The Balanced Force
For Complex Joint/Combined Operating Environments

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Branch Head, Amphibious Warfare

THIS BRIEF IS UNCLASSIFIED
“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
Amphibious Combatant Fleet Transformation

1990 62 Ships
- LHD
- LHA
- LPH
- LPD 4
- LSD 36
- LSD 41
- LST 1179
- LKA 113

2010 31 Ships
- LHA / LHD
- LPD 4
- LPD 17
- LSD 41 / 49

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

2021 34 Ships
- LHD / LHA (R)
- LPD 17
- LSD 41 / 49
- LSD (X)
Amphibious Combatant Recapitalization CBA

- Capability-Based Assessment (CBA) considered
  - LSD and LHA/D recapitalization
  - Projected USMC lift requirements (2024s timeframe)
  - USMC air/ground vehicles are becoming heavier/larger
- CBA studied 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 LHA/D Recap
    - LHA(R) Flight 0 (existing LHA 6 design)
    - LHA(R) Flight 1 Min (with well deck)
    - LHA(R) Flight 1 Full (expanded beam/reduced island w/ well deck)
    - LHD 8 Restart
    - New design (carry 100% of lift requirement)
- **CBA signed out by N85 and Deputy CG, MCCDC in Sept 2010 and will serve as the basis for:**
  - LHA(R) Flight 1 Capabilities Development Document revision
    - Study ongoing to identify FY16 Big Deck ship design
  - LSD(X) Initial Capabilities Document.
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 6 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 Vessel (JHSV)**

- Intra – theater maneuver and littoral lift of cohesive forces or cargo
- Combines speed, range, payload and roll on/off with shallow water/austere port access
- Bridges the gap between rapid/low volume airlift (C-17/C-130) and slow/high volume sealift (LSV/LMSR/T-AKE)
- Completed keel laying JHSV #1 (Army) Jul 2010, started construction JHSV #2 (Navy) Sep 2010
- PB 11 procures 18 JHSVs (13 Navy / 5 Army)
LCAC SLEP

- 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

SEP 10: 25 of 72 SLEPs complete

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
**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**
- **Formal Requirements Capability Development Document (CDD) approved by the Joint Requirements Oversight Council (JROC) in Jun 2010**
**LCU (RECAPITALIZATION)**

- 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 (ICD) is required to proceed through Navy staffing.
- Brief to Naval Capabilities Board in JAN 11 for approval to initiate ICD.

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<th>“No one craft can do it all.”</th>
<th>LCAC (SLEP)</th>
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* Limited by temp and sea state
**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 (A ECS)
  - LAN
  - Machinery Monitoring System (MCS)
  - Steering Control System (SCS)
  - On Board Trainer (CBT)
  - 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**: 2 - 2 - 2 - 2 - 2 - 1

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- **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
- **USS RUSHMORE (LSD 47)**
  - EDPMA began in Jul. Fifth LSD Class ship to undergo modernization
- **USS GERMANTOWN (LSD 42)** and **USS HARPERS FERRY (LSD 49)** will swap homeports (San Diego/Sasebo) between Jan – Jun 2011
• 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

These ships, along with 3 previously appropriated Auxiliary Dry Cargo/Ammunition Ships (T-AKE) will enhance the capability of the MPF, improving its utility across the range of military operations.

The enhanced MPF will be able to transfer vehicles and equipment between ships at sea, deliver vehicles and equipment from over the horizon through restricted access environments, and provide persistent sustainment from ship to objective.
Questions?