Amphibious Warfare Program

Provide timely and cost-effective solutions to Amphibious Ship and Air-Cushion and Assault Craft requirements

Encompassing all aspects of the Acquisition and Life Cycle Continuum

Big Deck Amphib Evolution

LHA 1-5
1976-80
- Expanded Aviation Capability compared to LPH
- Significant Increase in Vehicle Square compared to LPH
- Well deck designed for LCUs
- 20 year service life ... “administratively” extended to 35 years

LHD 1-4
1989-95
- Well Deck Designed for LCAC
- Updated Warfare Systems
- Aviation improvements and AV-8B capability
- Improved Seakeeping Bow

LHD 5-7
1997-2001
- Updated Warfare System / C4ISR
- Flt Deck / Island Improvements
- Additional JP-5 capacity

LHD 8
2009
- Elimination of steam with Gas Turbine Propulsion and Electric Auxiliaries
- Auxiliary Propulsion System (Electric Drive) up to 12 knots

LHAR FLT 0
(LHA 6/7)
2013/2018
- LHD 8 Hull and Machinery
- No Well Deck
- Optimized for Flight Operations
- Larger Hangar & Additional Magazines
- Additional JP-5 capacity
- Updated Warfare System/C4ISR

LHAR FLT 1
(LHA 8)
2022
- LHA 6/7 Hull and Machinery
- Well Deck Designed for two LCAC
- Reduced Island
- Updated Warfare Systems/C4ISR

LHA 6/7 Changes From LHD 1 Class

LHA 6 TO BE A MODIFIED LHD 8
WITH ENHANCED AVIATION MAINTENANCE AND STORAGE CAPABILITIES
SLEP Program Elements

BUOYANCY BOX REFURBISHMENT
- Addresses Corrosion Problem
- 20-Year Service Life
- Incorporates Hull Upgrades and Improvements

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
Evolution of LCAC to SSC


LCAC
• Initial Craft Delivered December 1984
• Designed for 20-year service life
• Capable of carrying a 60-ton payload at speeds over 40 knots
• 91 LCAC fabricated

LCAC (SLEP)
• +10 yrs service life
• 35 out of 72 LCAC SLEPs delivered to date

SSC
• 1st Production craft to be delivered FY17
• Designed for 30 Year Service Life (without SLEP)
• 74 Short Ton payload & OTH assault from 25 nautical miles

Improvements:
• Increased reliability & availability
• Pilot/Co-pilot cockpit

JEFF A / JEFF B
• Prototypes leading to LCAC

All Have Similar Footprint To Fit in Well Decks
LCAC – SSC Comparison

- Length, Overall: 28.0 m (91.8 ft)
- Beam, Overall: 14.5 m (47.8 ft)
- Depth: 1.27m (50 in)
- Design Payload: 54.43 MT (60 ST)
- Flight Crew: 3

- Length, Overall: Same as LCAC
- Beam, Overall: 14.71 m (48.25 ft)
- Depth: 1.422m (56 in)
- Design Payload: 67.13 MT (74 ST)
- Flight Crew: 2

Changes driven by increased payload requirements and improved reliability and maintainability
SSC Design Characteristics

More lift + Lower Fuel Consumption + Less Maintenance

Simpler & More Efficient Drive Train/One Gearbox per Side
(Fewer unique parts, less maintenance, higher reliability, all parallel axis, fewer efficiency losses, reduced training)

More Powerful Engines w/ Greater Fuel Efficiency & Digital FADEC
(Increased power for heavier SSC payloads, lower specific fuel consumption, more reliable FADEC)

Pilot/Co-Pilot Dual Controls
(Smaller flight crew + new C4N suite)

Composites
(Reduced weight and maintenance, corrosion resistance for propulsors, lift fan shrouds, bow thrusters, propulsion shafting)

Main Engine Geared Electrical Generators + APU & 60Hz Distribution Bus
(More fuel efficient and cost effective 60 Hz components, commonality with Navy ship electrical systems)

Gear Driven Bow Thrusters
(Increased reliability)

Sustained speed>40 kts NATO Sea State 3 @ 100degF w/74 STON load

Interoperability
Operate from LPD 17, LSD 41/49, LHD/LHA wells and MLP
Length and beam same as LCAC

Aluminum Alloy (5083)
(Better corrosion resistance & immersion grade wet deck coating system)

APU - Auxiliary Power Unit
C4N - Command, Control, Communication, Computers Nav
FADEC – Full Authority Digital Engine Control
QUESTIONS?