# *Amphibious Requirements in Support of Expeditionary Warfare*


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# 313 & THE EXPEDITIONARY REQUIREMENT

- **Priorities**
  - **Sustain the Current Force**
  - **Define the Future Force**
- **Resources**
  - **Limited Funds**
  - **Limitless Considerations**

**ACCEPT MORE RISK !**

# DEMAND SIGNALS

- Applications of amphibious capability:
  - Cold War (1946-1989) — **2.27 per annum**
  - Post-Cold War (1990-2006) — **5 per annum**

- **73 doctrinal amphibious ops:**
  - 4 Assaults
  - 1 Withdrawals
  - 3 Demonstrations
  - 2 Raids
  - 63 "Other Amphibious Ops" such as NEO or HA/DR
- 12 "such other duties as the President or the Secretary of Defense may direct" (air strikes, destruction of oil platforms, etc.)

- Competing global requirements:

**1990: 60 amphibious ships**

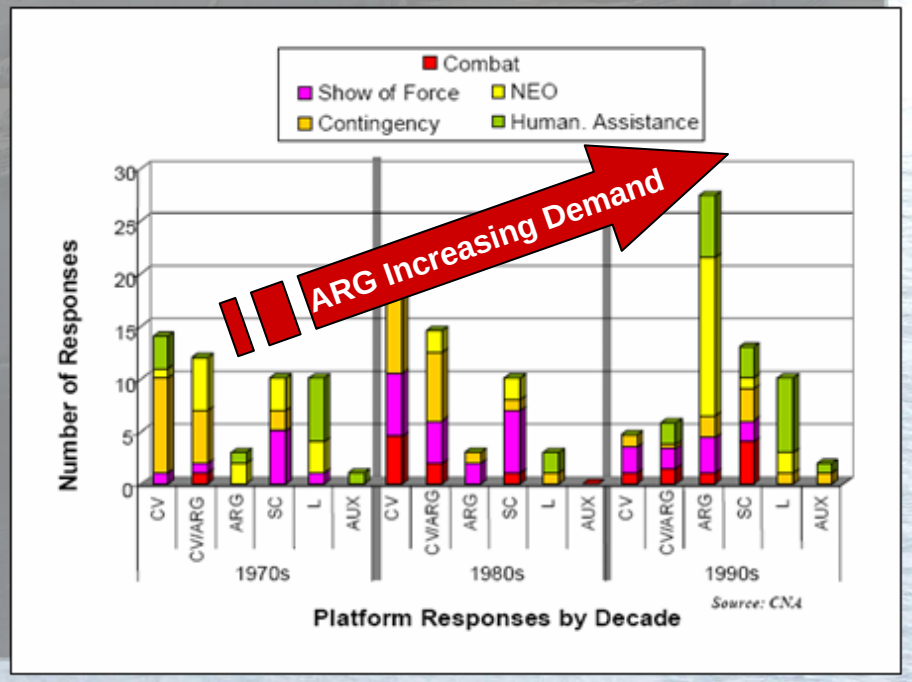
**30 for DESERT STORM (50%)**

- DESERT STORM competed with crises in:
  - The Philippines
  - Liberia
  - Somalia
  - Southern Turkey / Northern Iraq
  - Bangladesh

**2003: 38 amphibious ships**

**24 used for OIF I (65%)**

- OEF, and HOA have competed with crises in:
  - East Timor
  - Kosovo
  - Liberia
  - Haiti
  - Philippines X2
  - Indonesia
  - Sri Lanka
  - US Gulf Coast
  - Pakistan
  - Lebanon



# INSERVICE AMPHIBIOUS SHIPS

# MODERNIZATION

- **Achieve extended service life through modernization.**
  - LPD 4
  - LSD 41 / 49 ML
  - LHA 1
  - LHD ML
- **Program Challenges**
  - ML requirements exceed current funding.
  - Defining aviation / ship integration issues.
    - Environmental impacts
    - Deck heating
    - Hard mount relocation
  - Matching funding to accomplish within projected schedule.
    - MV-22 Deployments
    - JSF
      - Developmental Test (DT) 2010
      - Operational Test (OT) 2012
      - Initial Operational Capability (IOC) 2012

# LHD Systems of Interest (LHA 6 Similar)

# FUTURE AMPHIBIOUS SHIPS

# SHAPING THE FUTURE FORCE

- **Recapitalize amphibious fleet with 21st century ships:**
  - **LPD 17 class.**
  - **LHA(R) and LHD(X).**
  - **LSD(X).**
- **Requirements Challenges**
  - **View of nation's amphibious capability:**
    - **Overmatch area that can assume reduction/more risk?**
      **-or-**
    - **Premier GWOT capability worthy of more force structure?**
  - **USN - USMC Agreement**
  - **Role of MPF(F) does it 'count' as amphibious lift?**

**Bottom Line : Affordability**

# MPF(F)

# MPF(F) REQUIREMENTS

- **Concept**
  - **Enhance legacy Pre-positioned assets with an operational capability.**
- **Requirements Challenges**
  - **Reduce standing Manpower requirements.**
  - **Create a viable training and employment strategy for MPF(F) crewing.**
  - **Vehicle & Personnel Transfer system (s)**
  - **Selective Offload Technology**

# Connectors


- Joint High Speed Vessel (JHSV)

- LCAC Replacement
  - Joint Maritime Assault Connector (JMAC)
- LCU Replacement
  - Functional Needs Assessment

# QUESTIONS

# BACK UP

# SUMMARY

- **Significant Challenges**
  - **Sustainment**
  - **Modernization**
  - **Acquisitions**

# JOINT HIGH SPEED VESSEL

# JHSV Requirements

- **Concept**
  - **Procure high-speed intra-theater medium lift able to operate from austere ports**
- **Requirements Challenges**
  - **Cost constraints**
  - **Balancing sometimes conflicting Joint requirements**
  - **Non-combatant**
  - **Commercial, non-developmental**


LCAC / JMAC

# Joint Maritime Assault Connector (JMAC) Requirements

- **Concept**
  - **Ship to Shore Connector to prepare for and conduct movement in support of amphibious lift requirements**
  - **LCAC Service Life Extension Program (SLEP) reach end of service life starting in 2014**
- **Requirements Challenges**
  - **No current air cushioned vehicles in production**
  - **Payload Weight**
  - **Technology development**
    - **Engines (Marine Environment)**
    - **Human Systems Integration**
    - **Composites**


C4I


STRATEGIC
TACTICAL

# C4I REQUIREMENTS

- **Concept**
  - Enhance C4I capability across Amphibious platforms and Amphibious components.
- **Requirements Challenges**
  - Increase Bandwidth
    - Decrease Antenna Farm
  - Tactical picture
  - Wireless

# LSD MID-LIFE PROGRAM

## Capability Description

- Return ships to capable Fleet Asset status; able to meet amphibious mission requirements today through 2038.

## Improvements

- All Electric (#1 Priority)
- Diesel Engine Improvements
- Fuel & Engine Maintenance Savings System
- Tech Insertion (Console Replacement)
- Survivability
- Amphibious Assault Systems
- A/C & Chilled Water Increase
- Air Compressors (Replace)

## Characteristics/Description

- Current Average Age: 15 years
- Based on Fleet priorities, Inspection and Survey (INSURV), Casualty Reports (CASREP) and Planning Yard/ Ship Systems Engineering Station (SSES) studies.
- 36 Week Availability

***LSD Mid-Life Fielding Plan***

***1-2-2-2-2-2-1***

| HULL # | START | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 |
|---|---|---|---|---|---|---|---|---|
| LSD 41 | MAR 09 | | 1 | | | | | |
| LSD 42 | DEC 08 | | 1 | | | | | |
| LSD 43 | AUG 10 | | | 1 | | | | |
| LSD 44 | JUL 08 | 1 | | | | | | |
| LSD 45 | OCT 10 | | | | 1 | | | |
| LSD 46 | OCT 12 | | | | | | 1 | |
| LSD 47 | OCT 11 | | | | | 1 | | |
| LSD 48 | MAR 11 | | | | 1 | | | |
| LSD 49 | MAR 10 | | | 1 | | | | |
| LSD 50 | JUL 13 | | | | | | 1 | |
| LSD 51 | JAN 12 | | | | | 1 | | |
| LSD 52 | OCT 13 | | | | | | | 1 |
| TOTALS ====> | | 1 | 2 | 2 | 2 | 2 | 2 | 1 |

# LHD MID-LIFE PROGRAM

## Capability / Improvements

- Maintenance cost drivers being identified and prioritized which, when corrected, will provide systems and/or equipment capabilities equal to, or improvements, on existing systems.
- Selected capability upgrades include – Fuel Oil Compensation System, Aux / Propulsion Sys, Assault Sys, Corrosion Prevention Improvements, Gender Neutral/SAR DET/ESG Berthing improvements Boat Davits

## Characteristics / Description

- LHD average age 10 years (LHD 1 is 17 years)
- **M-L:** Phased program to identify Fleet maintenance burdens, engineer cost effective solutions, and implement solutions to overcome maintenance backlog and provide Fleet identified priority capability improvements.
- Model is LHA Mid-Life
- Based on fleet priorities
- **Goal:** Enable LHDs to reach 40-year service

## LHD 1 Class
## Current Service Life Estimates

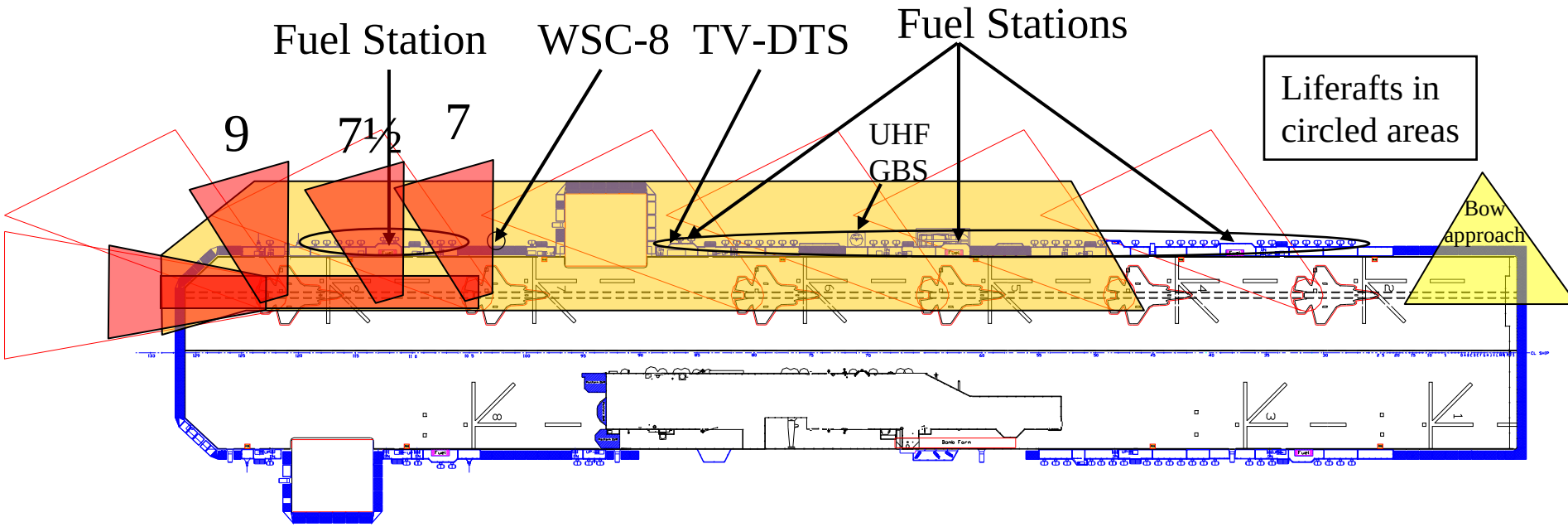
| HULL | COMMISSION DATE | CURRENT AGE | DECOM (FY) | PROJ AGE AT DECOM |
|---|---|---|---|---|
| *LHD 1* | 29 JUL 89 | 17 | 2029 | 40 |
| *LHD 2* | 17 OCT 92 | 14 | 2032 | 40 |
| *LHD 3* | 16 OCT 93 | 13 | 2033 | 40 |
| *LHD 4* | 11 FEB 95 | 11 | 2035 | 40 |
| *LHD 5* | 20 SEP 97 | 9 | 2037 | 40 |
| *LHD 6* | 15 AUG 98 | 8 | 2038 | 40 |
| *LHD 7* | 30 JUN 01 | 5 | 2041 | 40 |
| *LHD 8* | 19 AUG 06 | 0 | 2047 | 40 |

# AVIATION INTEGRATION

## Increased Capability

- **MV-22 Integration:**
  - Maintenance shop upgrades
  - Logistics support stowage
  - Topside modifications
  - Aircraft handling Modifications
- **JSF Integration**
  - Maintenance shop upgrades
  - Ordnance support & handling
  - JSF specific servicing systems and aircraft handling

# F-35B Main Nozzle Deck Edge Overflight Regions During VL Approach to LHD




Most commonly used approach paths (AV-8B)

Composite of all probable approach paths

AV-8Bs are permitted to land anywhere along tramline

**Bottom Line: Majority of port side deck edge will be exposed**