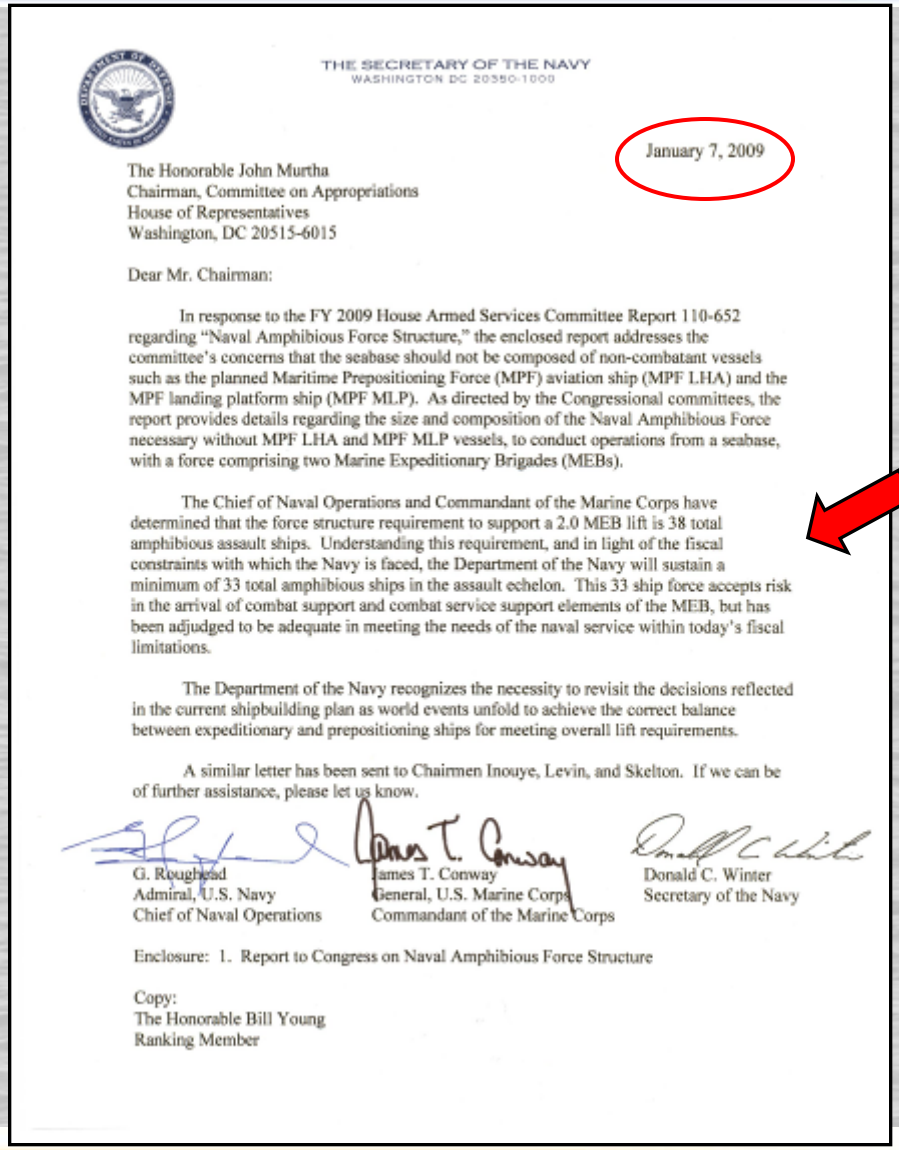
Key Points

Marine Corps Shipbuilding Requirements

- **Warfighting. Attain a minimum 38 ships to support forward presence and generate 34 Ao for 2.0 MEB AE**
- **Stay the course with LPD-17 production. Designate LPD-17 hull form for LSD replacement.**
- **Return to Big Deck well deck in LHA-8**
  - **FY16 ship vs FY17 ship**
  - **Restore R&D funding now**
- **Achieve credible seabasing capabilities by enhancing legacy MPS squadrons**
  - **T-AKEs, LMSRs, MLP Lite, plus technology insertion**
  - **Restore R&D funding now**
- **NSFS. Carefully execute and monitor Analysis of Alternatives and assess all hull forms to meet NSFS requirements.**

Amphibious Assault Ship Requirements

- **7 Jan 09 SecNav, CNO, and CMC letter stated requirement for 38 amphibious ships fiscally constrained to an inventory minimum of 33**
- **33 inventory level accepts risk in MEB support elements**



THE SECRETARY OF THE NAVY
WASHINGTON DC 20350-1000

January 7, 2009

The Honorable John Murtha
Chairman, Committee on Appropriations
House of Representatives
Washington, DC 20515-6015

Dear Mr. Chairman:

In response to the FY 2009 House Armed Services Committee Report 110-652 regarding "Naval Amphibious Force Structure," the enclosed report addresses the committee's concerns that the seabase should not be composed of non-combatant vessels such as the planned Maritime Prepositioning Force (MPF) aviation ship (MPF LHA) and the MPF landing platform ship (MPF MLP). As directed by the Congressional committees, the report provides details regarding the size and composition of the Naval Amphibious Force necessary without MPF LHA and MPF MLP vessels, to conduct operations from a seabase, with a force comprising two Marine Expeditionary Brigades (MEBs).

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. Understanding this requirement, and in light of the fiscal constraints with which the Navy is faced, the Department of the Navy will sustain a minimum of 33 total amphibious ships in the assault echelon. This 33 ship force accepts risk in the arrival of combat support and combat service support elements of the MEB, but has been adjudged to be adequate in meeting the needs of the naval service within today's fiscal limitations.

The Department of the Navy recognizes the necessity to revisit the decisions reflected in the current shipbuilding plan as world events unfold to achieve the correct balance between expeditionary and prepositioning ships for meeting overall lift requirements.

A similar letter has been sent to Chairmen Inouye, Levin, and Skelton. If we can be of further assistance, please let us know.

G. Roughead
Admiral, U.S. Navy
Chief of Naval Operations

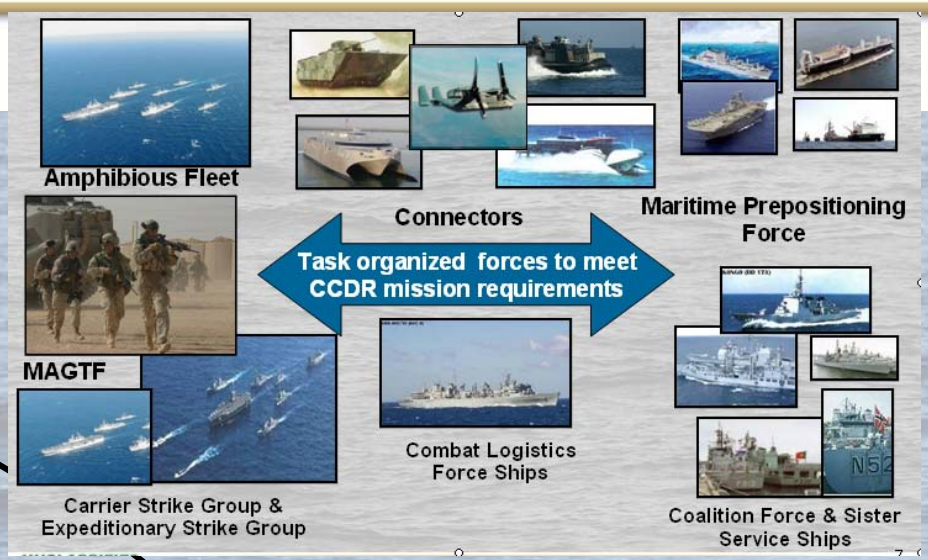
James T. Conway
General, U.S. Marine Corps
Commandant of the Marine Corps

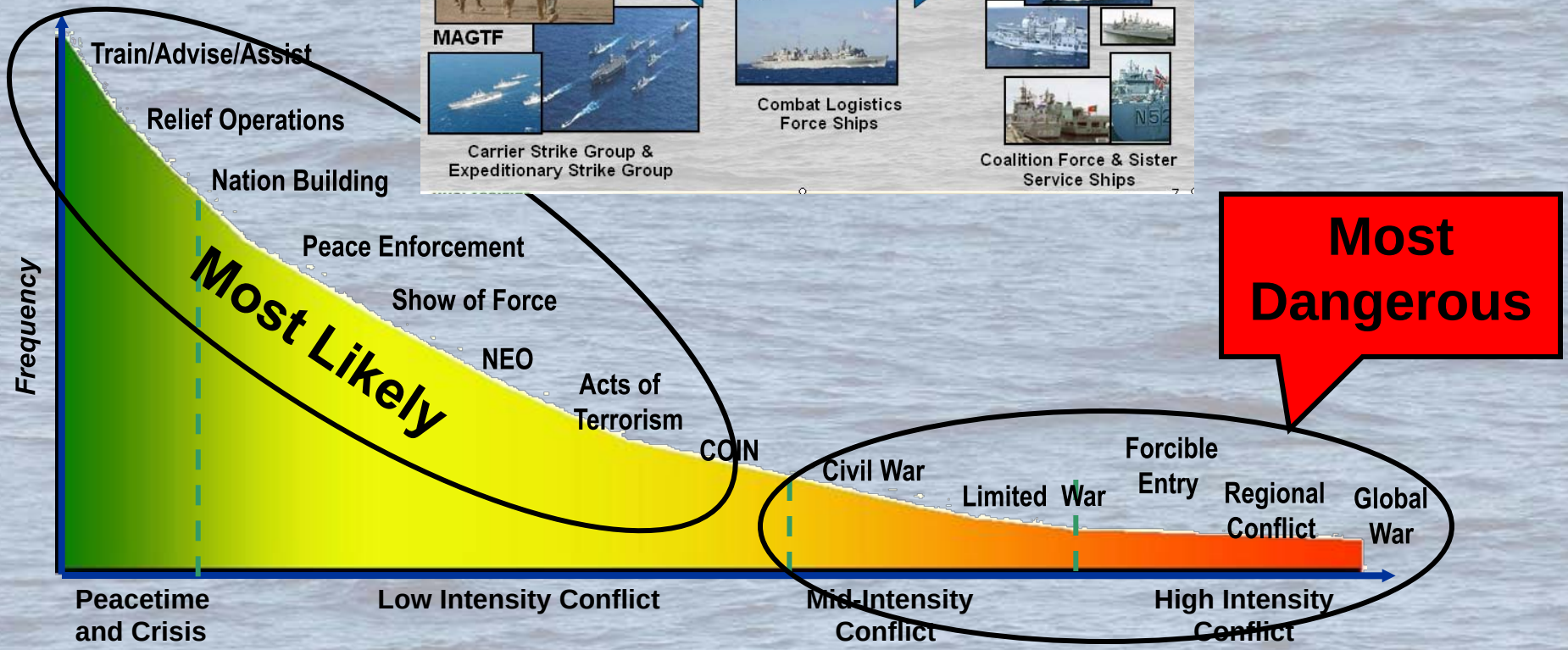
Donald C. Winter
Secretary of the Navy

Enclosure: 1. Report to Congress on Naval Amphibious Force Structure

Copy:
The Honorable Bill Young
Ranking Member

Wide Range of Employment Options





Questions?

Brigadier General Walter L. Miller, Jr., USMC
Director, Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia

Backups

Armor/Protection

Significant Impact on Vehicle Height & Ship Stowage Location

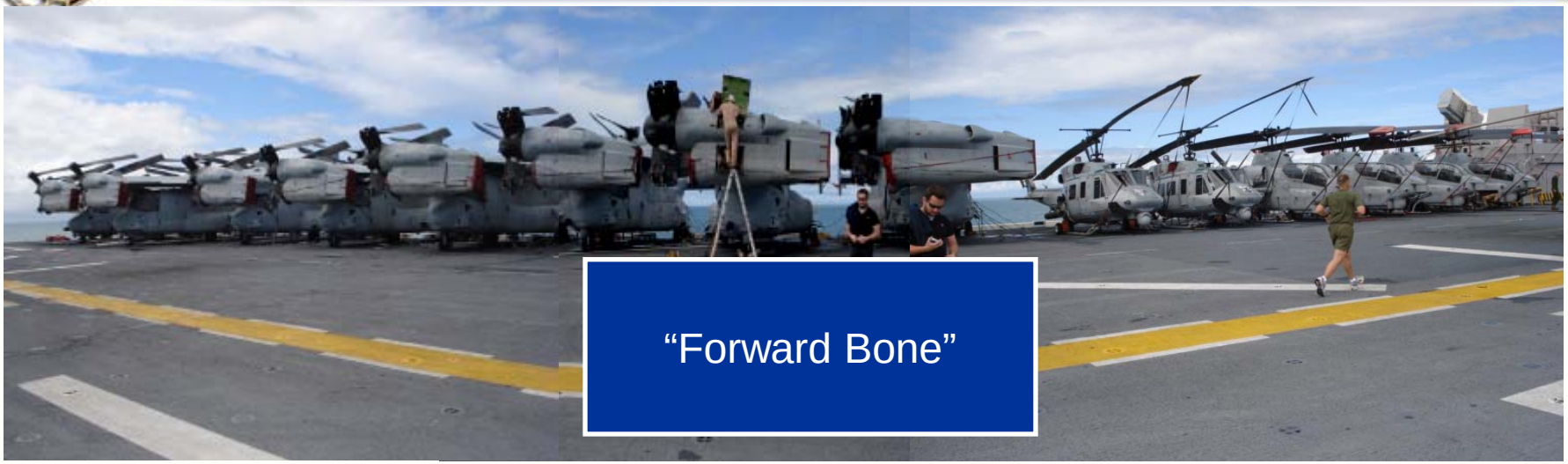
Depending on which variant of armored gun mount is added (MCTAGS, OGPK, etc.), there is a height increase between 20 – 30 inches per vehicle

Mobile Loads

Extended Bed MTVRs

Short Bed MTVRs

Aviation



Aviation

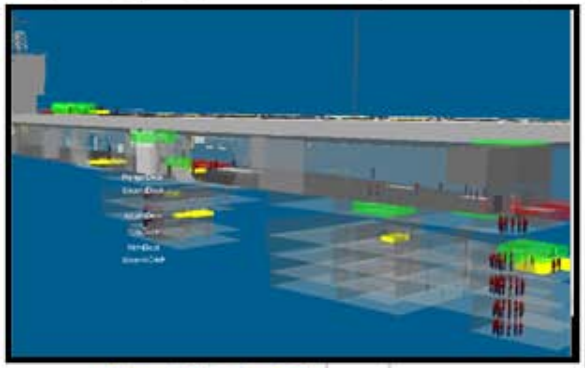
LHD 5 Hangar Bay

All this and four aircraft

Integrating M&S for MAGTF-Ship Integration

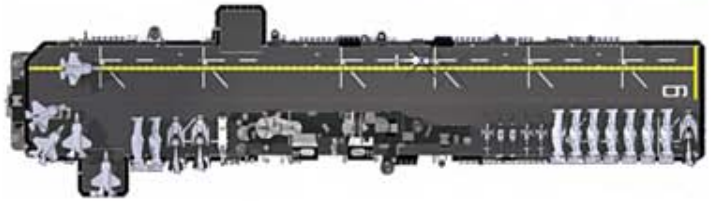
I

MAGTF Maintenance & Supply Model (M^2SM)



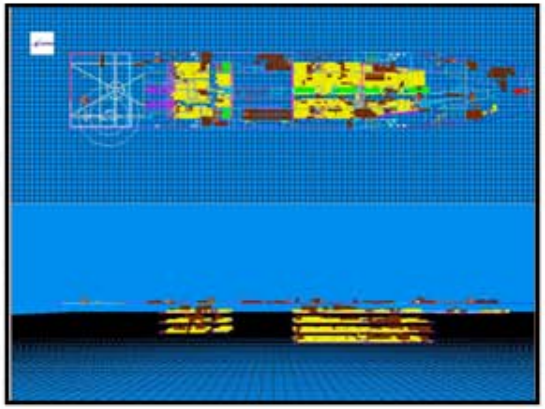
II

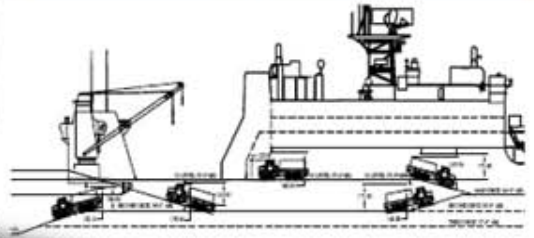
Flight Deck Model (FDM)



III

Surface Interface Integration Model (SIIM)





MSIC

MAGTF-Ship Integration Center

N857
NAVY EXPEDITIONARY COMBAT BRANCH

Captain Barry Coceano
Branch Head

LCDR Nakia Cooper
Requirements Officer

Responsibilities

➢Requirements and Action Office for Expeditionary Warfare supporting:

- ❑ All Navy Expeditionary Combat Command (NECC) forces
- ❑ Explosive Ordnance Disposal (EOD)
- ❑ Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW)
- ❑ Non-Lethal Weapons (NLW)

➢Recognition of Navy contribution to Irregular Warfare

- ❑ "A Balanced Strategy" by SECDEF Gates, *Foreign Affairs* (Feb 09)
- ❑ Office of the Secretary of Defense 2010 Defense Budget submission
- ❑ 2009 Navy Strategic Plan (NSP)
- ❑ 2008 Center for Naval Analysis C-IED Study

Force Agility to Achieve Global Engagement

Where does NECC need your help?

➢ Sensor Technology

- **Unmanned Systems (UAV/USV/UUV)**
  - More capability in a smaller package in more varied operational environments
  - User friendly design to capture the skills of technology generation
  - Inter-operable; enhancing common operating picture and knowledge
  - Energy efficiency
- **Standoff Detection**
  - Persistent ISR applications
  - Fixed-site, Force Protection, Proliferation Security Initiative, EOD
  - Counter IED and Chemical, Nuclear, Biological
- **Enhanced Situational Awareness**

➢ Integrated Armor and Lightweight Personal Protection

- **Layered and adaptive protection across spectrum to defeat multiple threats without significant increase to personnel and platform footprint**
- **Ground vehicles, green water-borne platforms, work sites**
- **Plug and play, able to shed armor when not needed**

➢ Adaptive, Deployable Networks

- **Incorporate wireless technology for the battlefield**
- **Optimize logistic footprint**
- **Interoperability with the Intra-Agency, local governments, NGO's**

➢ Enhanced Cultural Awareness and Language Translation

- **CBTs and field-employable multi-language translation tool**
- **Training enablers to facilitate Security Force Assistance in multiple operating areas**

Where does EOD need your help?

➢ Unmanned Systems

- ❑ **UUV/UAV/Ground Robotics communications enhancement**
- ❑ **Underwater vehicle sensor and neutralization technology**
- ❑ **Energy Efficiency**
- ❑ **Ground Robotics advancements**
  - ❖ Reduce time-on-target
  - ❖ Light weight systems for agile, dismounted ops without capability loss
  - ❖ Enhance manipulation capability
  - ❖ Extend operation life with advancements in power generation/supply

➢ Personnel Protection

- ❑ **Ultra light and agile body armor**
- ❑ **Next generation bomb suit technology**

➢ Standoff Detection and Disruption

- ❑ **Determine the threat before going into harms way**
- ❑ **Enhance survivability**
- ❑ **Defeat the Network***
- ❑ **Spectrum of Effects: Non-kinetic, low-order, high-order neutralization**

➢ Forensics

- ❑ **Radiographic systems**
- ❑ **Post Blast investigation**
- ❑ **Wireless transmission/reception***

Where does CREW need your help?

➢ Antennas and Amplifiers

- ❑ Environmental efficiency
- ❑ Size and weight
  - ❖ Dismounted applications
  - ❖ Future combat vehicle families
  - ❖ Fixed site applications
- ❑ Energy efficiency

➢ Receivers/Processing/Modulators/Integration

- ❑ Open architecture to enable continuous system enhancement

➢ Common Timing And Electromagnetic Compatibility

- ❑ Interoperability across DoD Electronic Warfare systems
- ❑ Develop systems permitting span of C5ISR capabilities

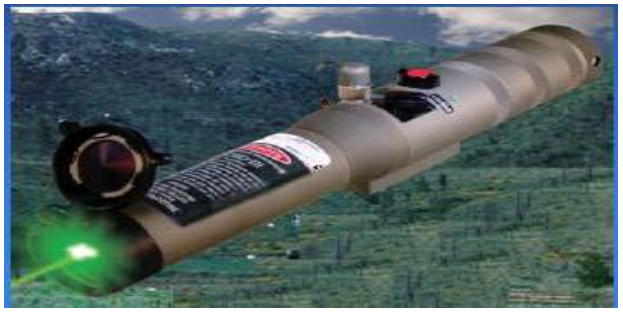
➢ Additional Technology, Information, Recommendations

- ➢ http://www.onr.navy.mil/02/BAA
  https://bids.acqcenter.com/jieddo/Portal.nsf/Start?ReadForm

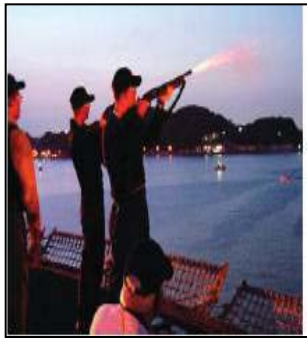
CREW is transitioning to N2/N6

Where does Navy NLW need your help?

- Stand off vessel stopping



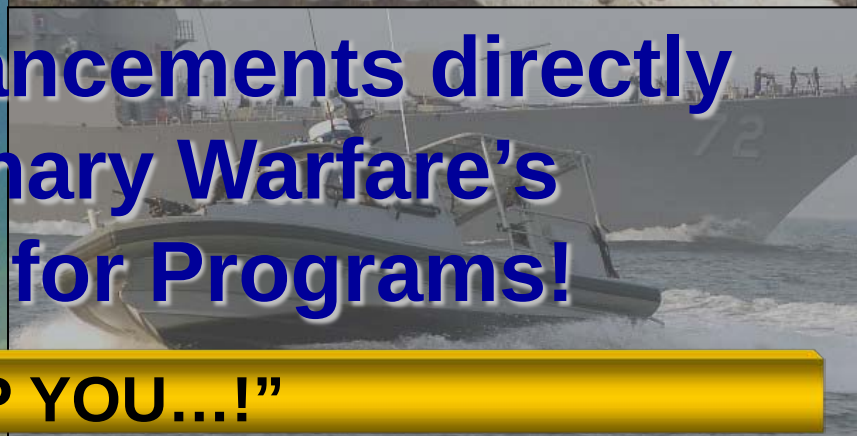
- Stand off vehicle stopping
- Reducing the size and weight and cost of directed energy systems



- Integration of directed energy systems into shipboard platforms as part of their self defense systems
- Determining contact intent

Partnering with Industry to Support the Force

EXPEDITIONARY WARFARE DIVISION
(N85)
OPNAV



Your technological efforts to assist our needed capability advancements directly support Expeditionary Warfare's Resource Strategy for Programs!

"HELP US HELP YOU…!"

Points of Contact

NECC capability development:

MESF	**LCDR Nakia Cooper**	**nakia.cooper@navy.mil**
ELSG/Sub-surface Defense	**CDR John Rivers**	**john.rivers@navy.mil**
MCAS/ECRC/ETC/NEIC	**Mike Polidoro**	**michael.polidoro@navy.mil**
C5I	Matthew O'Connor *	**matthew.oconnor@navy.mil**
Afloat	Steve Gorin *	**steve.gorin@navy.mil**
Ground	Harry Guthmuller *	**harry.guthmuller@navy.mil**

JCREW/JSEOD capability development:

JEOD/JCREW	**LCDR Gareth Healy**	**gareth.healy@navy.mil**
JEOD	**Ed Ebinger**	**edwin.ebinger.ctr@navy.mil**
JCREW	**John Stansbury**	**john.stansbury@navy.mil**

Non-lethal Weapons capability development:

JNLW/Navy NLW	**Corey Noel**	**corey.noel@navy.mil**

*** Capability Sponsors**

Meeting Acquisition Challenges Confronting Expeditionary Warfare

Mr. Brian R. Detter

Deputy Assistant Secretary of the Navy for Expeditionary Warfare

19 Nov 2009

SECNAV Priorities

Acquisition Reform

Unmanned Systems

Greening the Department

SECNAV

Greening the Department

Evaluate energy use in contract awards

Deploy Green Strike Group by 2016

Cut petroleum use 50% by 2015

Produce 50% of shore power by 2020

50% alternative energy for ships, tanks, vehicles, aircraft by 2020

ASN/RDA Priorities

Get requirements right

Promote industrial base

Make every dollar count

Strengthen acquisition workforce

Enhance program performance

DASN ExW Priorities

SECNAV Priorities

ASN/RDA Priorities

Expeditionary Warfare programs

Others

Takeaways

Energy

Unmanned systems

Other challenges

Feedback?

Brian R. Detter
DASN, ExW
703-614-4794

FAIRBANKS MORSE ENGINE

an EnPro Industries company

NDIA Expeditionary Warfare Conference

November 18, 2009

FAIRBANKS MORSE ENGINE
an EnPro Industries company

Fairbanks Morse and the U.S. Navy
(a brief history)

Navy development of submarine diesels in the 1920's & '30's
- Responded to need for a U.S. diesel engine manufacturer

Fairbanks Morse patents the Opposed Piston engine - 1936
- Ideal for submarine applications
- Navy's first procurements in 1937 and continued through the '50's
- Upgrade of engine continues today

Fairbanks Morse upgrades large marine engine technology
- Began manufacturing the Colt-Pielstick marine diesel engine in the '70's
- First USN large marine diesel LSD41 class in 1980
- Began manufacturing the FM/MAN engines in 1995
- Product upgrades continue today

FAIRBANKS MORSE ENGINE
an EnPro Industries company

USN Programs 1970's - Today

LSD-41 & LPD-17

LCS-1 & 3

SSBN-726, SSN-688 & SSN-21

T-AO-187, T-AKR-300 & T-AKE-1

CVN21 Program

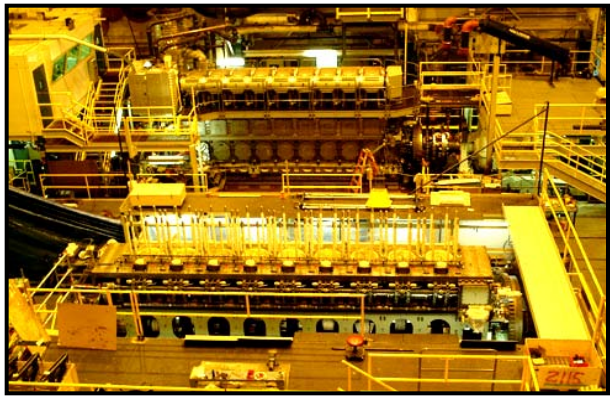
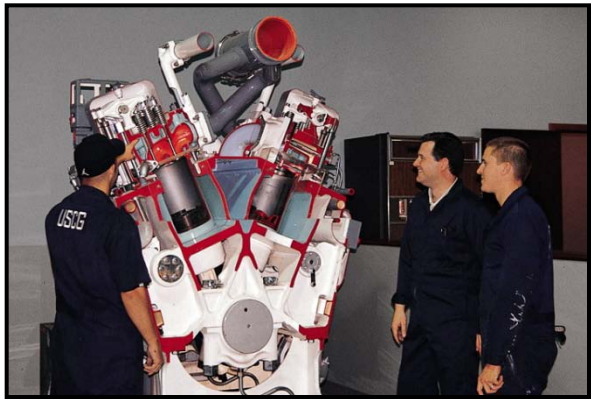
LHD-1-7, LHD-8, LHA-6

FAIRBANKS MORSE ENGINE
an EnPro Industries company

FME Investment for Navy Programs

Nearly $30M invested in capital improvements since 2002



Manufacturing, training facilities, engineering and ILS staff to support LPD-17, T-AKE 1, LHD-8/LHA(R), LCS-1, and CVN 21 Programs

Fairbanks Morse Acquisition Support

FME meets/exceeds specifications (no exceptions/waivers)

- Only domestic engine manufacturer in the size/power range required
- Product and systems engineering tailored to the end application
- On-site qualification testing
- Strong aftermarket and provisioning support

FAIRBANKS MORSE ENGINE
an EnPro Industries company

Fairbanks Morse In-Service Support

Aftermarket parts & service organization

- Only U.S. engine manufacturer with factory-direct service organization
- Repair technicians and engineers available 24/7 world-wide
- On-site technical support and life-cycle engineering staff

Navy Diesel Engine Technical Support contract in place

- Five-year contract awarded in 2007
- Supports acquisition programs
- R&D support for alternative fuels and energy efficiency improvements
- Similar efforts in place for the U.S. Coast Guard

FME partnership with NGSB Planning Yard for LPD-17

- Sustainment utilizing “performance based logistics” approach
- Focused on maintenance and provisioning
- Multi-phase development plan favorably concluded in July
- Supports ships being delivered w/o provisioning & maintenance plans

FAIRBANKS MORSE ENGINE
an EnPro Industries company

Preparing for tomorrow's USN Programs

LHA(R) = LHA-6 Class

LCS (LMCO Design)

CVN 78 Class

For small businesses:

- It is critical that we have a clear vision of future programs
- Important to establish long-term requirements
- Multi-year programs are required to justify high investments
- Supplier cost reductions are based on volumes
- Must retain our highly-trained workforce

MPFF

T-AOE(X)

LCC(X)

L(X)

Others

FAIRBANKS MORSE ENGINE
an EnPro Industries company

Impact of Changes & Uncertainty

Navy shipbuilding plans have not been reliable or consistent

- High cost of meeting Navy requirements difficult to absorb
- Production volume unpredictable
- Difficult to justify fixed investments
- Without long-term contracts, supplier prices remain high

Aftermarket is not predictable – good area for joint improvements

- Inventory to support new-construction deliveries not established
  - No supply system inventory orders before ships are delivered
  - No demand history or forecast to justify FME inventory investment
- Working with prime contractors on sustainment efforts
  - Strong potential to improve logistic support issues

Navy business decline prompts change in strategy

- Focus on re-emergence of the commercial nuclear power industry
  - FME is the only remaining NQA-1 qualified manufacturer of EDG sets

FAIRBANKS MORSE ENGINE
an EnPro Industries company

Fairbanks Morse Engine is the original U.S. manufacturer and today's premier provider of customized medium-speed engine systems, parts, and direct service solutions.

Toward a Modern Seabased Expeditionary Capability

Enhanced Company Operations

&

Enhanced MAGTF Operations

Experimentation and Capability Development

NDIA Expeditionary Warfare Conference

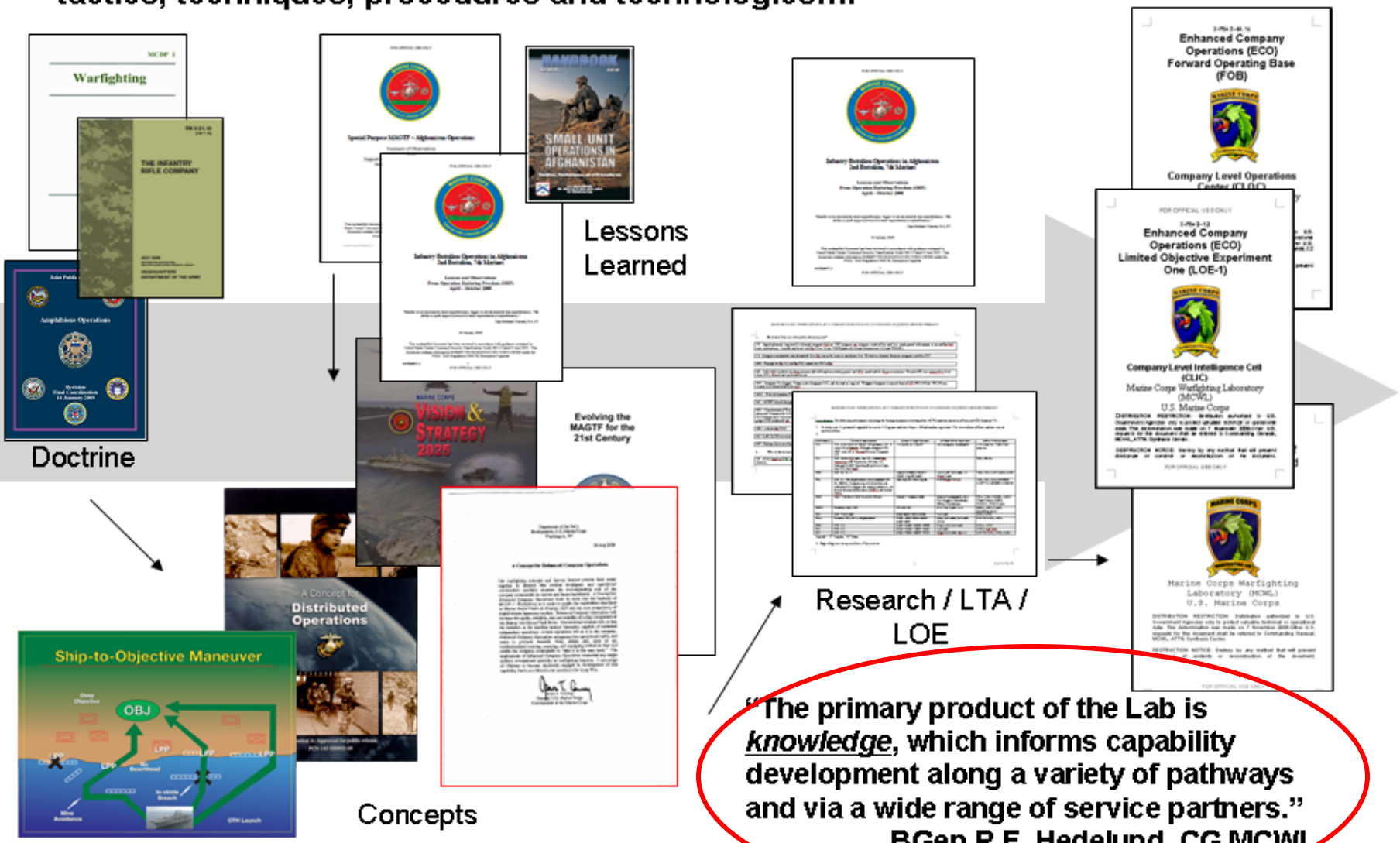
Panama City, FL

19 Nov 2009

Vince Goulding
Dir, Experiment Division
Marine Corps Warfighting Lab
vincent.goulding@usmc.mil

Marine Corps Warfighting Laboratory

MCWL Mission: "Conduct concept-based experimentation to develop and evaluate tactics, techniques, procedures and technologies…."



"The primary product of the Lab is *knowledge*, which informs capability development along a variety of pathways and via a wide range of service partners."

BGen R.F. Hedelund, CG MCWL

ECO/EMO: Shift to the Deep Target

Today's Fight

DO/ECO

Tomorrow's Requirement

ECO/EMO

Marine Corps Warfighting Lab
5-year Experiment Campaign Plan
(Updated every year)

Enhanced MAGTF Ops
Company Landing Team
(2011-2014)

Enhanced Company Ops (07-10)
- Company-level Ops Center (Light)
- Company-level Ops Center (FOB)
- Company-level Intell Cell
- Distributed Logistics/ Lighten the Load

Distributed Operations (04-06)
- Two LOEs (test in OEF)
- Squad Fires
- Combat Hunter

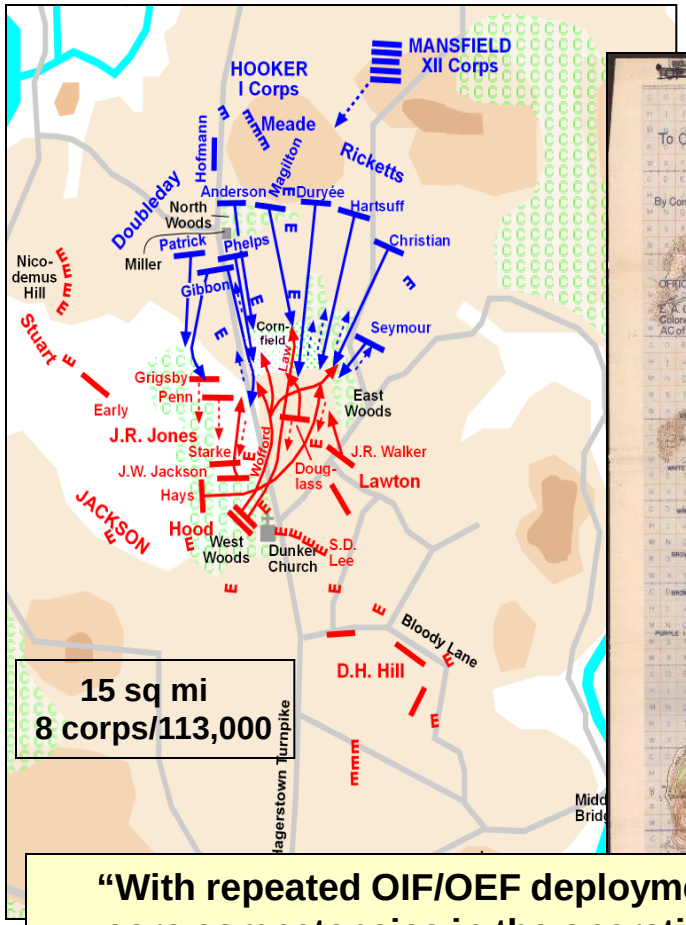
Infantry Skills Simulation

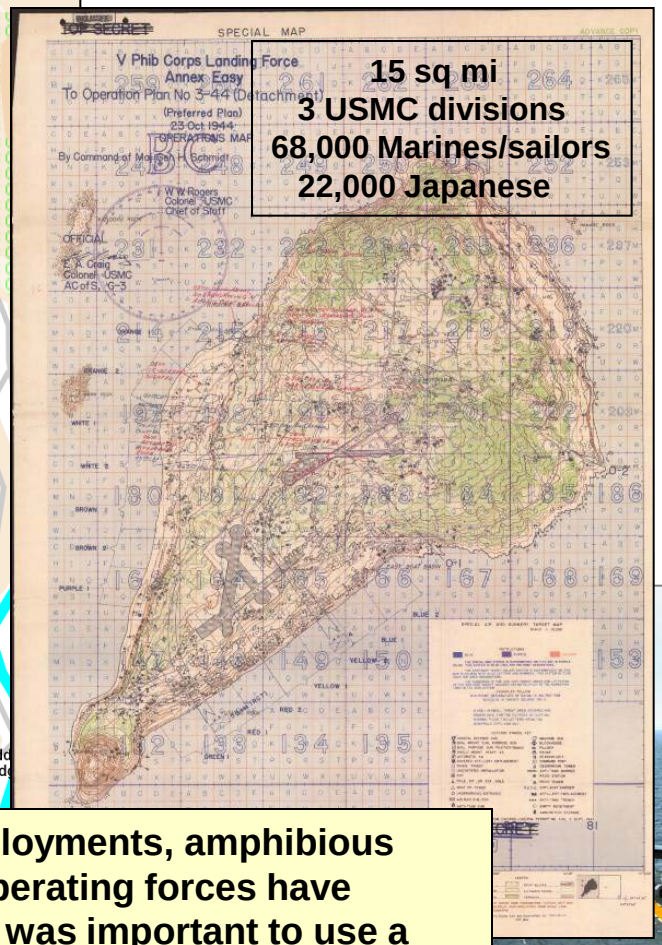
Moving Target Engagement

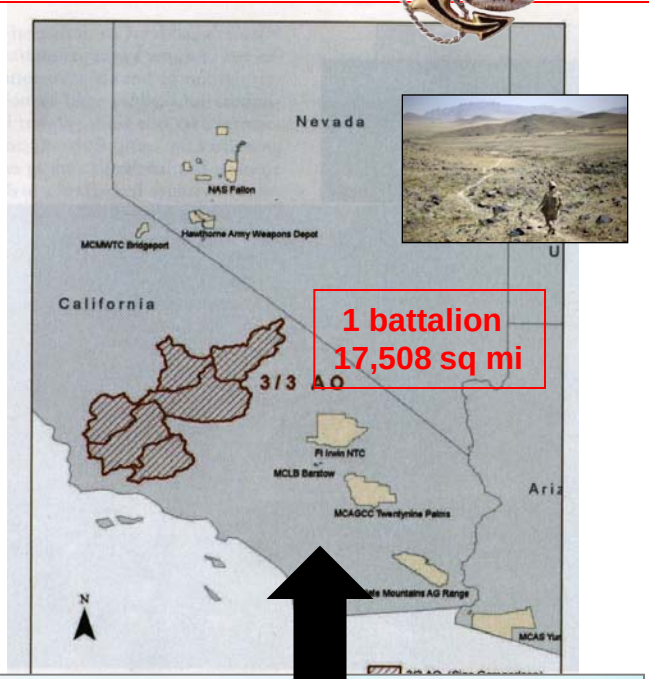
Future Immersive Training Environment

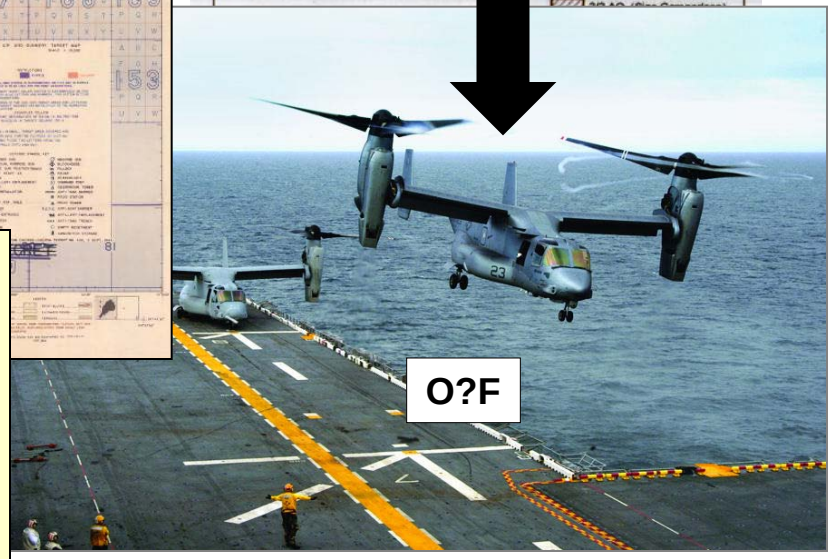
Product:
Conventional, combined arms force for any "clime, place" or *warfare label* (small war/big war)

The Challenge: Capability Must Reflect Reality









"With repeated OIF/OEF deployments, amphibious core competencies in the operating forces have eroded to the point where it was important to use a graduated approach toward building skills to live and operate aboard and from amphibious ships."

- Marine Corps Center for Lessons Learned
MEU Operations Afloat 19 Oct 2009

Setting the Stage: ECO 2007-2009

LOE 1: Company-level Intell Cell (CLIC) (’07)

- Standardize “train, organize, equip”

LOE 2: Company-level Ops Center (CLOC) (’08)

- Establish a baseline using Forward Operating Base

LOE 3.3: Sustaining the Distributed Force (Jun ’09)

- Unmanned air/ground vehicles
- Resupply and “mule” function
- Lighten the Load implications
- Limited CASEVAC
- Mountain Warfare Training Center

LOE 3.1: Company-level Ops Center (light) (Jul ’09)

- Build on CLOC
- Expeditionary (dismounted)
- Prototypical communications suite (CAPSET V)
- Marine Corps Mountain Warfare Training Center

Distributed Artillery (Aug ’09)

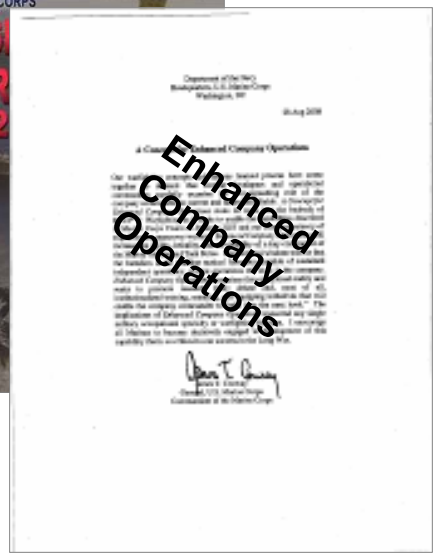
- M777 artillery battery (3X2)
- Develop Tables of Organization/Equipment for ECO LOE 4

ECO Fires (Oct ’09 & Jan ’10)

- MSTP/C2TECOE
- Company-level fire support coordination

LOE 3.2: CLOC (light) part II (Dec ’09)

- Refine prototypical comm suite IOT inform CAPSET V
- Inclusion in ECO LOE 4
- Demand reduction (water/power)



Transitioning to EMO/CoLT

ECO LOE 4 (2010):

- Culminate 6 years of live force experimentation
- Conduct first Marine Corps STOM experiment
- Provide a starting point for an EMO program

- Identify capability gaps at all levels – especially in the areas of C2/ISR, fires, logistics
- Assess the impact of an enhanced company/company landing team (CoLT) on immediate HHQ, MAGTF/Navy
- Employ and assess experimental Infantry Company T/O
- Test a prototype C2 suite (CAPSET V) in the context of STOM and ECO
- Evaluate proposed Company C2 TTP's in the area of fires, logistics, operations and intelligence
- Evaluate the contribution and cost of organic Unmanned Ground Vehicles (UGV)
- Evaluate the utility of a logistic support element within the Company
- Evaluate the contribution and cost of enhanced attached/organic surface indirect fire support and enhanced infantry weapons capable of providing fire support
- Examine the fire support coordination function/capability within the company headquarters

ECO LOE 4 CONOPS

EMO Campaign Plan

- **2011: EMO LOE 1 C2ISR/Fires (Live Force)**
  - Develop/assess fires related capabilities that enhance the ability of the MAGTF to support ECO
  - Identify/assess C2 & ISR related capabilities that enhance these functions and enable the MAGTF to fully exploit ECO
- **2012: EMO LOE 2 Logistics (Live & Constructive)**
  - MARFORPAC (RIMPAC?)
  - Identify/address logistics capability gaps and develop logistics related capabilities that enable the MAGTF to support ECO
- **2013: EMO LOE 3 MAGTF (Constructive)**
  - Assess the combined impact of the C2ISR, Fires, and Log related enhancements developed and tested in previous projects
- **2014: EMO 4 MAGTF (Live & Constructive)**
  - Culminating event for EMO
  - Provide a live force venue that allows MCCDC to assess the combined impact of the C2ISR, Fires, and Logistics-related enhancements developed and tested in previous LOEs.

Things to Consider

- History (doctrine) may or may not be a guide to the future
  - Joint Publication 3-02 was recently signed, but is intellectually dated
- Navy/Marine Corps not as far along as we think (19 Oct MCCLL: 13th MEU)
- Non-traditional approaches deserve a look
- Success in *"complex joint operating environments"* requires tactical interoperability…
  - Can a Marine rifle company "talk" to its Army counterpart?
  - to Navy/Marine/Joint/coalition SOF?
  - the seabase?
- Advance force ops needs a serious re-think
  - STOM is based on intell/operational prep of the environment (IPE/OPE)*
  - To include coalition/joint, NGO, PVO, host nation etc.
  - Is there a unitary advance force? If so, who does it report to/work for?
- Realistic stand-off distances and connectors of different speeds must be exercised
- Weight/Cube: Can we get the GCE to the scene?
  - Can we get it ashore?
  - Can higher headquarters support/sustain much more capable subordinate units?
  - How do we reduce demand?

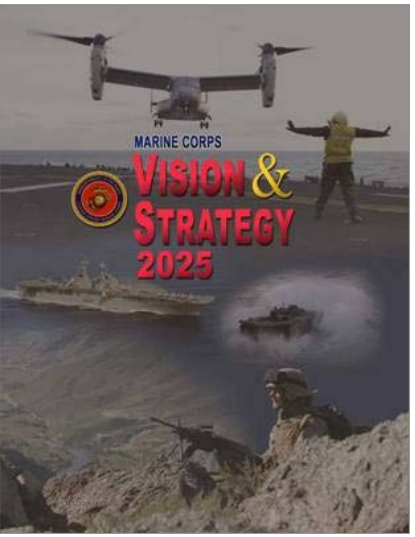
- Non-traditional tactical organizations and command relationships must be considered

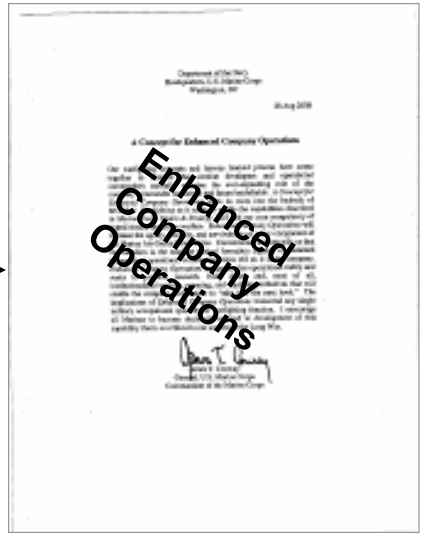
* JFCOM: IW Joint Operating Concept; "Irregular Amphibious Warfare," Nov '09 Marine Corps *Gazette*

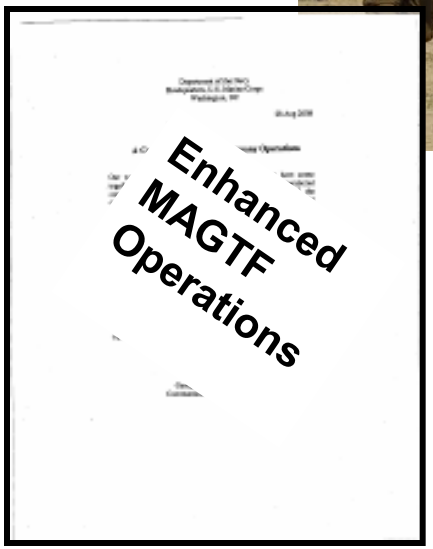
Why we come to work

- To develop knowledge….
- DO → ECO → EMO/CoLT represent a logical progression
- Address operational imperatives <u>and</u> future requirements
- Enable achievement of Vision & Strategy 2025
- Seriously look at the future force across Doctrine, Organization, Training etc.

<u>Objective</u>: Enhance the Marine Air-Ground Task Force starting where the rubber meets the road





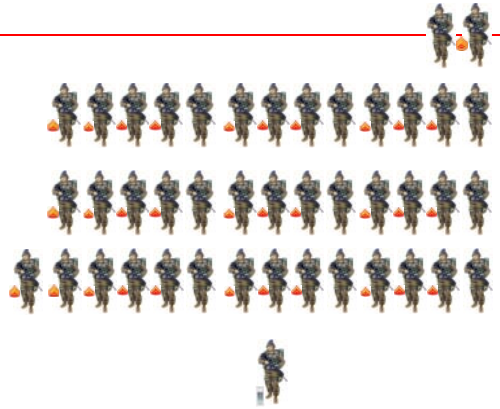


<u>Hard issues:</u>

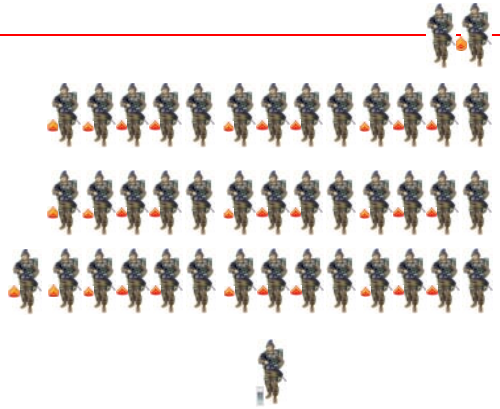
- OTM/OTH comms
- Fires
- Resupply
- Casualty handling/evac
- Reduced demand
- Lightening the Load
- Tables of Organization

Semper fidelis

The Man in the Arena

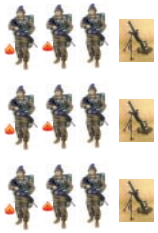


1st Platoon

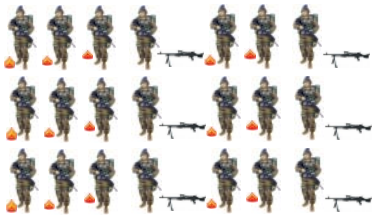


2d Platoon

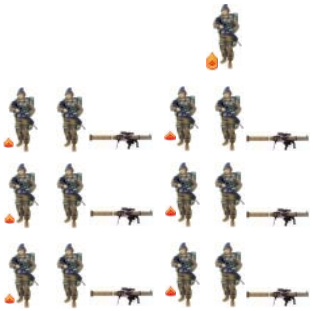
3d Platoon



Mortar Section



MG Section



Assault Section

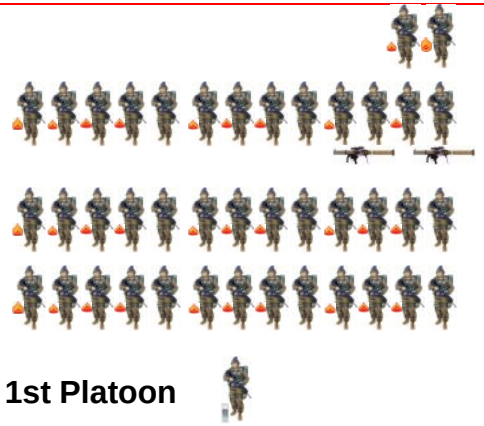
Weapons Platoon

MOS AND RANK SPREAD T/O 1013G

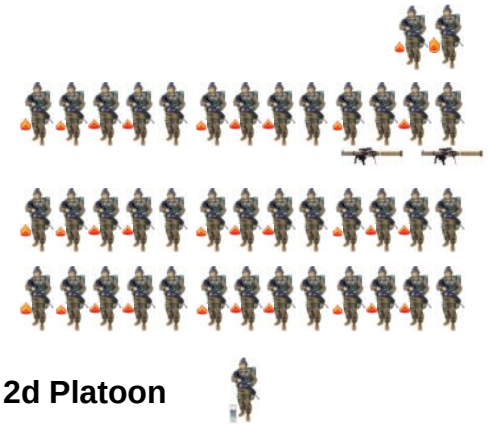
MOS	E-1 PVT	E-2 PFC	E-3 LCPL	E-4 CPL	E-5 SGT	E-6 SSGT	E-7 GYSGT	E-8 1STSGT	O-1 2NDLT	O-2 1STLT	O-3 CAPT	TOTALS
0311	31		54	28	12							125
0331	6		6	6	3							21
0341	3		3	3								9
0351	6		3	3	1							13
0369						5	2					7
8999								1				1
TOTAL EM	46		66	40	16	5	2	1				176
0302										5	1	6
TOTAL OFF										5	1	6
Summary	46		66	40	16	5	2	1		5	1	182

HQ Section

Optimized for the Future Fight

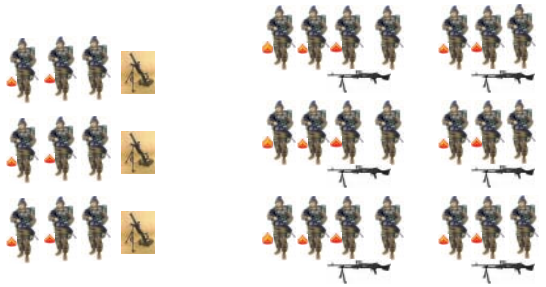


1st Platoon



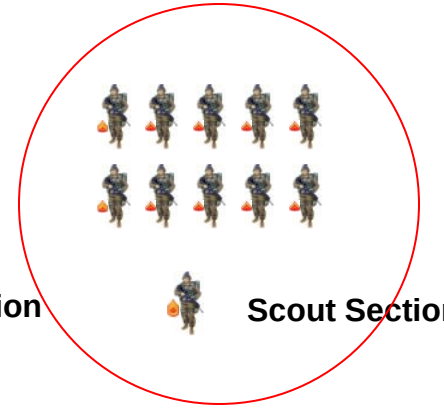
2d Platoon

3d Platoon



Mortar Section

MG Section

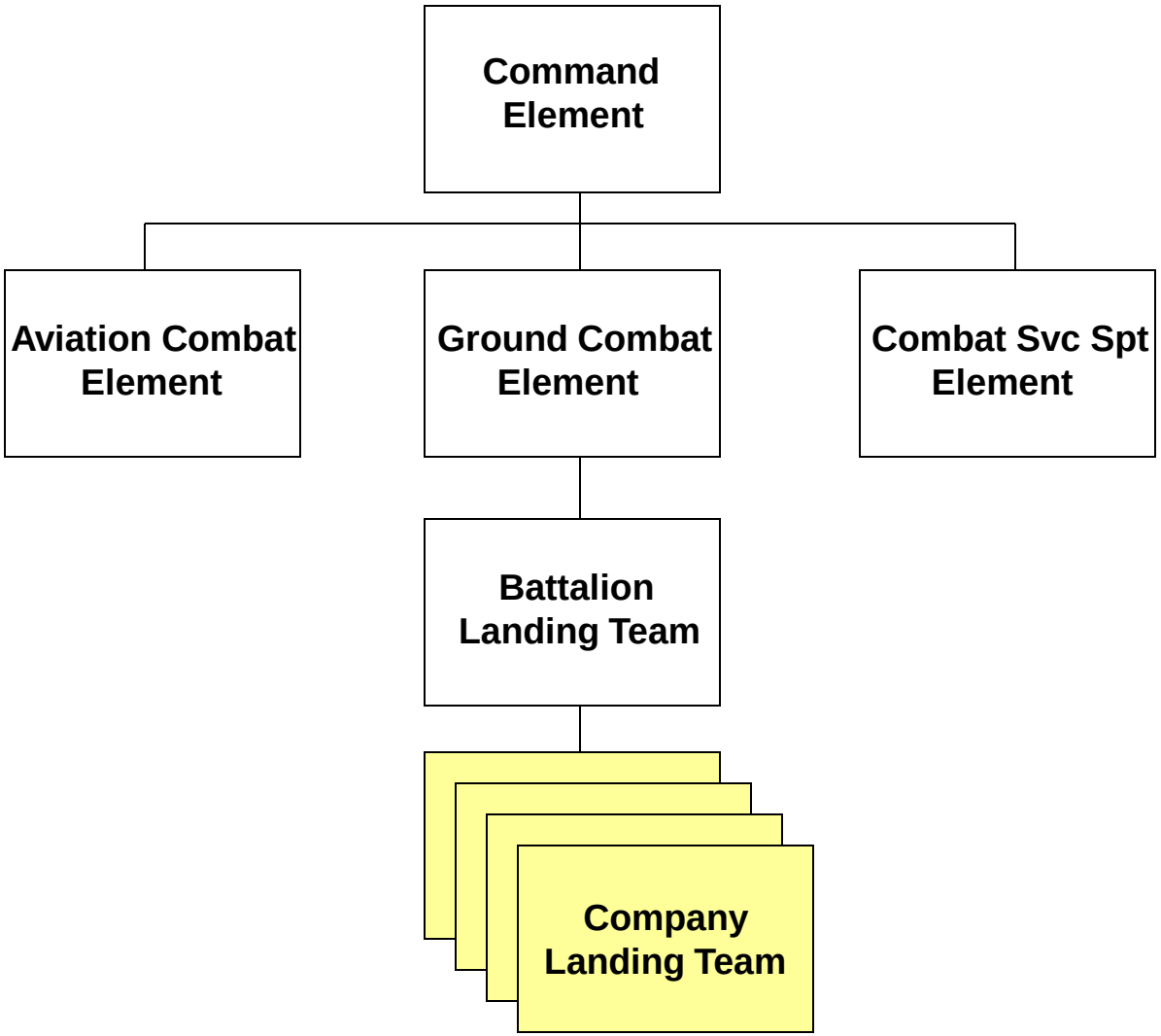


Scout Section

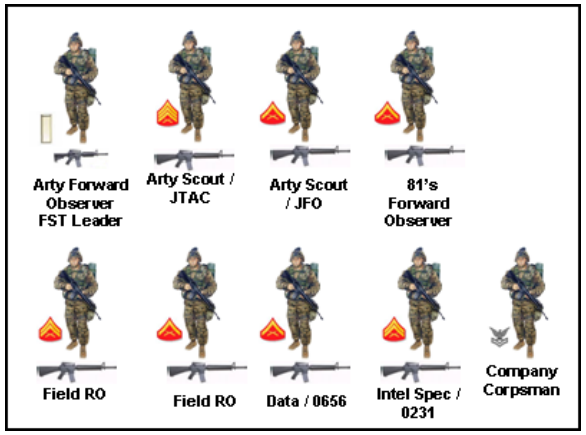
Weapons Platoon

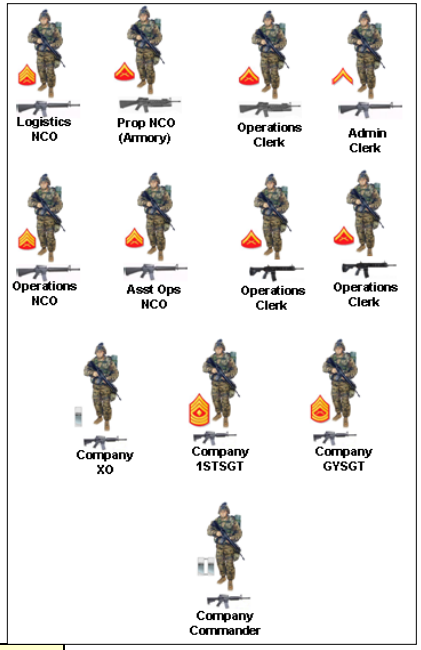
HQ Section

A Simple Variation on Theme



Train the Way We Fight





Company Landing Team

Rifle Platoon

Indirect Fire Platoon

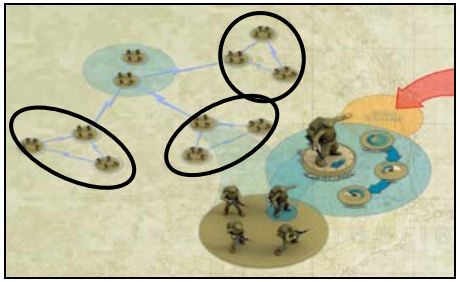
Combat Svc Spt Det

Weapons Platoon

LOE 4 Technologies

Distributed Tactical Communications System (DTCS):
Expand the range of the tactical DTCS radio from 100 miles to 250 plus miles, in order to enable the Warfighter to execute STOM. Ship installation of DTCS occurring on LHD 6 to provide OTH voice comms from LFOC to CLOC

Next Generation Command and Control (NGC2):
Trellis-Ware Communications – Mobile Mesh networks (MANET) technologies, compression algorithm technologies, implementation of Position Locating Information throughout the network, and development of a network management system to facilitate smooth network transitions



Mobile Tactical Network CLOC Enabler (METN-CE):
Mobile CLOC C4 enabler that integrates current MCWL initiatives (DTCS and TW) with Mobile Modular Command and Control (M2C2) or Warfighter Information Network Tactical (WIN-T) to create On the Move (OTM) / Beyond Line of Sight (BLOS) tactical network for CLOC operations.

Panasonic CFU-1:
Toughbook employed at Platoon and Co. level. Provides Operational and Planning tools through the inclusion of Command Post of the Future (CPOF) and Tactical Ground Reporting System (TIGR). Also
capable of operating Marine Link (Co. level and above)

LOE 4 Technologies

GCE

Combat Robotic Systems (CRS):
Organic, remotely operated weapons system capable of operation in battlefield conditions**.**

MAARS

UAS

MCWL UAS Research Surrogate (TIER II UAS):
Employ XMQ-19A as a test platform to investigate emerging UAS technologies; develop and refine experimental UAS TTPs, and Provide MAGTF level ISR enable for EMO experimentation.

CSS

Ground Unmanned Support System (GUSS):
Off-road unmanned system, either remote or on board operation with 500lbs payload capacity, and provision of Supply support to Squad and Platoon. Support Lighten the
Load initiative and alternate water and power.

NAVSEA

NAVAL SEA SYSTEMS COMMAND

NDIA

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION

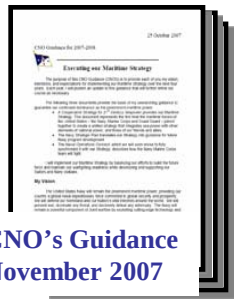
STRENGTH THROUGH INDUSTRY & TECHNOLOGY

NAVSEA

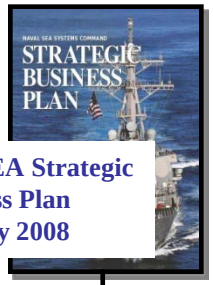
NAVAL SEA SYSTEMS COMMAND

18 November 2009

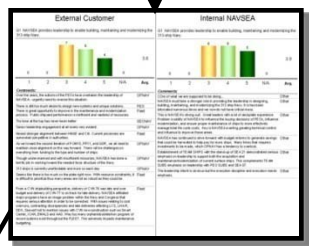
Agenda for Change Journey



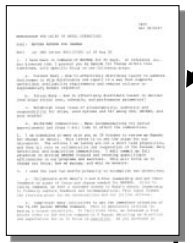
CNO's Guidance
November 2007



NAVSEA Strategic
Business Plan
January 2008



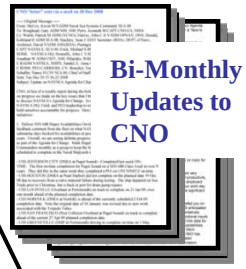
Customer Survey
July 2008
Identified Gaps



NAVSEA
Agenda For
Change
Memo to CNO
October 2008

First 100 Days
Communications

Commander's Conference
December 2008



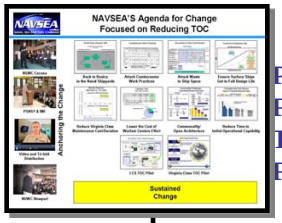
Bi-Monthly
Updates to
CNO

EIII Command Site Visits
& Town Hall Meetings

Strategic
Advisory Team
January 2009

Second Video
January 2009

New Executive Director
video and comms
carry same messages



Provider
Forum
TOC Briefs
February 2009

VCNO Visit:
Echelon II Brief
March 2009

Provider Forum:
TOC Briefs
July 2009

Strategic Advisory Team:
Assess Progress
& Look Forward
to Years 2 & 3
7 July 2009

CNO F2F
4 Aug 2009

FY10 Execution Plan
Hits the Streets
August 2009

CDR's Conference
October 2009

NAVSEA from 50,000 Feet

- NAVSEA is comprised of more than 58,000 civilian and military personnel in 38 activities located across the United States and Asia. Together, we build, buy and maintain ships, submarines and combat systems for the U.S. Navy.

- Accounting for nearly one-fourth of the Navy's budget, NAVSEA manages more than 150 acquisition programs.

Expeditionary Platforms

LPD 17 Class

- LPD 17-21 delivered
- LPD 22-25 under contract

USS Makin Island (LHD 8)

- Energy-efficient Hybrid propulsio

LCS

- Fast, Agile, Optimized to assure Joint force access into contested littoral regions
- Operate with focused-mission packages
- Inherent capabilities to support homeland defense
- Maritime Security Operations/Special Op Forces

USS America (LHA 6)

- Will use Makin Island propulsion plant
- First ship in LHA replacement program

NAVSEA Warfare Centers
Providing Joint Expeditionary Solutions

NAVSEA Support to NECC

- **Small Craft, *Riverine, MESF, and EOD - (PEO Ships/PMS 325)***

- **Weapons, small arms and crew served - *(PEO LMW/PMS 340)***

- **EOD Mission Equipment *(PEO LMW/PMS 408)***

- **JCREW *(PEO LMW/PMS 408)***

- **Specific C4ISR & TOA Items *(PEO LMW/PMS 480)***

Small Craft & Boats (PMS 325G)

Riverine Command Boat (RCB), 49 Foot

Provide Riverine Group Commanders with mobile liaison, communications and command/control capabilities

Riverine Patrol Boat (RPB), 38 Foot

Conduct inland waterway patrol and interdiction to preserve rivers for friendly use as lines of communication and to deny the enemy their use

Riverine Assault Boat (RAB), 33 Foot

Deny rivers/waterways to waterborne & shore hostile forces by barrier& interdiction operations. With ground/air forces locate and destroy riparian area hostile forces

Acquisition and life cycle support of small craft

EOD Rigid Inflatable Boats, 7-8m

Explosive Ordnance Disposal dive operations to locate, render safe and recover (or dispose) ordnance.

MESF Force Protection Small, 25 Foot

Provide Harbor Approach Defense and Port Security Harbor Defense patrol and interdiction and vessel escort capabilities

MESF Force Protection Large, 34 Foot

Provide Harbor Approach Defense and Port Security Harbor Defense patrol and interdiction and vessel escort capabilities

Naval Special Warfare (PMS340)

Small Arms: Responsible for the Acquisition, Registration, Tracking, Life Cycle Maintenance, Disposition and Modernization of all Navy Small Arms.

Riverine Outfitting: Procurement and delivery of Small Arms and Visual Augmentation Systems (VAS) Equipment.

Premeditated Personnel Parachuting (P3): Provides Safety Review, Test and Evaluation, and Configuration Control of P3 Equipment Approved for Navy Use (ANU).

Explosive Ordnance Disposal / Counter Radio-Controlled IED Electronic Warfare (PMS 408)

- **PMS-408 provides acquisition life cycle management of:**
  - **Ground-based Joint CREW systems and CREW technology (US and International)**
  - **Joint Service EOD Programs**
  - **Underwater EOD Programs**

- **Joint CREW Mission challenged by:**
  - **Global concerns outside of present theaters of operation**
  - **Rapidly evolving threat**
  - **Integration of evolving hardware and software innovations**
  - **CREW system impact on the electronic spectrum**

- **EOD Mission requires specialized systems and equipment for:**
  - **Exploration and Reconnaissance MCM**
  - **Low Visible Operations**
  - **Low Signature (Magnetic and Acoustic)**
  - **Operation in Harsh Environments**
  - **Small, Mobile Deployed EOD Forces**

Anti-Terrorism Afloat (PMS480)

Mission: Develop, acquire and maintain anti-terrorism (AT) systems for ships and expeditionary forces for detection, deterrence, and defense against acts of terrorism and other asymmetric threats.

Expeditionary AT

- **Mobile Expeditionary Security Forces (MSF) C4ISR**
- **Riverine C4ISR**
- **Table of Allowance (TOA) for MESF, MDSU, MCAG, ETC and ECRC**
- **Swimmer Defense**

Handheld Night Vision Devices

Non-Lethal Weapons

- **Enhanced Maritime Interdiction Operations (EMIO)**
- **Biometrics Identity Dominance System (IDS)**

PMS 480 Expeditionary Support

NAVSEA
NAVAL SEA SYSTEMS COMMAND

TACCOM

C4I outfitting
For Riverine Boats
and Vehicles

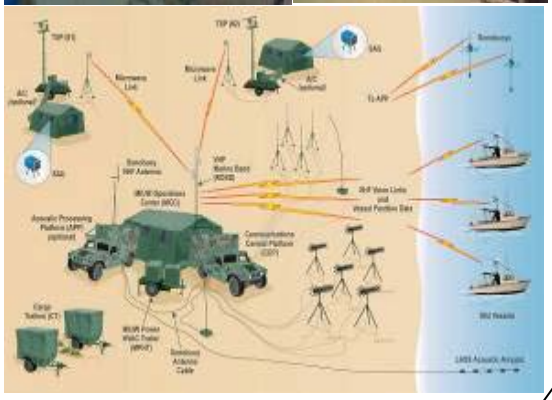
Internal
Comms

EO/IR

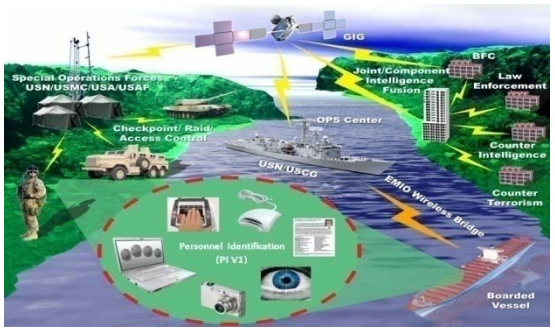
Riverine
C4I

MAST – Mobile Ashore
Support Terminal

MESF
C4I



RSSC – Radar Sonar Surveillance Centers
& Tactically Integrated Sensors (TIS)



Biometrics

IDS Biometric
Collection Device

Expeditionary
Warfare

Non
Lethal

Non-Lethal
Warning Munitions
Testing

Acoustic Hailing
Devices

Swimmer
Defense

High Performance
Radar

Active
Sonar

Non-Lethal ISD
Air Gun

EO/IR Sensors

Laser Dazzlers

Questions

The 2010 QDR and the U.S. Coast Guard

NDIA 14th EXPEDITIONARY WARFARE CONFERENCE

November 17, 2009

CAPT Mike Megan

Coast Guard rep to the 2010 QDR

POLICY

Outline

- **2010 QDR**
  - Scope
  - Defining and Guiding Principles
  - Areas of Emphasis
  - Directing Legislation
- **U.S. Coast Guard**
  - Background
  - Goals for the 2010 QDR

POLICY

Scope

- **The QDR will:**
  - ✓ Address key emerging challenges;
  - ✓ Bring focus to under-emphasized missions;
  - ✓ Align force structure with strategic realities; and
  - ✓ Launch new initiatives of importance to the President and the Secretary of Defense.

The 2010 QDR will use the 2008 National Defense Strategy as a strategic point of departure.

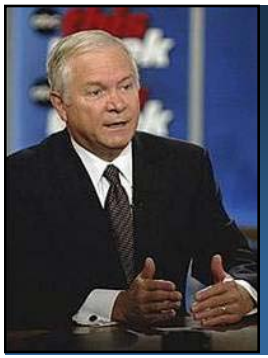
POLICY

Defining Principle

"The defining principle of the Pentagon's new National Defense Strategy is *balance*.

The United States cannot expect to eliminate national security risks through higher defense budgets, to do everything and buy everything.

The Department of Defense must set priorities and consider inescapable tradeoffs and opportunity costs."



"A Balanced Strategy:
Reprogramming the Pentagon for New Age"

Robert M. Gates
Foreign Affairs, January/February 2009

POLICY

Guiding Principles

- The United States must prevail in current conflicts while deterring potential adversaries and preparing for future contingencies.
- U.S. Armed Forces must be prepared to address a wide range of challenges, recognizing that not all can have equal priority.
- The QDR will make difficult tradeoffs to allocate risk in and among the near-, mid-, and long-term – to include identifying areas of possible divestment.
- The United States will continue to work in cooperation with Allies and partners to achieve strategic goals.

POLICY

Specific Areas of Emphasis

- Further institutionalizing irregular warfare and civil support abroad capabilities and capacities, to include building partnership capacity
- Addressing threats posed from the use of advanced technology and WMD's
- Strengthening DoD support to civilian-led operations and activities at home
- Global Force Posture

POLICY

QDR Directing Legislation

"The report shall include the following:

(1) The results of the review, including a comprehensive discussion of the national defense strategy …

…(14) The national defense mission of the Coast Guard."

– 10 USC, 118(a,d)

POLICY

Coast Guard Background

- A Unique Instrument of National Security
- A Natural Capacity Building Partner with a Broad Mission Portfolio
- Complementary Military & other Capabilities to DoD
- Committed to Providing the Floor of Capabilities outlined in the DoD/DHS MoA of 20 May '08

POLICY

Coast Guard Goals *(1 of 4)*

- **Increase DoD's *awareness* of current Coast Guard capabilities that support DoD activities: ***
  - ✓ Maritime Interception / Interdiction Operations
  - ✓ Military Environmental Response Operations
  - ✓ Ports Operations, Security, and Defense
  - ✓ Theater Security Cooperation
  - ✓ Coastal Sea Control Operations
  - ✓ Rotary Wing Air Intercept (RWAI) Operations
  - ✓ Combating Terrorism Operations
  - ✓ Maritime Operational Threat Response (MOTR) Support

***** As codified in the DoD/DHS MoA of 20 May '08

POLICY

Coast Guard Goals *(2 of 4)*

- **Define requirements to support DoD while highlighting the trident force structure of:**
  - ✓ Multi-mission shore based forces:
    - Sectors & Stations
  - ✓ Maritime patrol & interdiction forces:
    - Cutters, Patrol Boats, Law Enforcement Detachments, Port Security Units, Strike Teams, & Aviation Assets
  - ✓ Deployable Specialized Forces
    - MSST (Maritime Safety & Security Teams)

POLICY

Coast Guard Goals *(3 of 4)*

- **Gain support for greater capability to counter WMDs (Weapons of Mass Destruction) in the Maritime Domain.**

- **Identify force structure requirements or provide force presentation for the following capabilities:**

  - ✓ In-Theater LEDET Capability
  - ✓ Patrol Boat Operations
  - ✓ Cyber Activities
  - ✓ USCG Cryptological Group
  - ✓ Polar Icebreaking Capability
  - ✓ Security Cooperation activities
  - ✓ Major Cutter Presence
  - ✓ Military Out-load Operations

POLICY

Coast Guard Goals *(4 of 4)*

- **Position the Coast Guard to amend the DoD/DHS MoA to include the following new missions sets:**
  - ✓ GCC Theater Campaign Plans
  - ✓ Cyber Command Activities
  - ✓ Intelligence Support Activities
  - ✓ Polar Ice Operations

Questions?

ITA International LLC Capabilities Brief

Mike Melo, President

ITA International LLC Philosophy

"It's not the Critic that counts…not the man who points out how the strongman stumbles or the doer of deeds could have done better…the credit belongs to the man In The Arena *…who strives…who spends himself…so if he fails he fails while daring so his place will not be with those cold and timid soles who know neither victory nor defeat."*
Teddy Roosevelt

It is easy to criticize …
ITA International serves those who are IN THE ARENA

ITA Overview

- Established 2000
- First DOD Contract 2005
- Employees
  - 94 FT
  - 9 PT
- Revenues 2009
  - $11.9M
  - DCAA Approved rates/Accounting System
- TS Facility Security Clearance

- Locations
  - Yorktown (HQ), VA
  - Norfolk, VA
  - Washington, DC
  - Tampa, FL
  - San Diego, CA
  - Bremerton, WA
  - Guam

Past Performance

- Prime Contractor
  - Navy Expeditionary Combat Command
  - Riverine Group One
  - Maritime Civil Affairs Group
  - Navy Expeditionary Combat Command Mental Health Program
  - Langley Air Force Base Emergency Operations Center Construction
  - Riverine Group One Facilities Management
  - Expeditionary Training Command Curriculum Development
- Subcontractor
  - Commander Navy Installations Command
  - Metro Medical Response System
  - Naval Special Warfare Chemical, Biological, Radiological & Nuclear, Tactics, Techniques & Procedures
  - Commander Naval Reserve Forces Navy Mission Essential Task List
  - Navy Expeditionary Combat Command Fleet Synthetic Training
  - Special Operations Command Joint Civil Information Management
  - Maritime Civil Affairs Group Combat Skills

Challenges in Dynamic Environment

- GS Conversion
- Evolving Requirements
- Undermanned Contract Management Workforce
- Employee Stability
- Partner with large corporations

Questions?

"Serving Those In the Arena"

Navy Expeditionary Combat Command

National Defense Industrial Association
14th Annual Expeditionary Warfare Conference

Panel Discussion: Achieving the Right Capability Balance

RDML Chris Paul

18 November 2009

Navy Expeditionary Combat Command

Providing rapidly deployable and agile expeditionary forces, made up of active duty and reserve mission specialists, to warfare commanders in support of maritime security operations around the globe.

Riverine

Naval Construction (Seabees)

Explosive Ordnance Disposal

Maritime Expeditionary Security

Expeditionary Intelligence

Combat Camera

Expeditionary Logistics

Maritime Civil Affairs & Security Training

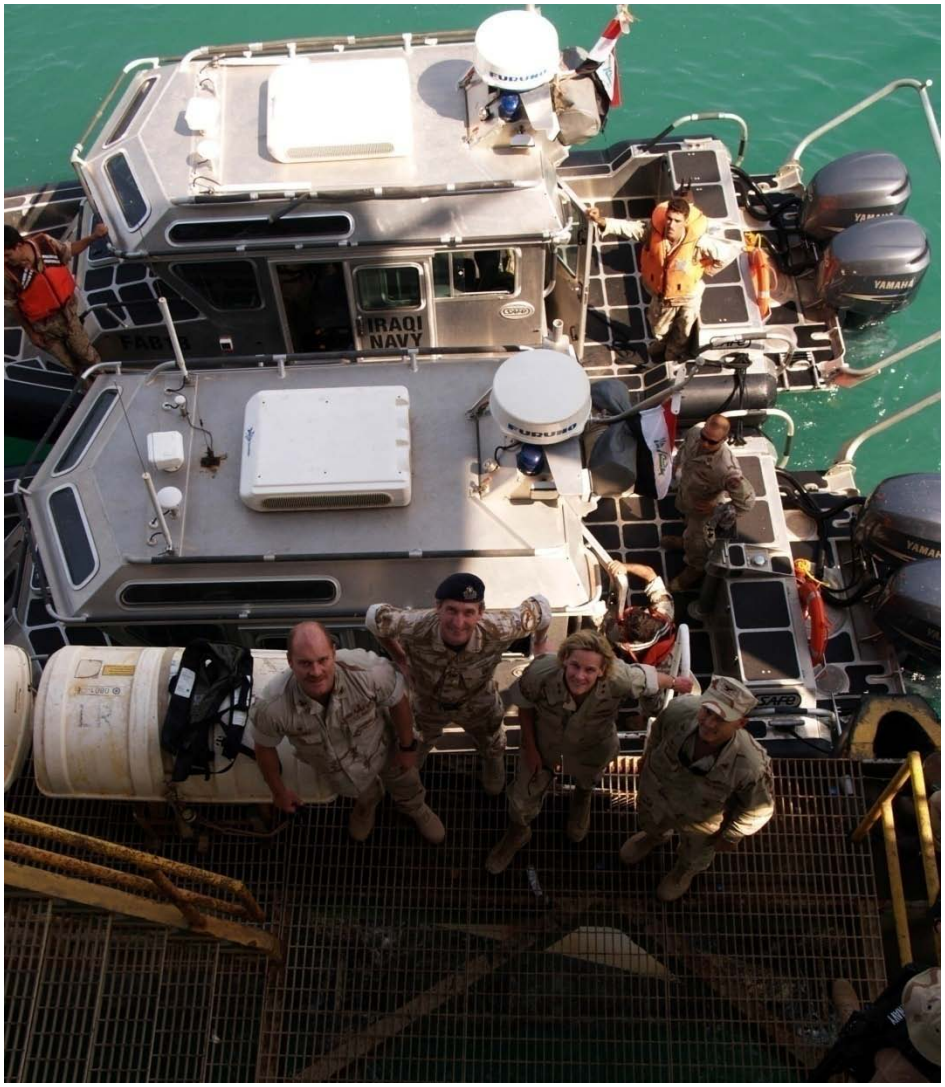
Expeditionary Combat Readiness

Riverine in Iraq

Seabees in Afghanistan / Africa

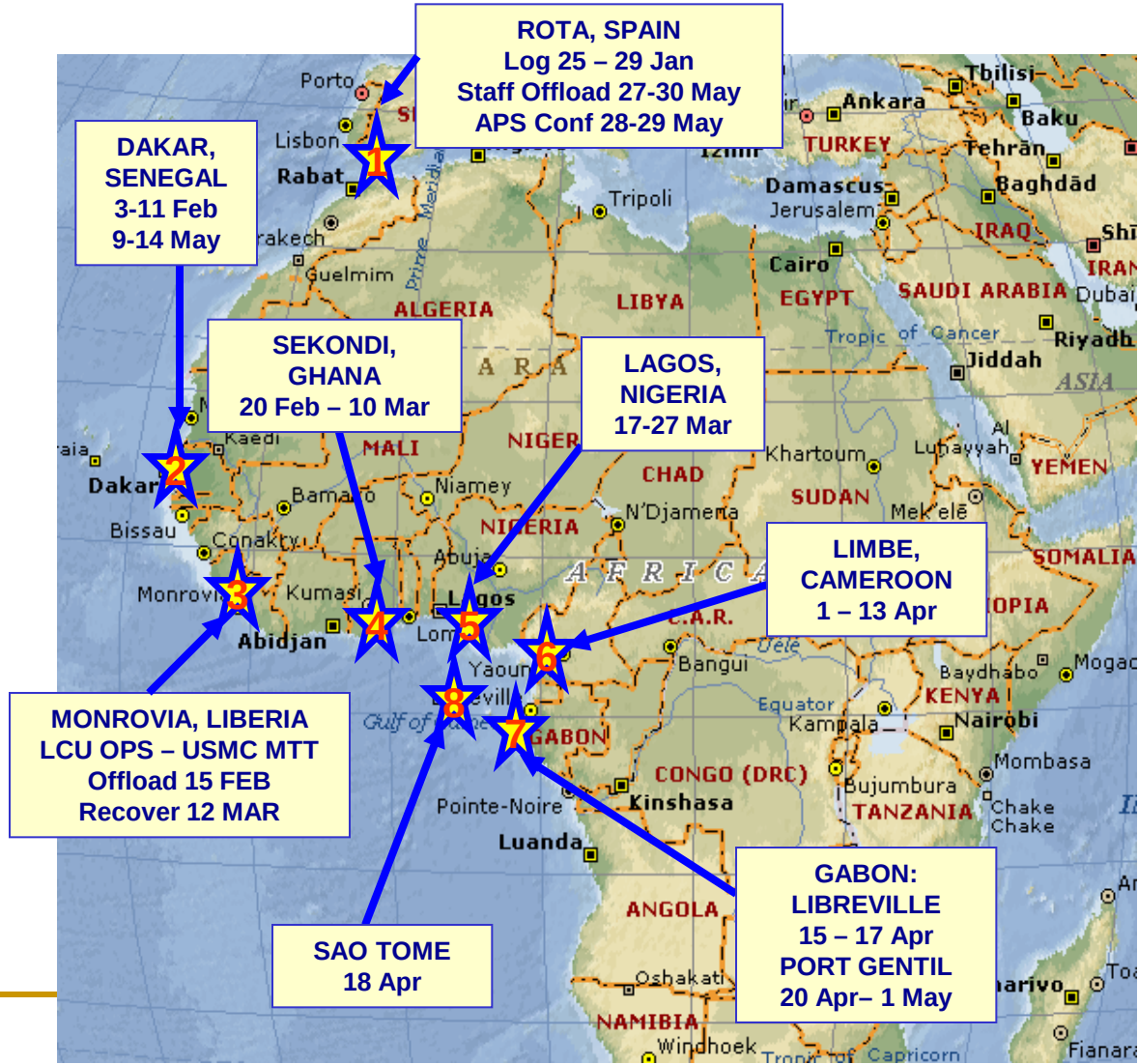
EOD in Iraq/Training in Egypt

Al Basrah Oil Terminal (ABOT)
Northern Arabian Gulf



Africa Partnership Station
Nashville Engagement Schedule

✓	**25-29 Jan**	Rota, Spain
✓	**3-11 Feb**	Dakar, Senegal
✓	**15 Feb-12 Mar**	Monrovia, Liberia *(USMC trng and HA delivery only)*
✓	**20 Feb-10 Mar**	Sekondi, Ghana
✓	**17-27 Mar**	Lagos, Nigeria
✓	**1-13 Apr**	Limbe, Cameroon
✓	**15-17 Apr**	Libreville, Gabon
✓	**18 Apr**	Sao Tome
✓	**20 Apr-1 May**	Port Gentil, Gabon
✓	**9-14 May**	Dakar, Senegal



USNS Mercy, Pacific Partnership
Papua, New Guinea

CONTINUING PROMISE 2009
01 April – 31 July

Port Au Prince, Haiti 09 -19APR

Santo Domingo, Dominican Republic 21APR-02MAY

La Union, El Salvador 21JUN-02JUL

Colon, Panama 24MAY-02JUN

St. Johns, Antigua and Barbuda 05-16MAY

Corinto, Nicaragua 3-14 July

Tumaco, Colombia 06-17JUN

Strategic Change: One Life at a Time

NECC Battlespace

NECC Forces

- Provide link from sea to land
- Provide adaptive, Smart Power
- Enable SOF

- Civil-military operations
  - Population engagement
  - Building partner capacity
- Security force assistance
- Training
  - military, security
  - civilian, governance
- Logistical Support

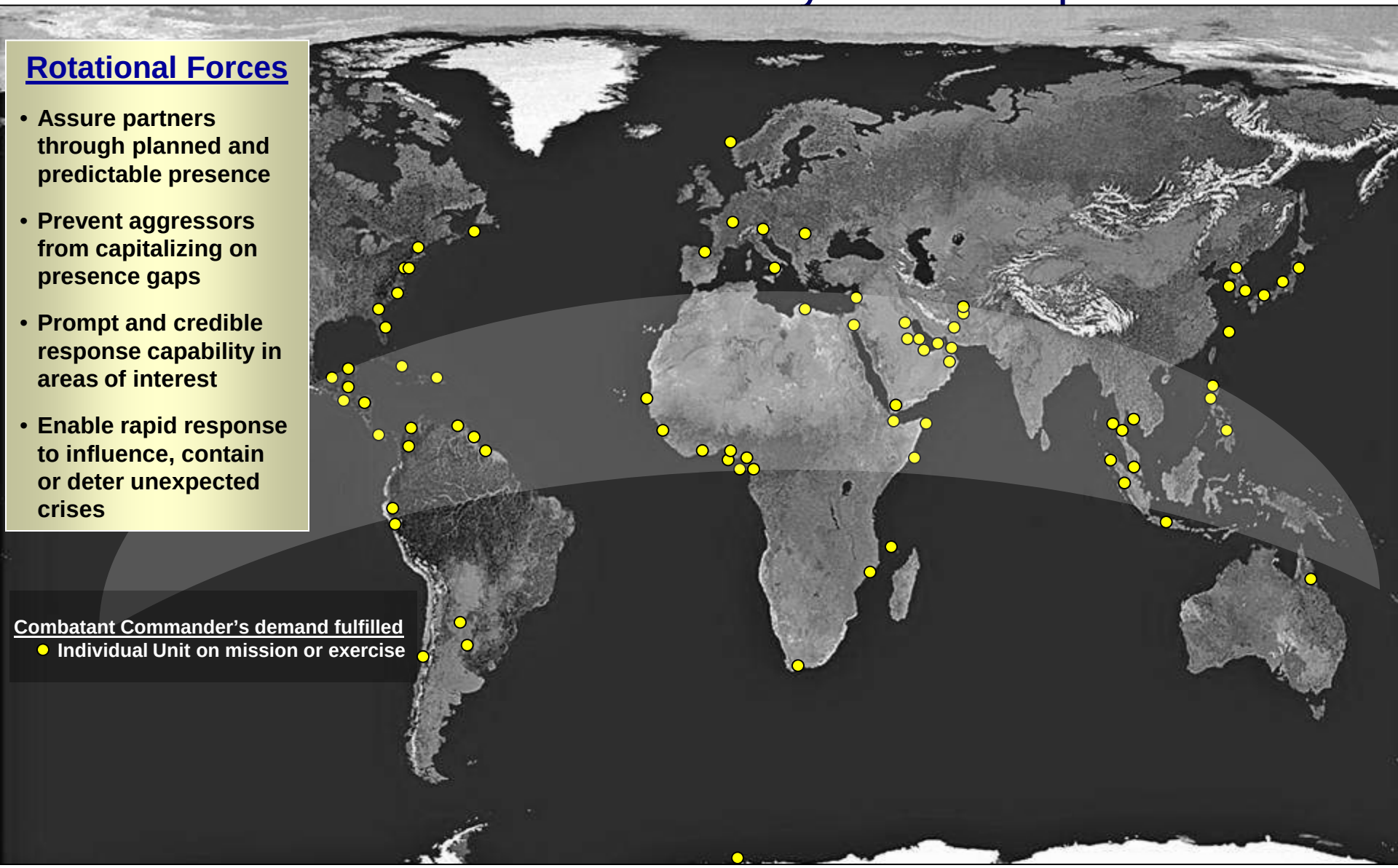
- Construction
- Littoral, harbor security
  - Maritime Infrastructure
  - Point defense
- Explosive Ordnance Disposal
- Diving and salvage
- Riverine capability

Cooperative Strategy for 21st Century Seapower

- Forward Presence
- Deterrence
- Sea control
- Power projection
- Maritime security (MDA, MIO, ISR)
- HA/DR
- *Global fleet station*
- *Cooperative relationships*

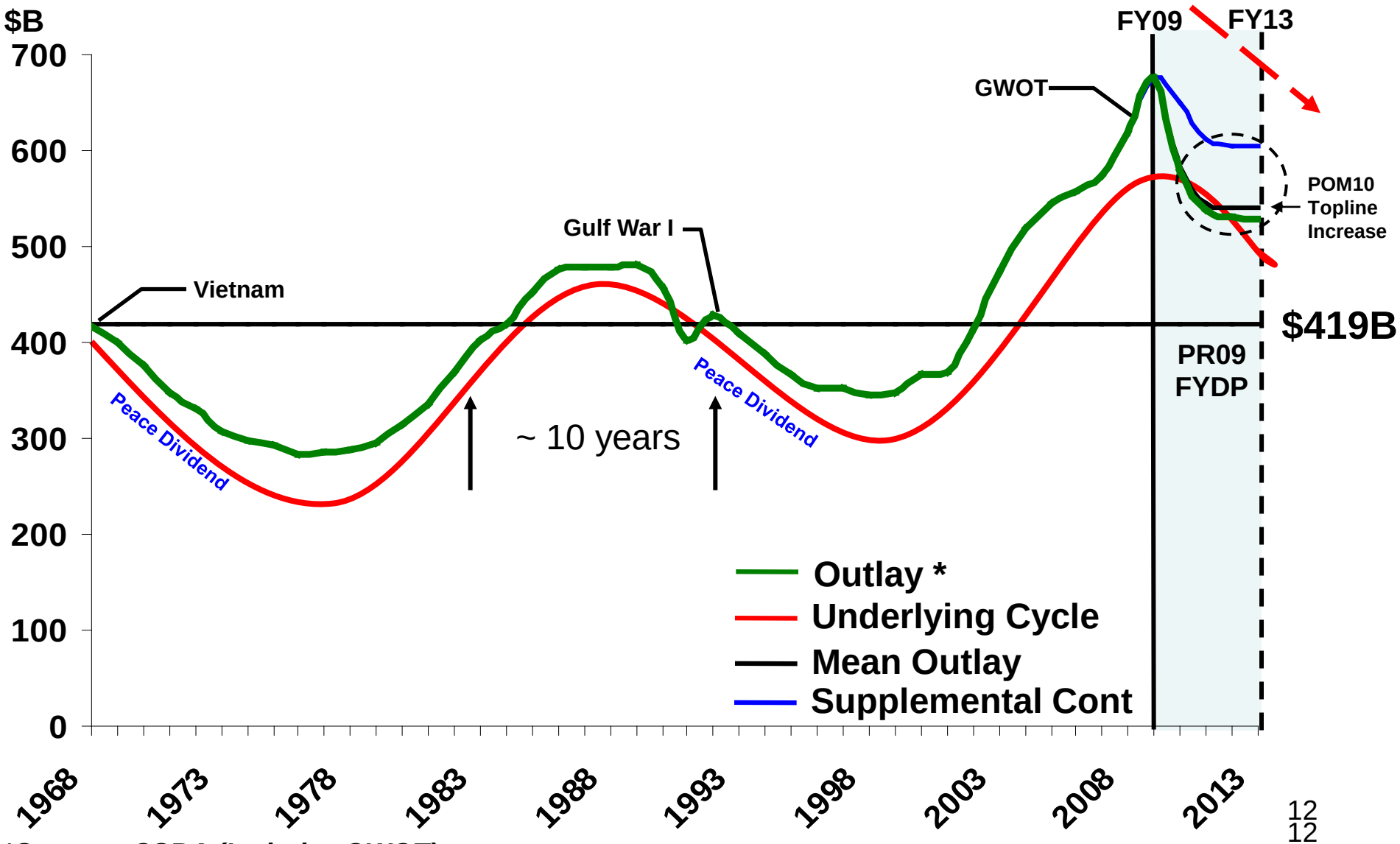
Engagement in the Littorals

Remaining forward and engaged
Where we are currently & recent past



NECC capabilities on mission meeting most critical Combatant Commander's demands

10-Year Cyclical DoD Outlays
$2009



Source: CSBA (Includes GWOT)

Points of Contact
Navy Expeditionary Combat Command

- **Primary POCs for Technology**
  - CDR Glenn Allen NECC N9
    - Glen.Allen@navy.mil
    - 757 462-4316 x 225
  - Mr. Jim Fowler, NECC Science Advisor
    - James.M.Fowler1@navy.mil
    - 757 462-4316 x 238
- **POC for NECC General Information**
  - CAPT Dave Balk
    - David.Balk@navy.mil
    - 757 462-4316 x 201

NECC Website:
http://www.necc.navy.mil

Facebook
http://www.facebook.com/pages/Virginia-Beach-VA/Navy-Expeditionary-CombatCommand/289548100631#/pages/Virginia-Beach-VA/Navy-Expeditionary-Combat-Command/289548100631?v=info

Twitter
http://twitter.com/COMNECC

N852
MINE WARFARE BRANCH

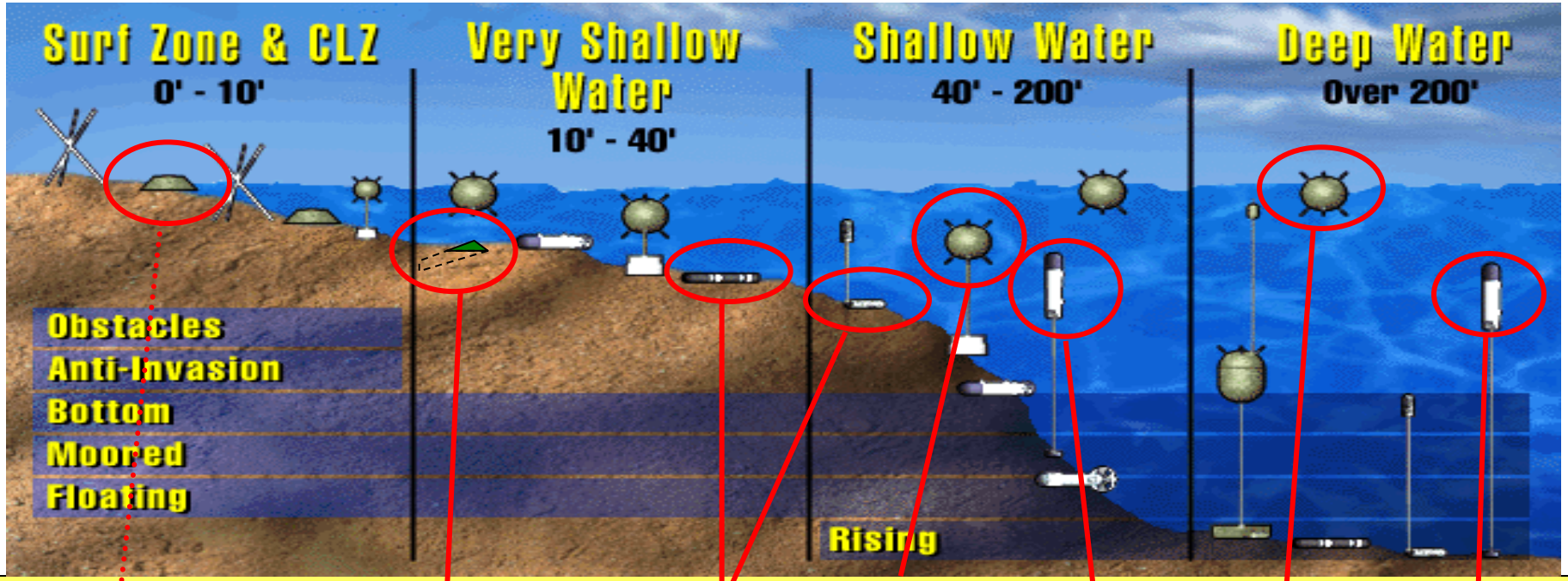
CAPT Mark Rios

Branch Head

Agenda

- Mine Threat to Access and Maneuver
- The Transition from Dedicated to LCS-based MCM
- MCM Mission Package Program Overview
- Near Future Challenges
- Summary

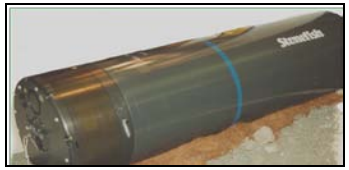
The Threat to Assured Access



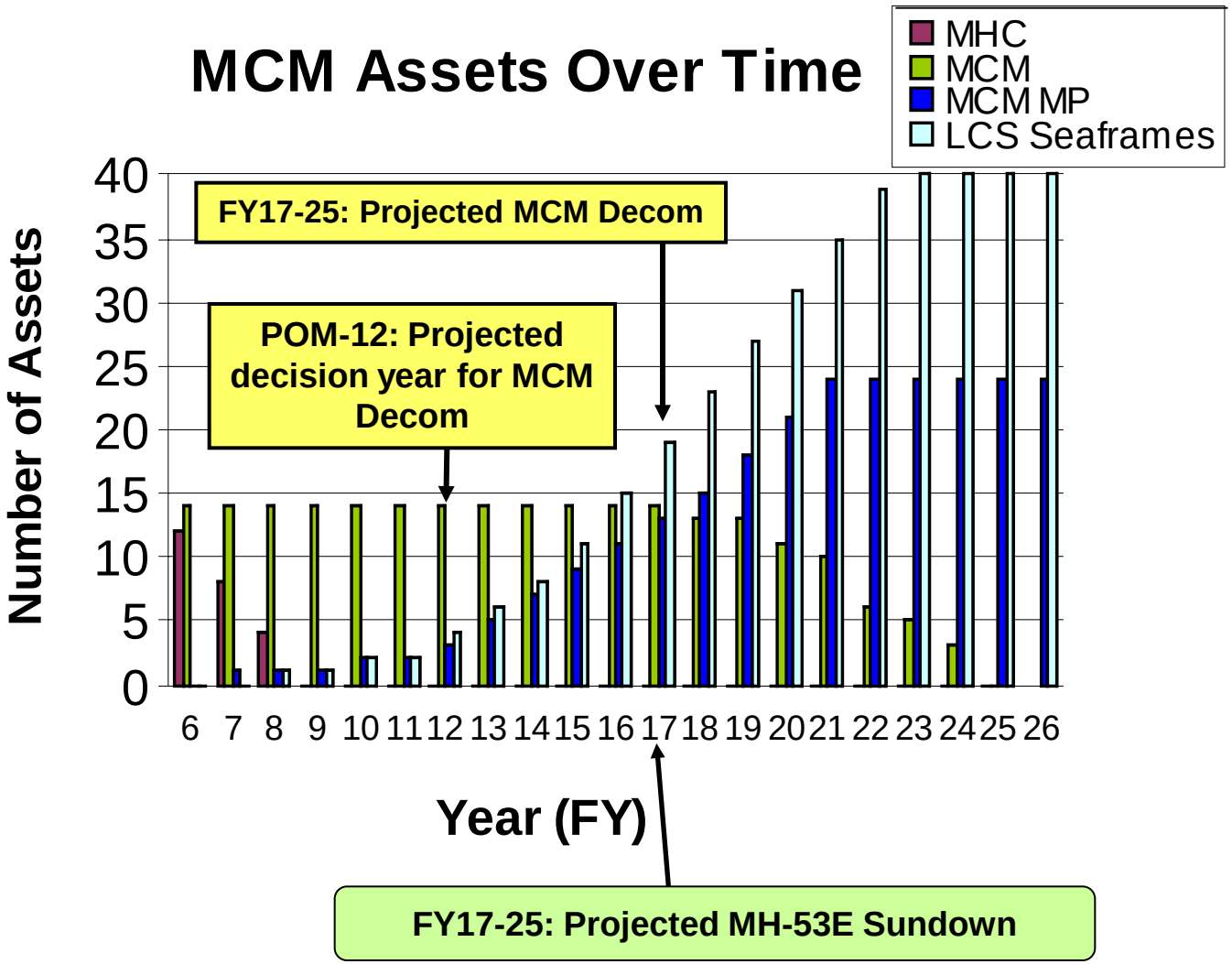
Anti-Invasion | Buried/Partially Buried | Bottom Influence | Moored Contact | Moored Influence | Floating Contact | Rising Influence

- The real goal of a minefield is Sea Denial, NOT the damage or destruction of a specific ship.
- The Sea is a maneuver area. Navy goal is to assure Access, support STOM/OMFTS, NOT counter every mine.

- Over 300 Mine Types
- Over 50 Countries Possess
- Low Cost but High effects
- Simple to Deploy
- Asymmetric 3



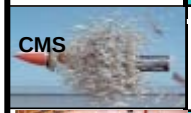
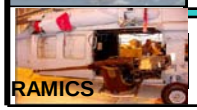
Transition to LCS-based MCM



Changes Since Last ExWar Conference

- New MIW systems installed in USS SENTRY
  - HF Wide Band Sonar successfully installed and tested in USS SENTRY
  - Expendable Mine Neutralization System (EMNS) installed also.
- COBRA Blk I Milestone C
  - Integrated in VTUAV
- Downselect of ABS Counter Mine System from 3 to 2 designs
- Tested RAMICS from a tower. Helo testing early next year.
- ALMNDS Contractor Testing
- ARVCOP, which is a part of ABS, successfully tested in AAV

MCM Package System Status

MCM Package Program	ACAT	Programmatics	Testing	Contractor	IOC
 AQS-20A	2	In Low Rate Initial Production	✓ TECHEVAL on MH-60S completed • OPEVAL w/ MH-60S Jun 10 – Aug 10	Raytheon	2011
 AMNS	2	In Low Rate Initial Production	✓ MS C Approval Jan 08 • DT Live Fire Ground Testing Jul 09	Raytheon	2011
 ALMDS	2	In Low Rate Initial Production	✓ Commenced WSIT CT on MH-60S Apr 08 • Commenced TECHEVAL 1st Qtr Fy11	Northrop Grumman	2012
 COBRA	3	Milestone C: Jan 09	✓ Started Performance Validation (MH-53E) • Integration flight tests on VTUAV Dec 09	Northrop Grumman	2012
 OASIS	2	Milestone C: 3QFY10	✓ Re-design PDR 12 Jun 08 • MH-53E OA 3rd Qtr FY10	ITT Corp	2013
 RMS	1C	In Low Rate Initial Production	✓ OP assessment completed on DDG-96 Sep 08 • Reliability Growth Program Ongoing	Lockheed Martin	2013
 US3	3	Milestone B: 4QFY11	✓ Sweep Gear integration test on USV Jul 08 • End to End US3/USV/MP test Oct 08	TBD	2015
 UUV LFBB	TBD	Milestone B: 2QFY10	• CDD pending N8 approval	TBD	2015
 CMS	3	Milestone C: FY14 Neutralizer final decision Fy12	✓ SD&D Contract awarded 24 Jul 08 • Preliminary Design ReviewOct2009	Boeing	2017
 RAMICS	2	Milestone C: 4QFY10	✓ MH-60 S Captive Carriage & Jettison Oct 08 • MH-605 Gun fire test 3rd QTR FY10	Northrop Grumman	2017

MCM Coverage in 2018

Minefield Detection and Neutralization

Assault Breaching System

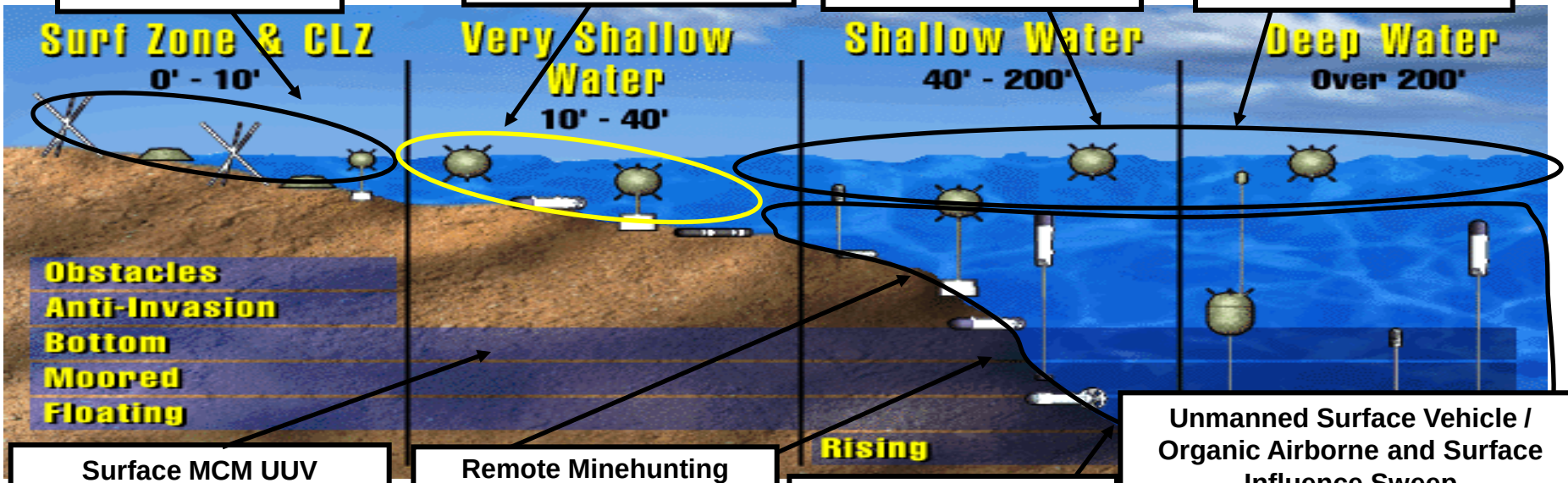
EOD Mobile Unit ONE

Laser (Hunt)

Airborne Laser Mine Detection System

Super-cavitating Projectiles (Kill)

Rapid Airborne Mine Clearance System



Surface MCM UUV and Low Frequency Broadband

Buried Mine Detection

Remote Minehunting System & MH-60S AN/AQS20A

Sonar (Hunt)

Airborne Mine Neutralization System

Propelled explosive charges (Kill)

Unmanned Surface Vehicle / Organic Airborne and Surface Influence Sweep

Magnetic Acoustic Influence Sweep

Near Future MCM Challenges

All of our programs face inherent challenges:

- **Sensor and Processing False Alarms**
  - ❖ High False Alarms mean longer PMA & higher False Classification by PMA Operator

- **LIDAR Performance**
  - ❖ Environmental compensations difficult – affected by surface effects and water turbidity

- **Computer Aided Detection(CAD)/Classification(CAC) Improvements**
  - ❖ Potential for real-time algorithms in the OAMCM Common Console
  - ❖ Fast and accurate CAD/CAC capability needed on OPMA

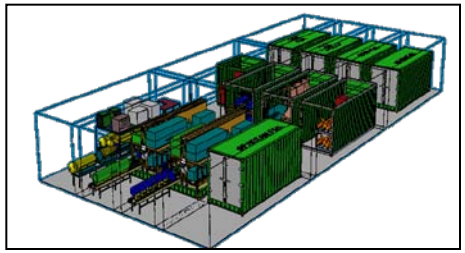
- **Reliability**
  - ❖ System Reliability needs to meet requirements
    - Operational Availability (Ao)
    - Mean Time Between Operational Mission Failure (MTBOMF)
  - ❖ All Subsystem Components (CSTRS, Common Console, Tow Cable, etc.) need improvement

- **Plan for Obsolescence**
  - ❖ Require modular, open architecture systems that are supportable long term

- **Opportunities for Industry:**
  - ❖ UUV power generation / endurance
  - ❖ Not just Unmanned Systems but…Fully Autonomous Systems
  - ❖ Info Sharing and Cueing between Unmanned Systems

Summary

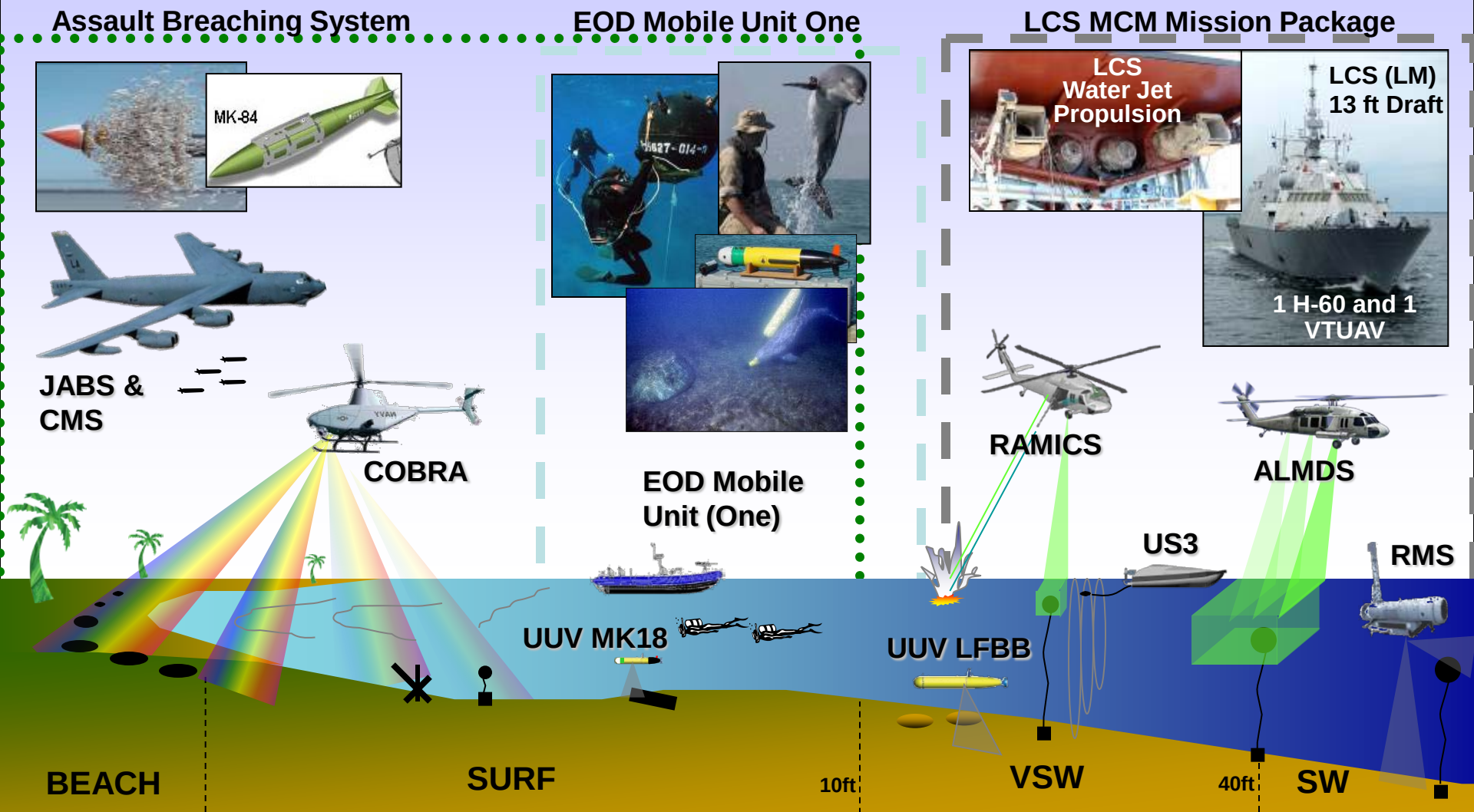
- The mine threat is real and not getting easier.
- The transition to LCS-based MCM is challenging.
- MCM Mission Package programs making steady progress and in the hands of Sailors now.
- Making wise investments to reduce false alarms, manpower demand, and improve reliability.
- Need solutions from Industry to meet system Initial Operational Capability of future systems.



BACK-UP

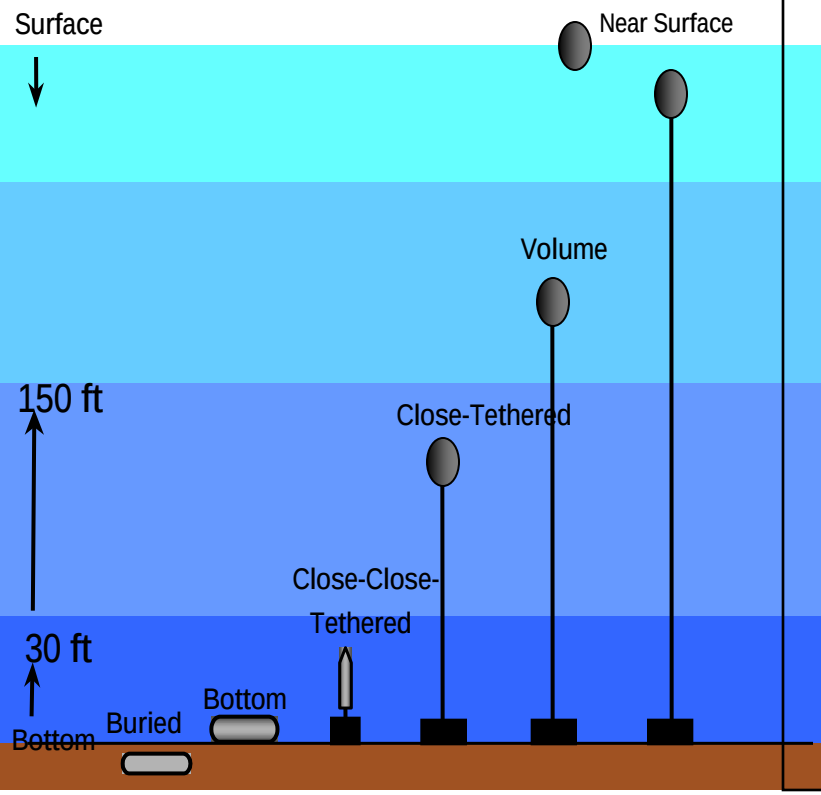
Shallow Water to Beach Zone

Developing Solutions to Support OMFTS and STOM



LCS MCM Mission Package
System Coverage

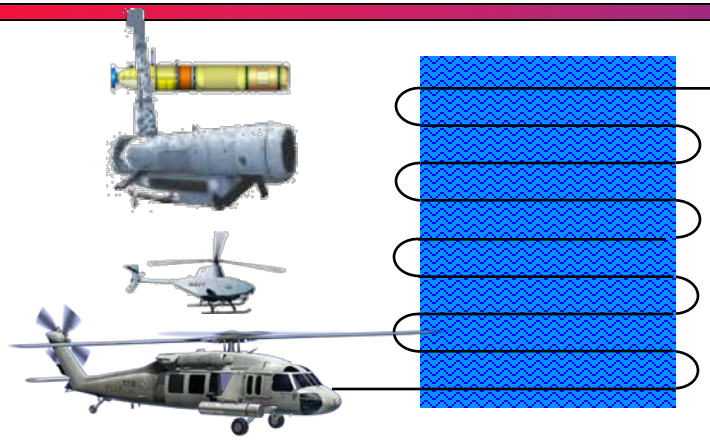
	Detect		Engage	
	Battlespace Preparation	Minehunting (Detect/Classify/ Identify)	Neutralize	Sweep
Beach Surf Zone	VTUAV+ COBRA	VTUAV+ COBRA	ABS, EOD Mobile Unit 1	
Near surface & floating		ALMDS	RAMICS	
Volume and bottom mines		AQS-20	AMNS	OASIS US3
		AQS-20	AMNS	OASIS US3
	SMCM UUV	AQS-20	AMNS	OASIS
Buried	LFBB			



* **NOTE : Depth Coverages Vary with System and Mine Type**

False Alarms Lengthen Kill Chain

Develop Search Mission Plan
- MEDAL
- MPS



MH-60S
-ALMDS
RMS
- AQS-20A
UUV LFBB
COBRA

Sortie Data Collection

False Alarms

Post Mission Analysis

False Classification

Contact List

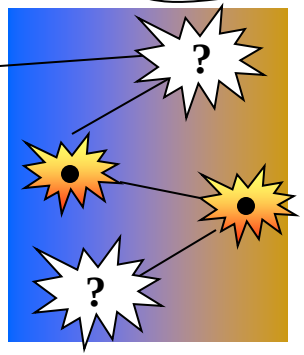
False Calls

Detection

Develop Neutralization Mission Plan

False Calls in Mission Plan

MH-60S
- AMNS
-RAMICS
ABS



NMLOs

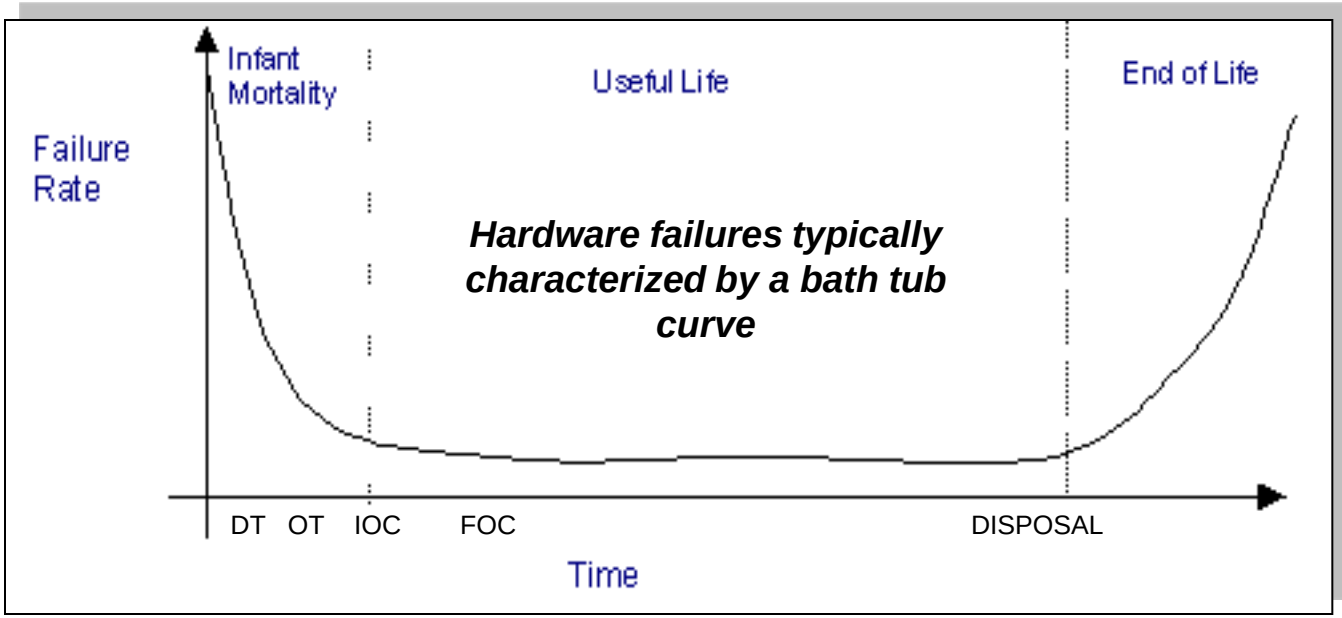
MH-60S
- OASIS
- US3

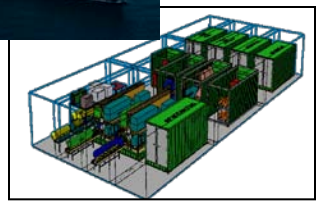
Neutralization → **Sweep**

Reliability

$$Ao = \frac{Uptime}{Uptime + Downtime} = \frac{MTBF}{MTBF + (MTTR + MLDT)}$$

Mean Time to Repair & Mean Logistics Delay Time:
Number of systems on LCS and O to D level maintenance philosophy





MCM Mission Package

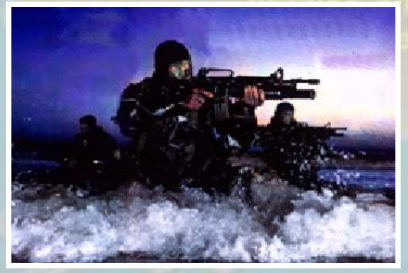
2 RMMV	1 AMNS
3 AQS-20A	1 US3
1 ALMDS	1 COBRA
1 OASIS	1 VTUAV
1 RAMICS	1 MH-60S

All MCO timelines are driven by required MTBF, so we must improve upon reliability to meet the requirements and increase useful life!

Balancing Resources in Support of Expeditionary Warfare in Complex Joint Operating Environments

RDML(s) Kevin D. Scott, USN
Acting Director, Expeditionary Warfare Division
(N85)

EXPEDITIONARY WARFARE DIVISION



NAVAL SPECIAL WARFARE

NECC

MINE WARFARE

AMPHIBIOUS WARFARE

Multinational

NAVY EXPEDITIONARY COMBAT COMMAND

JOINT SEABASING

Port and Airfield Afloat

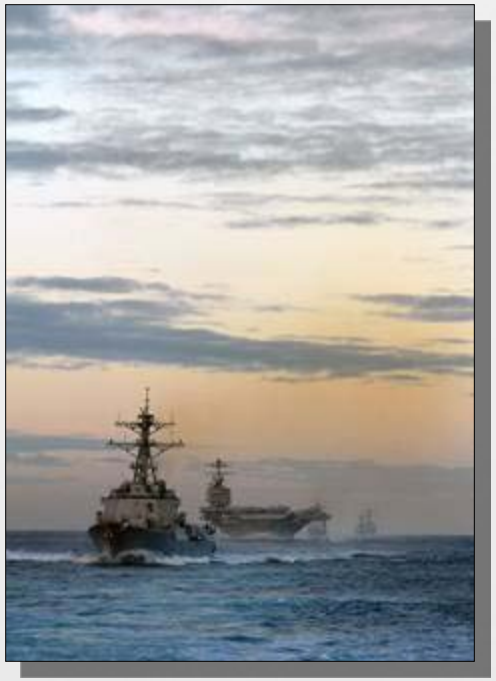
Joint Operations & Overcoming Anti-Access Challenges

(Geographic, Political, Threat-based)

UNCLASSIFIE

… SEABASING

We are the Nation's Expeditionary Force



Balanced Strategy

"My fundamental concern is that there is not commensurate institutional support - including in the Pentagon – for the capabilities needed to win today's wars and some of their likely successors."

"We must not be so preoccupied with preparing for future conventional and strategic conflicts that we neglect to provide all the capabilities necessary to fight and win conflicts such as those the U.S. is in today."

"DoD's conventional modernization programs seek a 99% solution over a period of years. Stability and counterinsurgency missions require 75% solutions over a period of months."

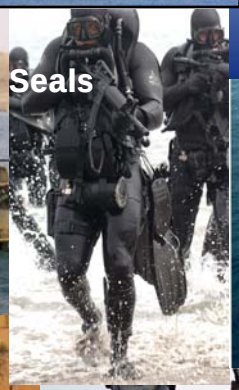
Robert M. Gates, *A Balanced Strategy: Reprogramming the Pentagon for a New Age, Foreign Affairs, Jan/Feb 2009*

Requirements and Resources

Organic Airborne and Surface Influence Sweep/USV Sweep

JHSV

Riverine Ops



Seals

LHA

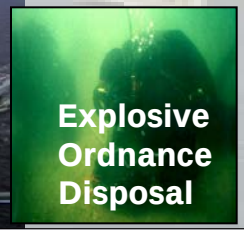
LHD

Remote Minehunting System – AN/AQS20A

Harbor Security

LPD

Rapid Airborne Mine Clearance System



Explosive Ordnance Disposal

LSD

Diving and Salvage

Engineering Construction

A flexible, balanced Expeditionary Force to meet warfare demands

Maritime Strategy… It's About Integration

***Executing the Maritime Strategy*:**

- Building Partnership Capacity
  - African Partnership Station
  - Pacific Partnership
  - Partnership for the Americas
- Humanitarian Relief / Disaster Response
  - Caribbean / New Orleans
- Maritime Security
  - Horn of Africa / 5th Fleet
  - Anti-Piracy
  - GFS / MIO / AT/FP
- Forward Deployed Naval Forces
  - ESGs/MEU/ARG/
  - OIF/OEF Deployments

“Expeditionary” Energy Roadmap

5 – yr	10 – yr	30 – yr
• LCAC Full Motion Trainers • Improved Environmental Control Units • Onboard Vehicle Power • Man-Portable Power Sources • Integrated Generator – Environmental Control	• Bio Fuels • Improved LCAC lift fan & props • Hybrid CESE • Improved LCAC gas turbines • Fuel cells • Alt energy sources for tent camps	• LCAC hybrid engines • Electric drive • LCAC lightweight hulls

SECNAV 5 Energy Goals

- **Change the way the Navy and Marine Corps award contracts during the acquisition process to consider the lifetime energy cost of the system**
- **By 2012, create a "Green Strike Group" composed of nuclear vessels and ships powered by biofuels and deploy that fleet by 2016**
- **By 2015, reduce petroleum use in its 50,000 commercial vehicle fleet by 50 percent by phasing in hybrid fuel and electric vehicles**
- **By 2020, produce at least half the shore-based energy requirements from renewable sources, such as solar, wind and ocean generated by the base**
- **By 2020, ensure at least 40 percent of the Navy's total energy consumption comes from alternative sources**

“In order to lower our reliance on fossil fuels, we need to improve the efficiencies of our systems and develop platforms that operate as a system of systems, are integrated together, and reduce our tactical vulnerability.” SECNAV Mabus, Naval Energy Forum, 14 Oct 09

Seabasing

An aggregation of capabilities, enabled by various maritime platforms based upon the need, that allows for flexibility.

Expeditionary Strike Groups

Connectors

Maritime Preposition Forces

Task organized forces to meet a Commander's requirements

Carrier Strike Groups

Combat Logistics Force Ships

Coalition Force & Sister Service Ships

… mission drives organization

Challenges

- ***Developing a Balanced and Flexible force to meet our Nation's challenges***
- ***Meeting requirements of Irregular Warfare***
- ***Implementation of new Aviation Operations (JSF and MV-22) on new platforms***
- ***Vehicle Square and Weight Issues***
- ***Integration issues with Commercial Off The Shelf (COTS) technology***

All of these challenges require:

- ***Innovative thinking***
  - ***Acquisition Agility***
  - ***Rapid Science & Technology Integration***
  - ***Requirements Development***

Questions?

http://www.navy.mil/n85/

Marine Corps Shipbuilding Requirements and MPS Enhancement Strategy

17 November 2009

Jim Strock
Director, Seabasing Integration Division
Capabilities Development Directorate
Marine Corps Combat Development Command
Quantico, Virginia 22134
703-784-6094
james.strock@usmc.mil

Agenda

- **Amphibious Ship Requirements and Inventory Levels**
- **Maritime Prepositioning Ships Enhancement Strategy**

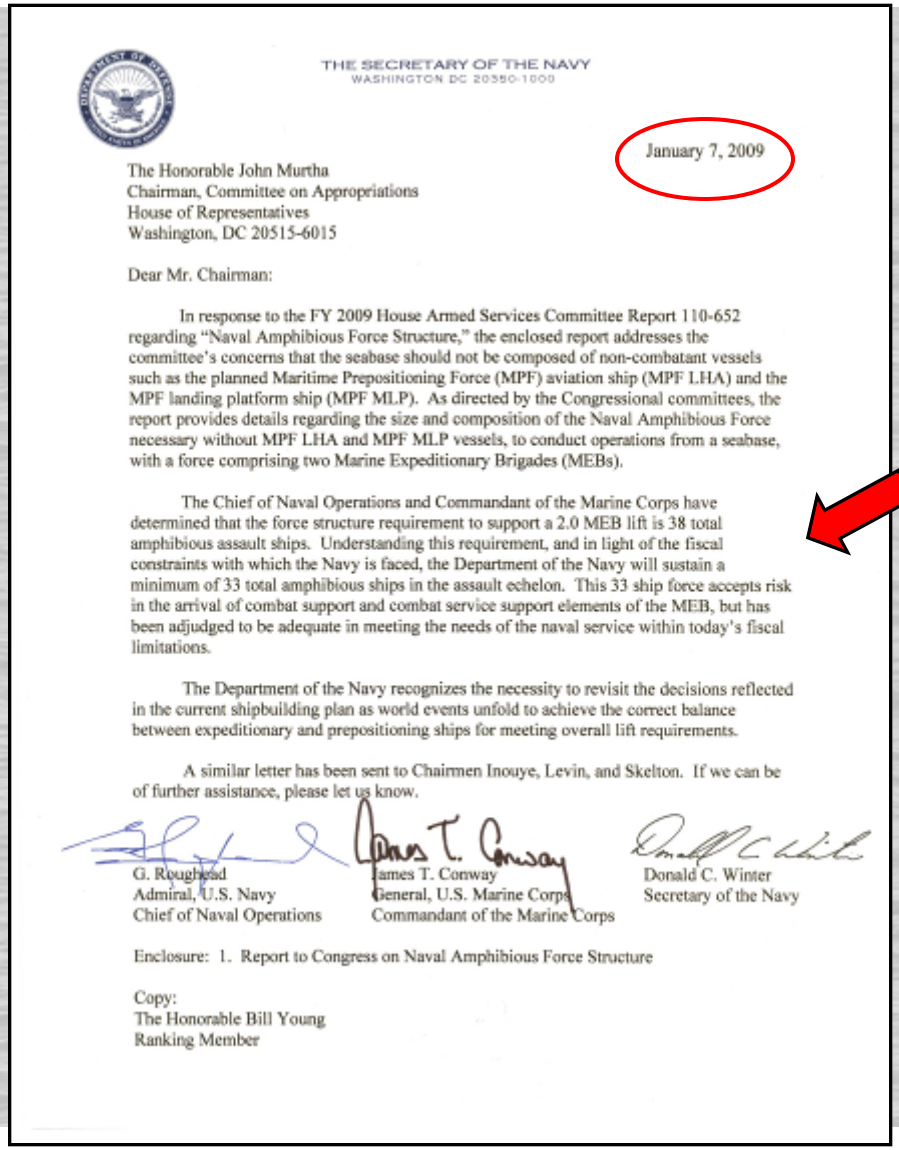
Key Points

Marine Corps Shipbuilding Requirements

- **Warfighting. Attain a minimum 38 ships to support forward presence and engagement, and generate 34 Ao for 2.0 MEB AE**
- **Stay the course with LPD-17 production. Designate LPD-17 hull form for LSD replacement.**
- **Return to Big Deck well deck in LHA-8**
  - **FY16 vs FY17 ship**
  - **Restore R&D funding now**
- **Achieve credible seabasing capabilities by enhancing legacy MPS squadrons**
  - **T-AKEs, LMSRs, MLP Lite, plus technology insertion**
  - **Restore R&D funding now**
- **NSFS. Carefully execute and monitor Analysis of Alternatives and assess all hull forms to meet NSFS requirements.**

Amphibious Assault Ship Requirements

- **7 Jan 09 SecNav, CNO, and CMC letter stated requirement for 38 amphibious ships fiscally constrained to an inventory minimum of 33**
- **33 inventory level accepts risk in MEB support elements**



THE SECRETARY OF THE NAVY
WASHINGTON DC 20350-1000

January 7, 2009

The Honorable John Murtha
Chairman, Committee on Appropriations
House of Representatives
Washington, DC 20515-6015

Dear Mr. Chairman:

In response to the FY 2009 House Armed Services Committee Report 110-652 regarding "Naval Amphibious Force Structure," the enclosed report addresses the committee's concerns that the seabase should not be composed of non-combatant vessels such as the planned Maritime Prepositioning Force (MPF) aviation ship (MPF LHA) and the MPF landing platform ship (MPF MLP). As directed by the Congressional committees, the report provides details regarding the size and composition of the Naval Amphibious Force necessary without MPF LHA and MPF MLP vessels, to conduct operations from a seabase, with a force comprising two Marine Expeditionary Brigades (MEBs).

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. Understanding this requirement, and in light of the fiscal constraints with which the Navy is faced, the Department of the Navy will sustain a minimum of 33 total amphibious ships in the assault echelon. This 33 ship force accepts risk in the arrival of combat support and combat service support elements of the MEB, but has been adjudged to be adequate in meeting the needs of the naval service within today's fiscal limitations.

The Department of the Navy recognizes the necessity to revisit the decisions reflected in the current shipbuilding plan as world events unfold to achieve the correct balance between expeditionary and prepositioning ships for meeting overall lift requirements.

A similar letter has been sent to Chairmen Inouye, Levin, and Skelton. If we can be of further assistance, please let us know.

G. Roughead
Admiral, U.S. Navy
Chief of Naval Operations

James T. Conway
General, U.S. Marine Corps
Commandant of the Marine Corps

Donald C. Winter
Secretary of the Navy

Enclosure: 1. Report to Congress on Naval Amphibious Force Structure

Copy:
The Honorable Bill Young
Ranking Member

Assault Echelon Shipping
31 ships in commission as of 9 Nov 09

LHA / LHD (Amphibious Assault Ship)

Hull	Ship	Location
LHA 4	USS Nassau	Norfolk, VA
LHA 5	USS Peleliu	San Diego, CA
LHD 1	USS Wasp	Norfolk, VA
LHD 2	USS Essex	Sasebo, Japan
LHD 3	USS Kearsarge	Norfolk, VA
LHD 4	USS Boxer	San Diego, CA
LHD 5	USS Bataan	Norfolk, VA
LHD 6	USS BHR	San Diego, CA
LHD 7	USS Iwo Jima	Norfolk, VA
LHD 8	USS Makin Island	San Diego, CA

LPD 4 (Amphibious Transport Dock)

Hull	Ship	Location
LPD 7	USS Cleveland	San Diego, CA
LPD 8	USS Dubuque	San Diego, CA
LPD 9	USS Denver	Sasebo, Japan
LPD 15	USS Ponce	Norfolk, VA

LPD 17 (Amphibious Transport Dock)

Hull	Ship	Location
LPD 17	USS San Antonio	Norfolk, VA
LPD 18	USS New Orleans	San Diego, CA
LPD 19	USS Mesa Verde	Norfolk, VA
LPD 20	USS Green Bay	San Diego, VA
LPD 21	USS New York	Norfolk, VA

LSD 41/49 (Dock Landing Ship)

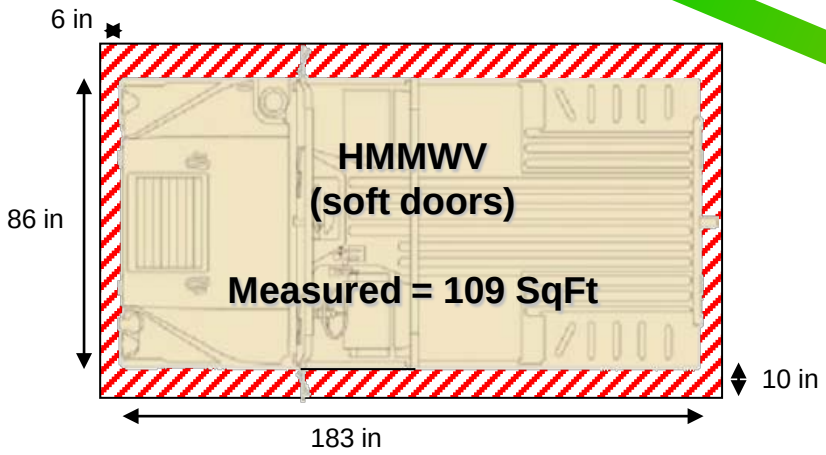
Hull	Ship	Location
LSD 41	USS Whidbey Island	Little Creek, VA
LSD 42	USS Germantown	San Diego, CA
LSD 43	USS Fort McHenry	Little Creek, VA
LSD 44	USS Gunston Hall	Little Creek, VA
LSD 45	USS Comstock	San Diego, CA
LSD 46	USS Tortuga	Sasebo, Japan
LSD 47	USS Rushmore	San Diego, CA
LSD 48	USS Ashland	Little Creek, VA
LSD 49	USS Harpers Ferry	Sasebo, Japan
LSD 50	USS Carter Hall	Little Creek, VA
LSD 51	USS Oak Hill	Little Creek, VA
LSD 52	USS Pearl Harbor	San Diego, CA

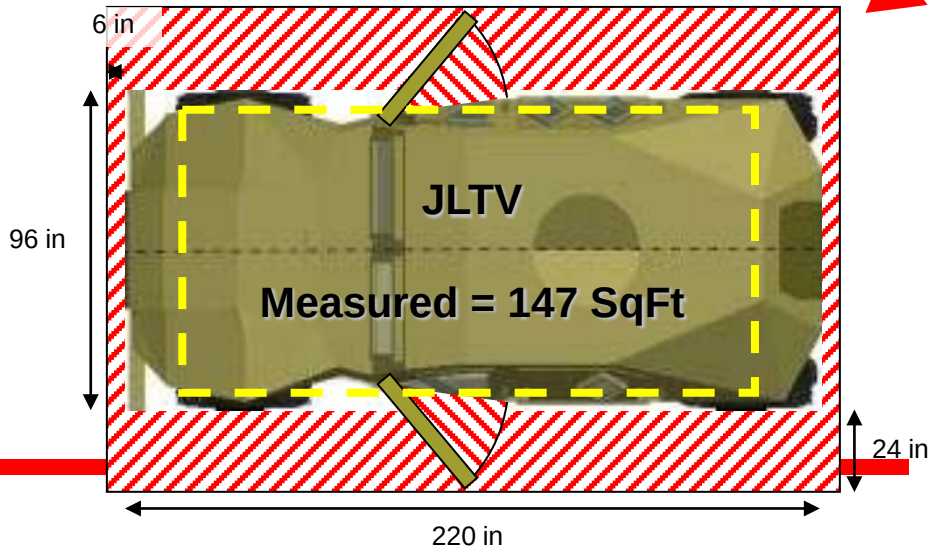
HMMWV to JLTV

30%

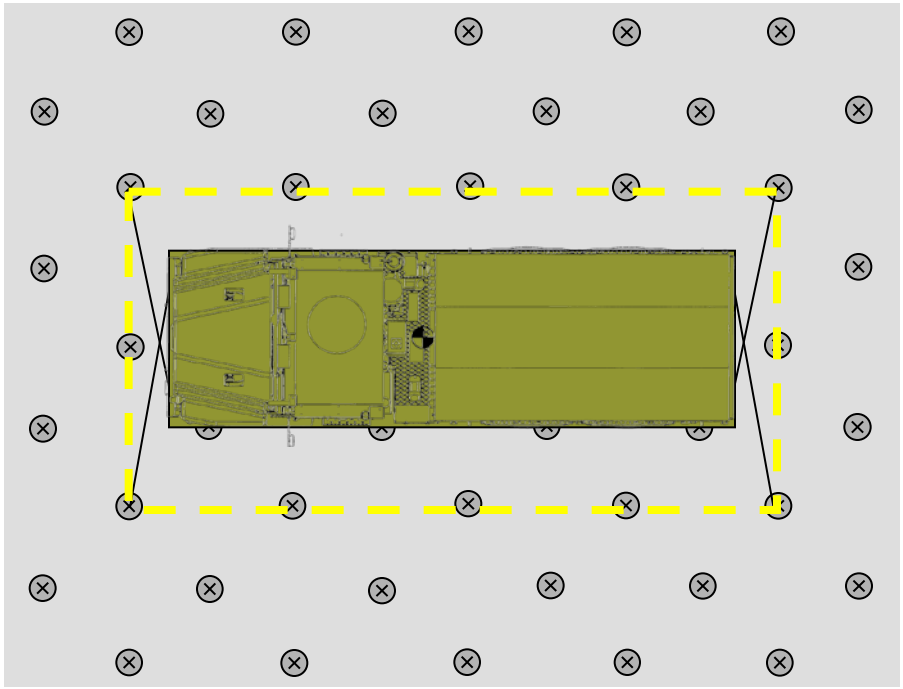
BROKEN STOWAGE FACTOR

??%

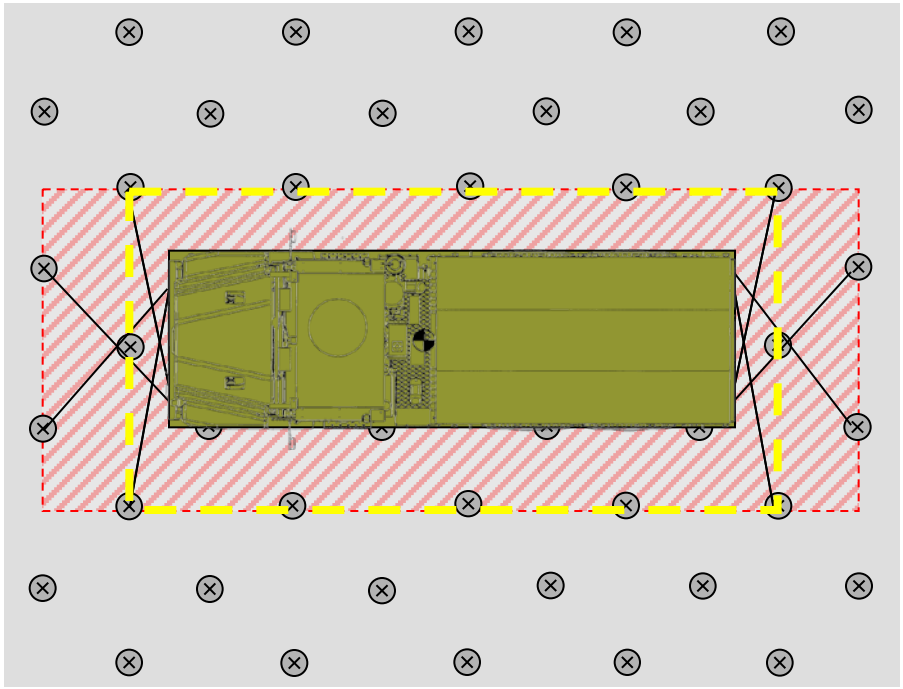




Additional Lashings



MTVR at 39,000 lbs
(unarmored cab with mobile load)
Requires 4 tie-down points



MTVR at 48,000 lbs
(armored cab with mobile load)
Requires 8 tie-down points

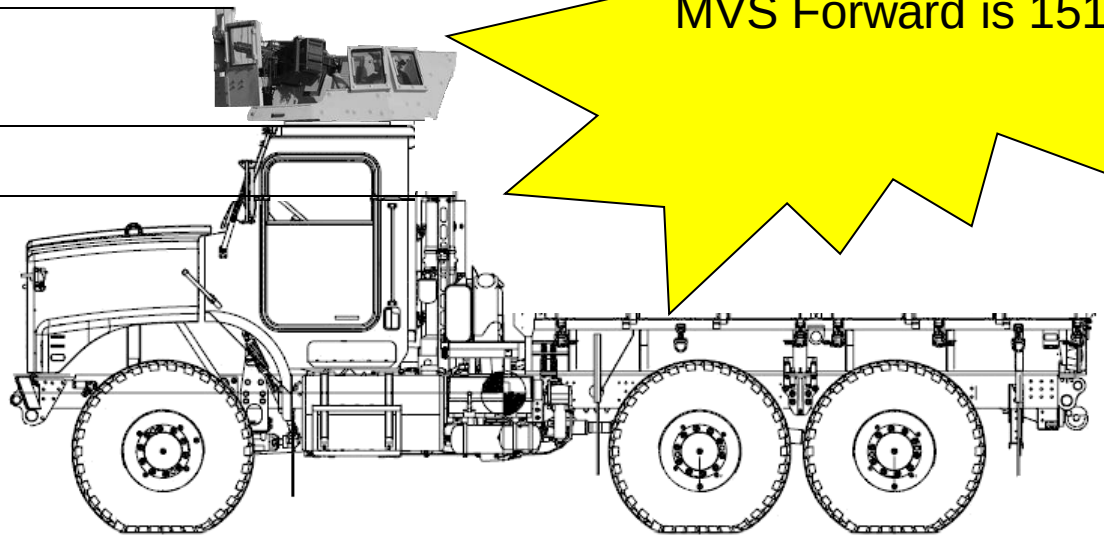
MTVR Stowage in LPD 17
Main Vehicle Stow

Maximum stowage in MVS Forward is 151”

164”

127”

101”



Armor/Protection

Significant Impact on Vehicle Height & Ship Stowage Location

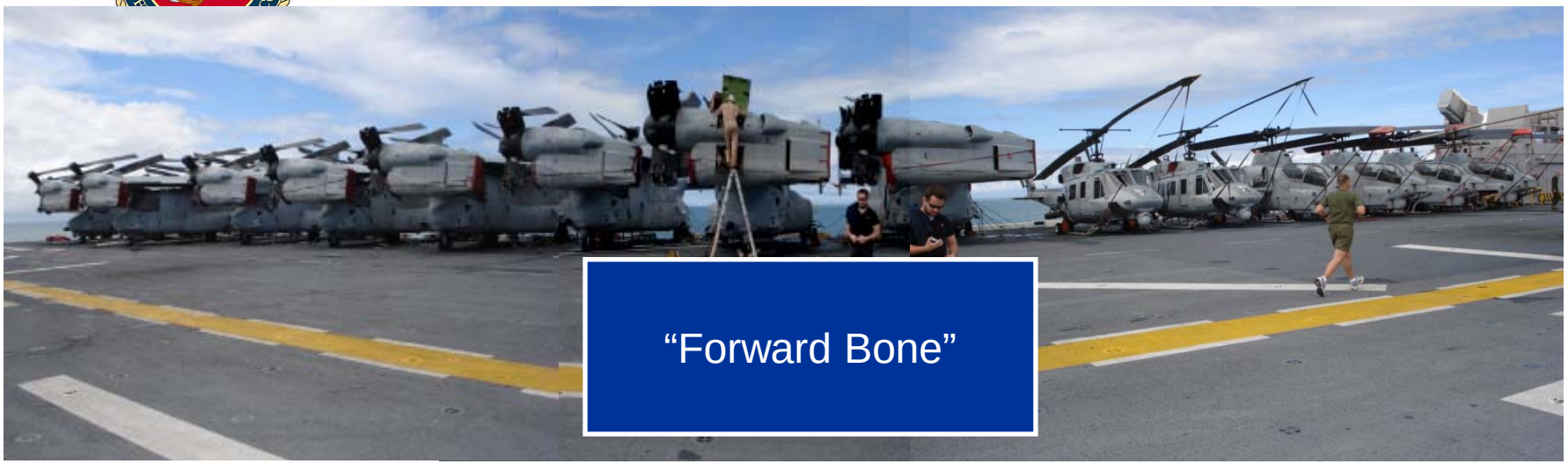
Depending on which variant of armored gun mount is added, there is a height increase of 20 to 30 inches per vehicle

Mobile Loads

Extended Bed MTVRs

Short Bed MTVRs

Aviation



Aviation

LHD 5 Hangar Bay

All this and four aircraft

Engineer Equipment

TRAM

- New TAMCN B0063 replaces B2567
- Addition of armor to the cab one key difference

Engineer Equipment

- Various contributors to increases in dimensional data, e.g. spare tire strapped to roof of the TRAM
- Techniques such as this are common practice

Agenda

- **Amphibious Ship Requirements and Inventory Levels**
- **Maritime Prepositioning Ships Enhancement Strategy**

Current MPS Configuration

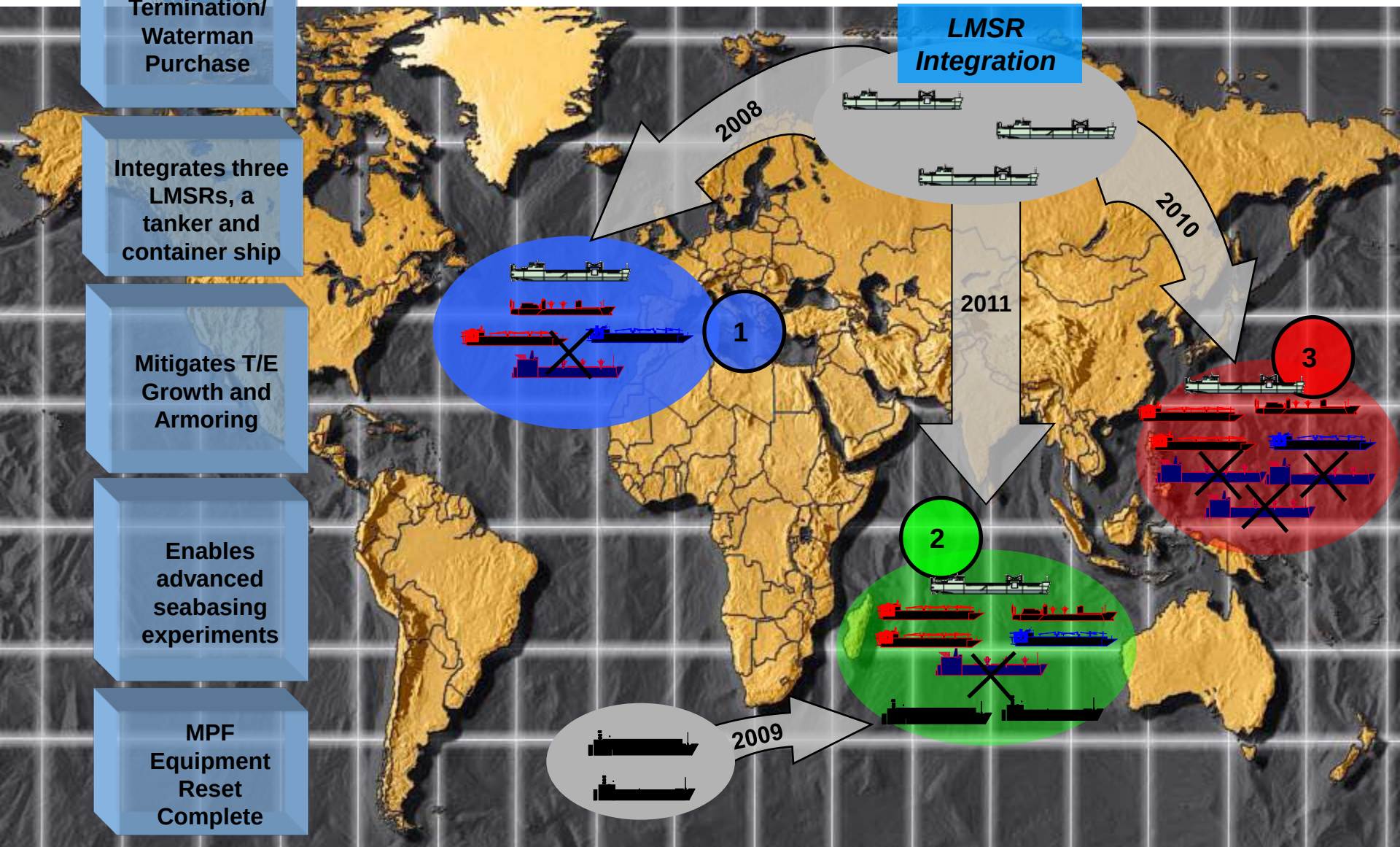
Maersk Termination/ Waterman Purchase

Integrates three LMSRs, a tanker and container ship

Mitigates T/E Growth and Armoring

Enables advanced seabasing experiments

MPF Equipment Reset Complete



Maritime Prepositioning Ships Enhancement Strategy

- **MPS today**
  - **Dense packed**
  - **Integrated with Amphibs during JFEO**
  - **Requires pier facilities to offload**
  - **Offload optimized for conventional conflict**
  - **Optimized for high-end threat**
  - **Limited Employment Options**
  - **Limited scalability optimized for MCO**

- **MPS tomorrow**
  - **Selective offload**
  - **Integrated into routine, steady state operations**
  - **In-stream offload**
  - **Loaded and configured with enablers to address hybrid threats across ROMO**
  - **Multiple Employment Options**
  - **Loaded and configured with enablers to address hybrid threats across ROMO**
  - **Selective offload**
  - **Integrated into routine, steady state operations**

MPS Enhancement Strategy

- **Roll-on roll-off cargo ships, coupled with mobile landing platforms, provide key enabling capabilities to fully leverage existing MPS capabilities**
  - **Selective offload**
    - **Increased ship stowage capacity allows for reconfigured loads across MPSRON for selective offload**
  - **In-stream offload of Large, Medium Speed RO/RO (LMSR) with Mobile Landing Platform (MLP Lite)**
  - **Increased connector lift capacity with MLP Lite**
  - **Increased ship-to-shore throughput**

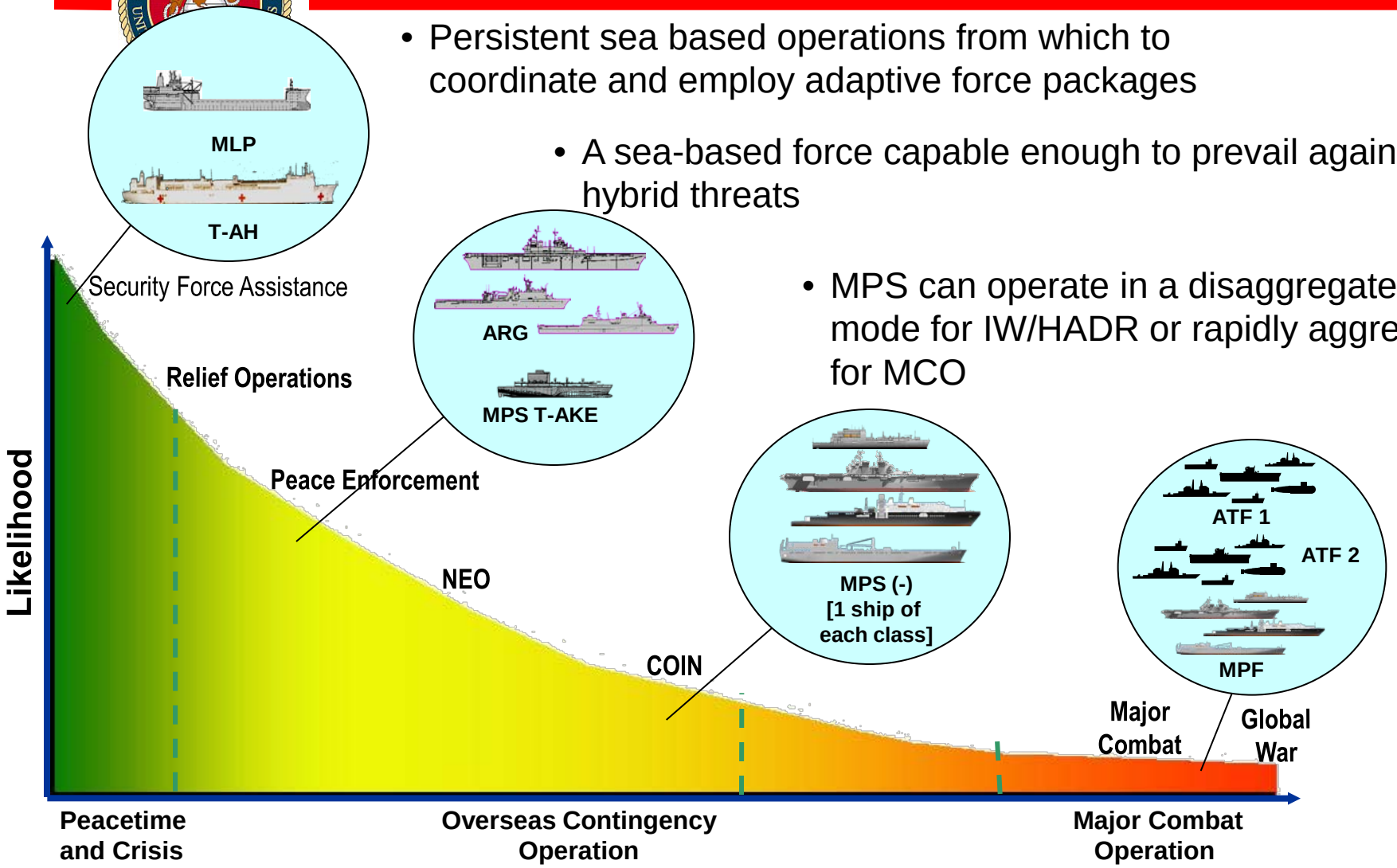
T-AKE

LMSR

Notional MLP Lite

MPS Employment Options

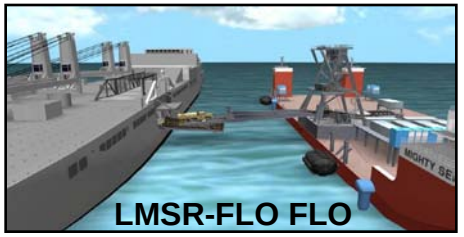
- Persistent sea based operations from which to coordinate and employ adaptive force packages
  - A sea-based force capable enough to prevail against hybrid threats
- MPS can operate in a disaggregated mode for IW/HADR or rapidly aggregate for MCO



Responsive and Tailorable across the full Range of Military Operations

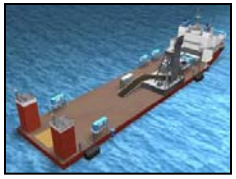
MPS Enhancement Strategy

- Enhance legacy MPS squadrons to improve capabilities and inform MPF(F) development over long term
- CONOPS
  - Modular employment options
  - Steady state amphibious and MPS integration
- Technology insertion
  - JHSV Sea State 3 Ramp Upgrade
  - Pendulation control mod to existing LMSR cranes
  - LCAC integration with Roll-on/Roll-off discharge facility (RRDF)
- Platforms
  - Alaska Class Heavy Lift Ship “MLP Lite”
  - LMSR
  - T-AKE



MPS Enhancements and Concepts

Designed to illuminate MPF(F) capabilities over the long term

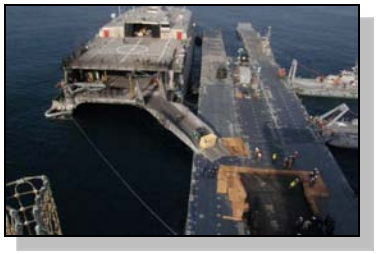


Flo-Flo Testing and Demonstration

– Continue at-sea vehicle/equipment transfer and surface interface operations between MPS ships and surrogate Mobile Landing Platform vessels

Joint High Speed Vessel Ramp Upgrade

– Enhance current JHSV ramp design to sea state 3 interface with MPS organic Improved Navy Lighterage System's Roll-on/Roll-off Discharge Facility



Pendulation Control Mod to Existing Cranes

– Enhance MPF LMSR cranes to operate in sea state 3.

Roll-on/Roll-off Discharge Facility (RRDF)

- Enable MPS RRDF interoperability with LCACs

-- Plus --

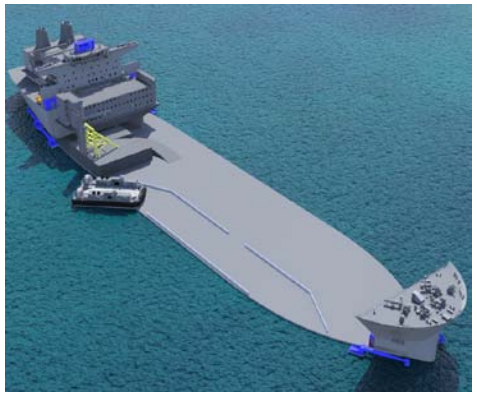
Existing STOCKHAM Modifications

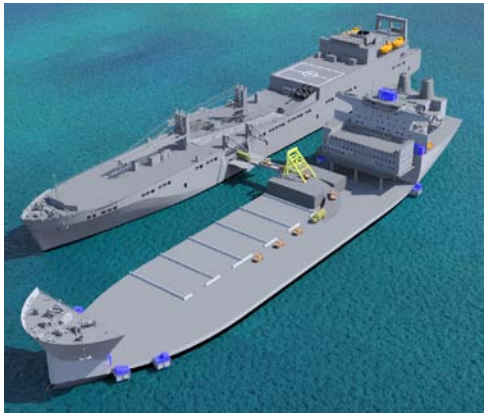
– Enhanced command and control, aviation, and berthing capabilities on Maritime Prepositioning Ships ISO SSSP, IW, presence missions

Increased speed, flexibility & versatility for in-stream offloads (no port)
But still requires secure airfield and staging area ashore for MAGTF employment

Proposed MLP Lite

- Allows access to LMSR vehicles when ports are not available or the threat precludes pier side off-load
- Provides improved capability for at-sea selective offload of vehicles and equipment compared to today's lighterage offload systems





T-AKE

- **Convert selected MPSRON containerized supplies/equipment to pallet/QUADCON level and load aboard T-AKE's**
- **Gain immediate selective offload capabilities across wide range of MPS sustainment stocks**
- **Sustain MEB size unit for 1 month**
  - **Acting as a station ship for shuttle ships could support MEB indefinitely**

LMSR

- **The addition of the three LMSRs to today's MPSRON fleet will provide a net increase of over 400,000 square feet, or 18% Facilitates reconfigured loads across MPSRON and enables selective offload of selected items**
- **Combined with MLP, LMSR provides for accelerated in-stream vehicle and equipment offload rates**

What's the Improvement from Today's MPS?

Near Term:

- Flo-Flo testing & demonstration
- Joint High-Speed Vessel ramp upgrades to sea state 3
- Sea state 3 cargo handling via Pendulation Control System (PCS) crane technology
- Roll-on/Roll-off Discharge Facility (RRDF) interoperability with JHSV and LCAC
- Enhanced command and control, aviation, and berthing via existing USNS STOCKHAM LMSR mods
- T-AKE sustainment selective offload
- Afloat and land-based prepositioned load-out configurations to better support IW missions

Mid Term: In addition to near term MPS improvements, overall enhancements in…

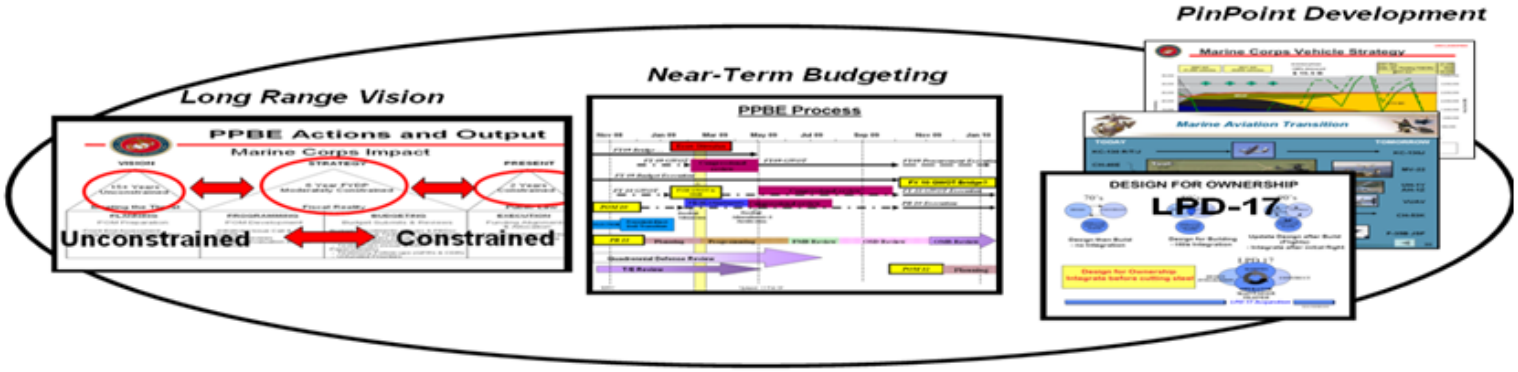
- Flo-Flo sea state 4 at-sea arrival and assembly and vehicle & equipment transfer
- Aviation operations across Flo-Flo, LMSR, T-AKE
- Selective offload & sustainment across T-AKE & LMSR
- Vertical and surface maneuver from the seabase
- C2
- Medical
- Berthing

Long Term:

- MPS recapitalization into MPF(F)

Discipline the Process

Today's Linear Formula ≠ **Integrated Solutions**



Tomorrow's Holistic Approach: *Analytically Defendable and Creditable Solutions*

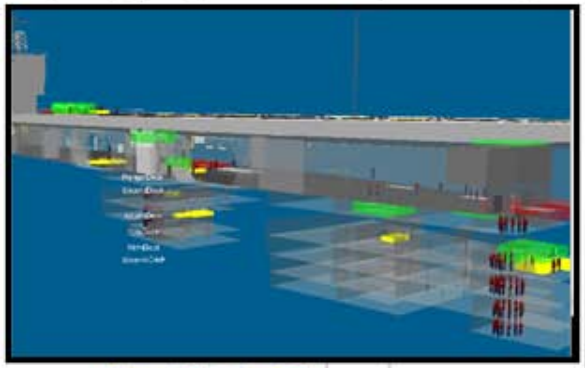
Multi-Path Integration → **Through MSIC** = **Integrated Solutions**

Right Platforms; Right Transition; Right Cost

Integrating M&S for MAGTF-Ship Integration

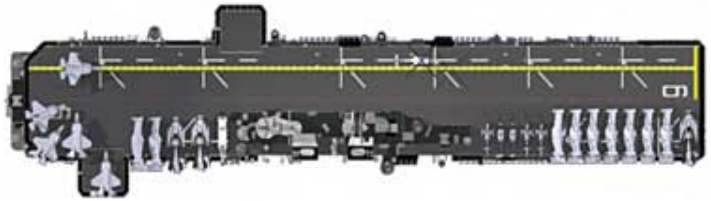
I

MAGTF Maintenance & Supply Model (M^2SM)



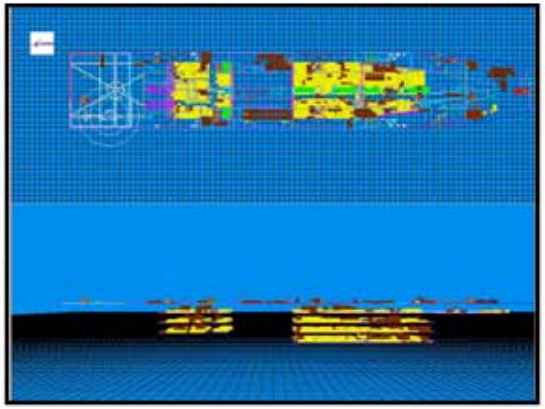
II

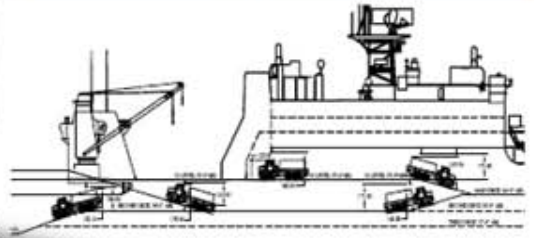
Flight Deck Model (FDM)



III

Surface Interface Integration Model (SIIM)

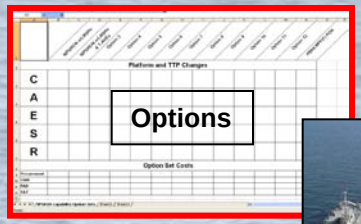


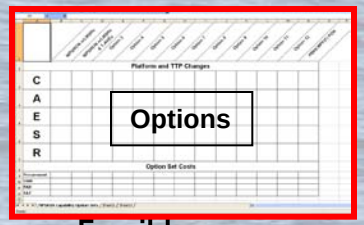


MSIC

MAGTF-Ship Integration Center

Endstate: Improved Naval Expeditionary Capabilities





Seabasing Integration Division
Points Of Contact

ROW WELL…AND LIVE!

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    - Comm: 703-784-6094
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    - robert.a.fitzgerald2@usmc.mil
    - Comm: 703-432-8180

Questions
--
Discussion

N851
NAVAL SPECIAL WARFARE BRANCH

Captain Bob Wilson

Branch Head

N851 – Primary Responsibilities

- **Resource sponsor for:**
  - Naval Special Warfare (NSW) service common requirements. (FY10 ~$22.5M)
  - Navy Riverine Force. (FY10 ~$18.2M)

- **Senior NSW advocate/advisor on the staff of the CNO.**

  - NSW Urgent Operational Need (UON)/SOF - related Joint Urgent Operational Need (JUON) advocate.
  - Advisor in support of N81 analyses and studies that include or support NSW/SOF equities.

- **OPNAV coordinator/advocate for Navy programs that support/involve NSW/ExW. Examples include:**
  - Scan Eagle Unmanned Aircraft System (in support of NSW and USCENTCOM).
  - Small Tactical Unmanned Aircraft System (STUAS).
  - Special Operations Force (SOF) support attributes of future Navy ships.
  - Navy policy for Premeditated Personnel Parachuting (P3) operations.
  - “Naval Solution for Visit, Board, Search and Seizure (VBSS).”
  - Navy rotary wing support to SOF (transitioned to N3N5 Irregular Warfare Office).

- **Represent Commander, NSW Command, as directed, in the National Capital Region.**

N851 - Top Programs

- **Naval Special Warfare (NSW)**
  - Provide procurement and sustainment resources for service common capabilities, to include:
    - Small Arms & Weapons Mounts
    - Tactical Communications Equipment
    - Night Vision Equipment
    - Training Support Craft
    - Operational Stocks
    - Planning & Management Support Systems

- **Riverine Activities Program**
  - Provide procurement resources for initial outfitting, capability improvements and phased replacement for Riverine Group ONE and component Riverine Squadrons ONE, TWO and THREE.
  - Achieve Full Operational Capability (FOC) by FY 2010 (with exceptions).
  - Support establishment of a “Fourth Riverine Squadron.”

- **Unmanned Aircraft Systems (STUAS) for L-Class ships, NSW and NECC**
  - Representing N85 equities (NSW, NECC and L-Class ships) in this N2N6 - resourced program.
  - Expeditionary Forces require STUAS Tier II vice STUAS – Lite.

- **Procurement/sustainment of Scan Eagle Unmanned Aircraft Systems ISO SOF**
  - Requested by NAVSPECWARCOM, via UONS, and USCENTCOM, via JUONS for OIF and OEF.
  - Capabilities provided by the JUON employed under custody of NAVSPECWARCOM.
  - N851 coordinates execution with NAVAIR program office, Task Force ISR, Naval Special Warfare Command, Special Operations Command Central and other involved/interested parties.

Naval Special Warfare

Capability Description

- **Naval Special Warfare (NSW) forces conduct special operations in support of Joint Force and Navy commanders. Examples include, but aren't limited to:**
  - *Direct Action*
  - *Special Reconnaissance*
  - *Foreign Internal Defense*
  - *Counter-terrorist Operations*
- **NSW Forces have been deployed to OEF since 2001 and OIF since 2003.**
- **Navy is responsible for providing resources to support NSW ***service common*** capabilities/sustainment.**
- **Categorization: Navy - only program (*SOCOM interest*)**
  - *N85 - Principal resource sponsor; responsible for (most) NSW service common procurements/sustainment (OMN, OPN, WPN). [N6F was responsible for resourcing NSW service common portable radios (OPN); resources now in N85.]*
  - *N86 - Responsible for resourcing NSW service common Chemical, Biological, Radiological Decontamination Equipment (CBRDE) and Small Tactical Unmanned Aircraft System (STUAS) capabilities (OMN, OPN, APN).*

USSOCOM - Resource sponsor for all ***Special Operations peculiar*** capabilities/sustainment, capability improvements and all NSW ammunition.

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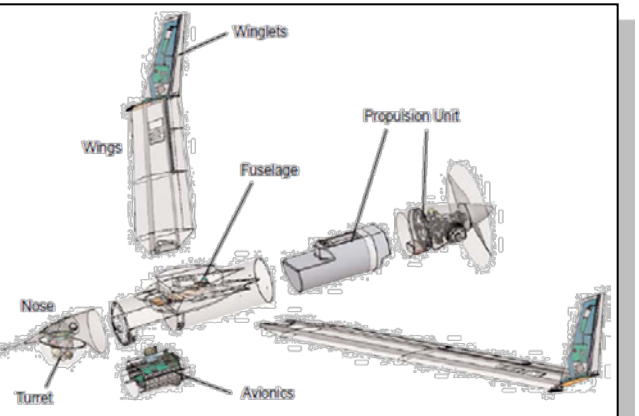
NSW Scan Eagle UAS

Mission: **Procured in response to NSW and Joint SOF Urgent Needs, the Scan Eagle UAS is provides Full-motion Video (FMV) intelligence, surveillance, reconnaissance, and targeting support to tactical users.**

- **Operational Employment:**
  - 9 Navy-owned systems
    - 6 x Operational, 2 x training, 1 x Op Spare
  - Hub & Spoke Operations (300 hrs/month)
    - Spoke (Forward Control Station) ~100km
- **Equipment:**
  - Scan Eagle UAS (12 air vehicles per site)
  - Ground Control Stations, Launch/ Recovery, Pack-up & Maintenance kits, Ops/Maintenance Shelters
- **Operational Overview**
  - **IOC:** Nov 08 (OIF), Aug 09 (OEF)
  - **OIF (as of 30 Sep 09):**
    - Sorties: 346
    - Total Flight Hrs: 1847 hrs
  - **OEF (as of 30 Sep 09)**
    - Sorties: 58
    - Total Flight Hrs: 450 hrs
- **Rapid Development Deployment (RDD) – Special Payload Efforts**

Performance		
Max Level Speed	70 knots	36 m/s
Cruise Speed	49 knots	25 m/s
Service Ceiling	16,400 ft	5000 m
Endurance	15 hours	15 hours
Dimensions		
Wing Span	10.2 ft	3.1 m
Fuselage Diameter	7.0 in	0.2 m
Length	3.9 ft	1.2 m



Scan Eagle UAS is an interim capability until fielding of STUAS Program of Record ~4Q FY13

Riverine Activities

Capability Description

- **Operational Riverine Force components (Riverine Squadrons) are organized, trained and equipped to conduct maritime security operations and theater security cooperation missions along inland waterways. Examples include, but aren't limited to:**
  - *Patrol*
  - *Interdiction/Visit, Board, Search, Seizure*
  - *Troop transport*
  - *Foreign Internal Defense*
- **N851 has been managing initial outfitting resourcing of the Riverine component of NECC since late FY05.**
- **Riverine Squadrons have been deployed to OIF since March 2007.**
- **Categorization: Navy - only program**
  - *N85 - Principal resource sponsor; responsible for procurement resources (OPN, WPN, PANMC, RDTEN)*
  - *N2N6 - Responsible for resourcing portable radios (OPN)*
  - *N43 - Responsible for resourcing readiness funding (OMN)*
  - *N86 - Responsible for resourcing CBRDE (OPN, OMN)*

Unclassified

USN Riverine Craft

Riverine Assault Boat (RAB)

Riverine Command Boat (RCB)

Combat Rubber Raiding Craft (CRRC)

Riverine Patrol Boat (RPB)

Riverine Vehicles

MK 25 MTVR W/ MAS ARMOR KIT

UPARMORED HMMWV

CAT I

CAT II

MRAP (Mine Resistant Ambush Protected)

Weapons

M4

M9

M500

M2HB

GAU-17

MK19

M240G

MK21

MK48

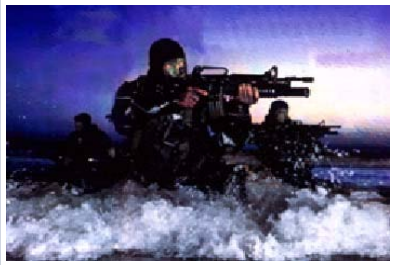
N851 POC: CAPT Bob Wilson, 703-614-2107, robert.c.wilson4@navy.mil

BACKUPS

What N851 Needs from Industry

- Lighter weight body armor
- Lighter weight modular/removable vehicle & boat armor
- Improved anti-corrosive coatings for weapons
- Batteries with higher power densities and lighter weight
- Tools to aid with concealment of people and equipment
- Portable translation devices and even better, ability to manage pools of vetted native speakers that can be tapped into
- (N2N6/CT Support) Data mining tools that can reach across the plethora of databases that can't talk to each other
- Heavy Fuel Engine for shipboard UAS ops

NAVAL SPECIAL WARFARE (N851)



Service Common Capabilities

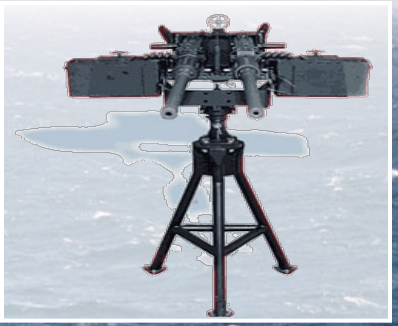
- Pre-positioned operational stocks
- Visual Augmentation Systems
- Training support craft
- Small-arms and weapons mounts
- Tactical Communications Equipment

Irregular Warfare (IW)

- Developing Navy IW portfolio investment strategy
- Provide recommendations for Navy unique, risk-mitigating solutions to Joint IW efforts

Future Capabilities

- Integrate into future Navy capabilities and concept development of unmanned systems
- Provide expertise in development of future Special Warfare service common items



Riverine Assault Boat (RAB)

Characteristics	
Hull Type	High-grade Aluminum Rigid
Length	33 ft
Beam	9 ft
Draft	2 ft
Crew	7
Passengers	-
Twin Diesels w/Water Jets	Yes
Top Speed: full load	30 knots - cruise 40 knots - sprint
Range	250 nm
Fuel Capacity	250 gallons
C-130 Transportability	No
Combat Load	20, 500 lbs.
Bow Door/Ramp	No
Weapons Foundations	Multiple

Unclassified

Unclassified

Riverine Patrol Boat (RPB)

Characteristics	
Hull Type	High-grade Aluminum Rigid
Length	39 ft
Beam	10 ft – 2 in
Draft	2 ft
Crew	5
Passengers	8
Twin Diesels w/Water Jets	Yes
Top Speed: full load	35 knots - cruise 38 knots - sprint
Range	275 nm
Fuel Capacity	300 gallons
C-130 Transportability	No
Combat Load	22, 800 lbs.
Bow Door/Ramp	Yes
Weapons Foundations	Multiple

Unclassified

Unclassified

Riverine Command Boat (RCB)

Characteristics	
Hull Type	High-grade Aluminum Rigid
Length	49 ft
Beam	12 ft – 5 in
Draft	3 ft
Crew	4
Passengers	26
Twin Diesels w/Water Jets	Yes
Top Speed: full load	40 knots - cruise 45 knots - sprint
Range	>320 nm
Fuel Capacity	300 gallons
C-130 Transportability	No
Combat Load	40, 000 lbs.
Bow Door/Ramp	Yes
Weapons Foundations	Multiple

Unclassified

Unclassified

Naval Special Warfare

Navy Service Common Support Rationale

NAVAL SPECIAL WARFARE (NSW) SQUADRON

SEAL TEAM HQS (4/4)

- NSW TASK UNIT 2 PLATOONS (8/35)
- NSW TASK UNIT 2 PLATOONS (8/35)
- NSW TASK UNIT 2 PLATOONS (11/51)

REPRESENTATIVE ATTACHMENTS

Combat Support	6/44
Combat Services Support	1/17
Combatant Craft Detachment	0/7
Communications Detachment	0/27
UAV Detachment	1/7
Canine Detachment	0/6

30% projected increase in NSW operators for FY10-15

Night Vision Equipment

Current Inv: ~47%

Req: 6500
Inv: 2900

Operational Stocks

Current Inv: ~85%

Req: 5
Inv: 4.5

Comms/Electronics

Current Inv: ~25%

Req: 7200
Inv: 1760

Small Arm/Weapons Mounts

Current Inv:~50%

Req: 8800
Inv: 4500

SERVICE COMMON GEAR AVAILABILITY

OBJECTIVE | **PR11** | **POM10** | **PRE-POM10**

Professional Development

- Language School
- Breacher
- Sniper
- HRST/DIVE SUP/RSO

Unit Level Training

- Land Warfare
- CQC
- MOUT
- MAROPS
- Mobility
- Combat Diving
- Air OPS

Squadron Integration Training

- SWCC, AIR, SEALs
- Full mock-up Combat training.
- Certification Exercises/Evaluations

Deployment

- Global presence

NSW Squadron Cycle (24 MOS)

$345M Requested (POM10)
$345M Approved (PR11)

N85 - Naval Special Warfare Relationship

- **United States Special Operations Command (USSOCOM) has service-like responsibilities to plan, program, budget and execute resources for Special Operations (SO) – peculiar support, services and equipment.**

- **Military Departments have support responsibilities to plan, program, budget and execute resources for service common capabilities for Special Operations Forces (SOF). Principal guidance is provided by:**
  - Title 10, United States Code, Sections 165, 167.
  - DOD Directive 5100.1; Functions of the Department of Defense and Its Major Components.
  - Memorandum of Agreement – Department of the Navy and USSOCOM.

- **N85 is OPNAV's principal advocate and resource sponsor for the Navy component of USSOCOM - Naval Special Warfare (NSW) Command.**
  - Other NSW (resource) sponsors on the OPNAV staff include:
    - N86 – Chem/Bio equipment, Small Tactical Unmanned Aircraft System (STUAS), SOF support attributes on future surface combatants.
    - N88 – Navy helicopter flight hours in support of NSW.
    - N87 – SOF support attributes onboard Navy submarines.
    - N6F – ***Some*** service common portable radios and electronics required by NSW (and NECC's Riverine component).

- **During each POM and PR cycle, N85 considers requests submitted by Commander, Naval Special Warfare Command for sustained and/or increased service common resourcing support.**

EXWAR Challenges / Way Ahead in the Future Joint Operating Environment: An MSC Perspective

RDML Rob Wray
Deputy Commander, Military Sealift Command

National Defense Industrial Association
Expeditionary Warfare Conference
November 17, 2009

UNCLASSIFIED

MSC's Mission

Provide efficient sea transportation, combat-ready logistics forces, and reliable special mission ships for the Department of Defense in peace and war.

MSC on One Hand

Time zones:

24

# of People:

10,000

# of Ships:

180

(120/60)

What our Customers Pay Us:

$3.5B

What we do:

All Ships That Don't Shoot

MSC Across the Spectrum of EW

- Hospital Ship deployments
- Foreign Humanitarian Assistance
- Theater Security Cooperation
- Prepositioning
- Afloat Forward Staging Base
- Command Ship

Sea Basing - Components

Carrier Strike Group

Maritime Prepositioning Group

Combat Logistics Force Ships

Amphibious Ready Group / Marine Expeditionary Unit

Connectors

Coalition Force and Sister Service Ships

Potential Needs

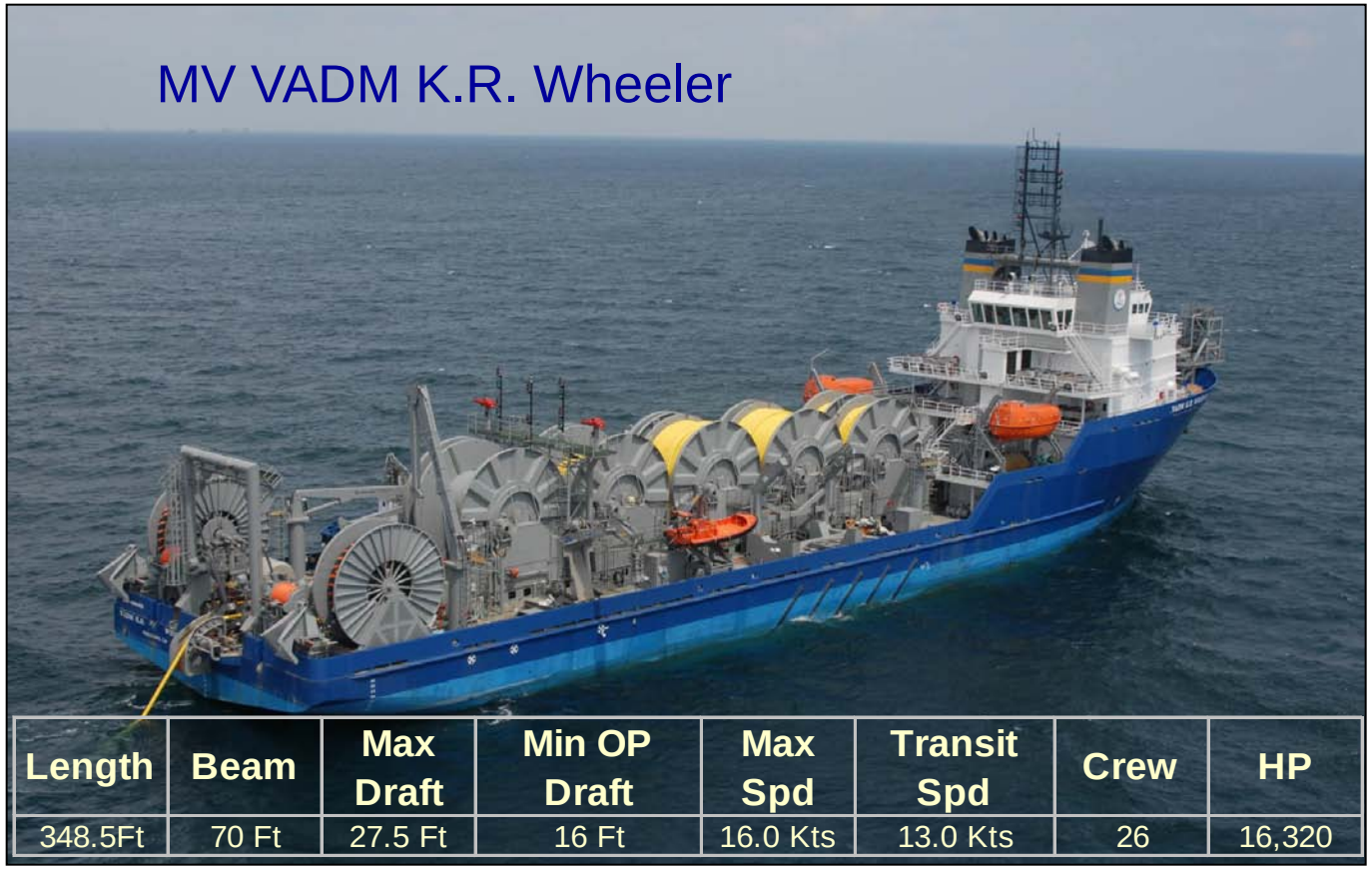
- Selective Stowage / Retrieval
- OPDS (next generation)
- Energy Efficiency
- Robust C2
- Double hulling
- Force Protection Measures
- Joint Army/Navy Integrated Software Management of JHSVs
- Ship Scheduling Optimization Software

Selective Stowage / Retrieval

- **Combatant Commander required partial offload of ammo in theater**
  - **In-theater, in stream offload of 863 containers (34% of load)**
  - **Required reconfiguration due to stowage arrangement and lack of lay down space**
  - **Total time 21 days**
  - **Estimated container over stow was 20% average (approx 400 additional moves total)**
  - **Avg rate of discharge was 2.5-3.5 containers/hour**

Selective Stowage / Retrieval can broaden the application range of prepositioned shipping from FHA and TSC to full-scale deployment.

Offshore Petroleum Distribution System



Length	Beam	Max Draft	Min OP Draft	Max Spd	Transit Spd	Crew	HP
348.5Ft	70 Ft	27.5 Ft	16 Ft	16.0 Kts	13.0 Kts	26	16,320

- **Is one OPDS enough?**
- **Are 8 miles of pipe enough?**

Energy Initiatives

- Cargo light replacement
- Magnetic Coupling Variable Speed Drive
  - Reduce energy consumption in cargo cooling systems
- Energy Management Plan for LMSRs
- Hull Performance Monitoring System
  - Optimize frequency for cleaning running gear and scamping
- Hull Coating Systems
- Performance-based Navigation
- Adaptive Steering
- Improved Efficiency HVACDH

Energy initiatives are not just about reducing propulsion fuel consumption. MSC operates ships across the full OPTEMPO spectrum.

Potential Needs

- Selective Stowage / Retrieval
- OPDS (next generation)
- Energy Efficiency
- **Robust C2**
- **Double hulling**
- **Force Protection Measures**
  - **Anti-Terrorism**
  - **Counter-Piracy**
- **Ship Scheduling Optimization Software**
- **Joint Army/Navy Integrated Software Management of JHSVs**

MSC Trends

- Non Traditional Prepo Mission Tasking
  - TSC
  - AFSB
  - FHA
- JHSV
- Constrained Budget Environment
- Service Life Extensions
- Limited Use of National Defense Waiver
- Improved information management and knowledge warehousing will yield greater business efficiencies

Questions?

www.msc.navy.mil