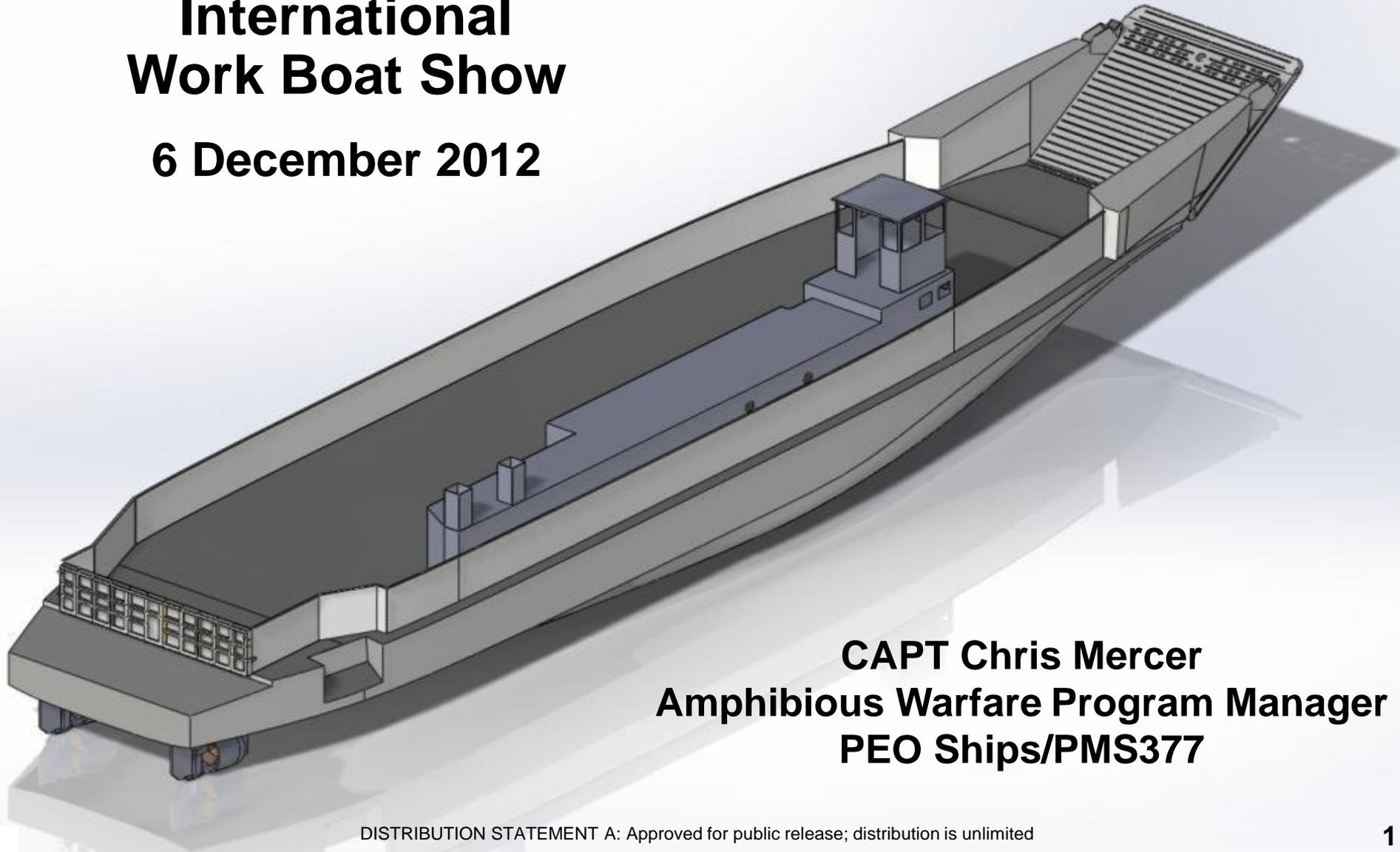




Surface Connector (X) Recapitalization

**International
Work Boat Show**

6 December 2012



**CAPT Chris Mercer
Amphibious Warfare Program Manager
PEO Ships/PMS377**



Higgins Boats

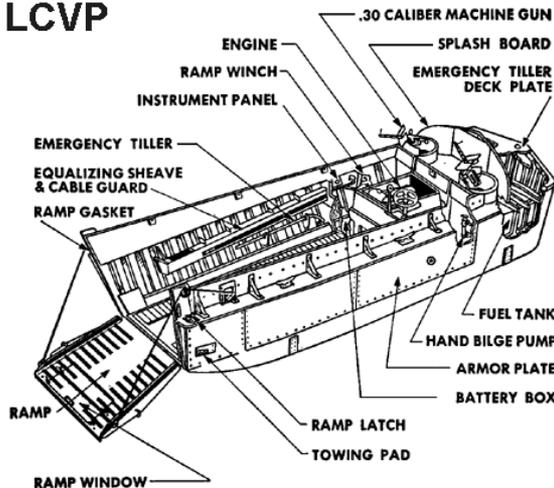
Omaha Beach landing



Okinawa



LCVP



- Designed by Andrew Higgins
- Mass produced in New Orleans
- Over 23,000 were built by Higgins Industries and licensees

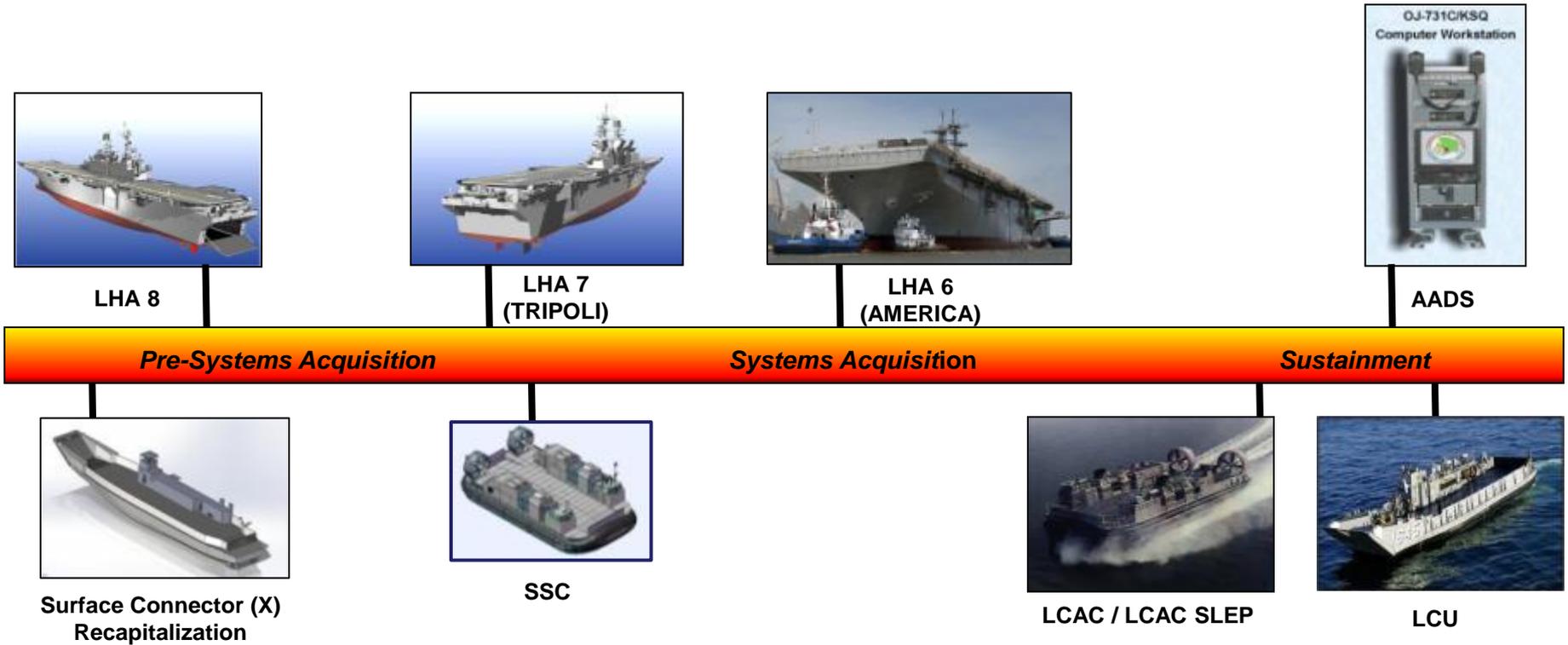
***“Andrew Higgins
is the man who won the war for us.”***

- President Dwight D. Eisenhower, 1964 interview



PMS 377 Amphibious Warfare Program

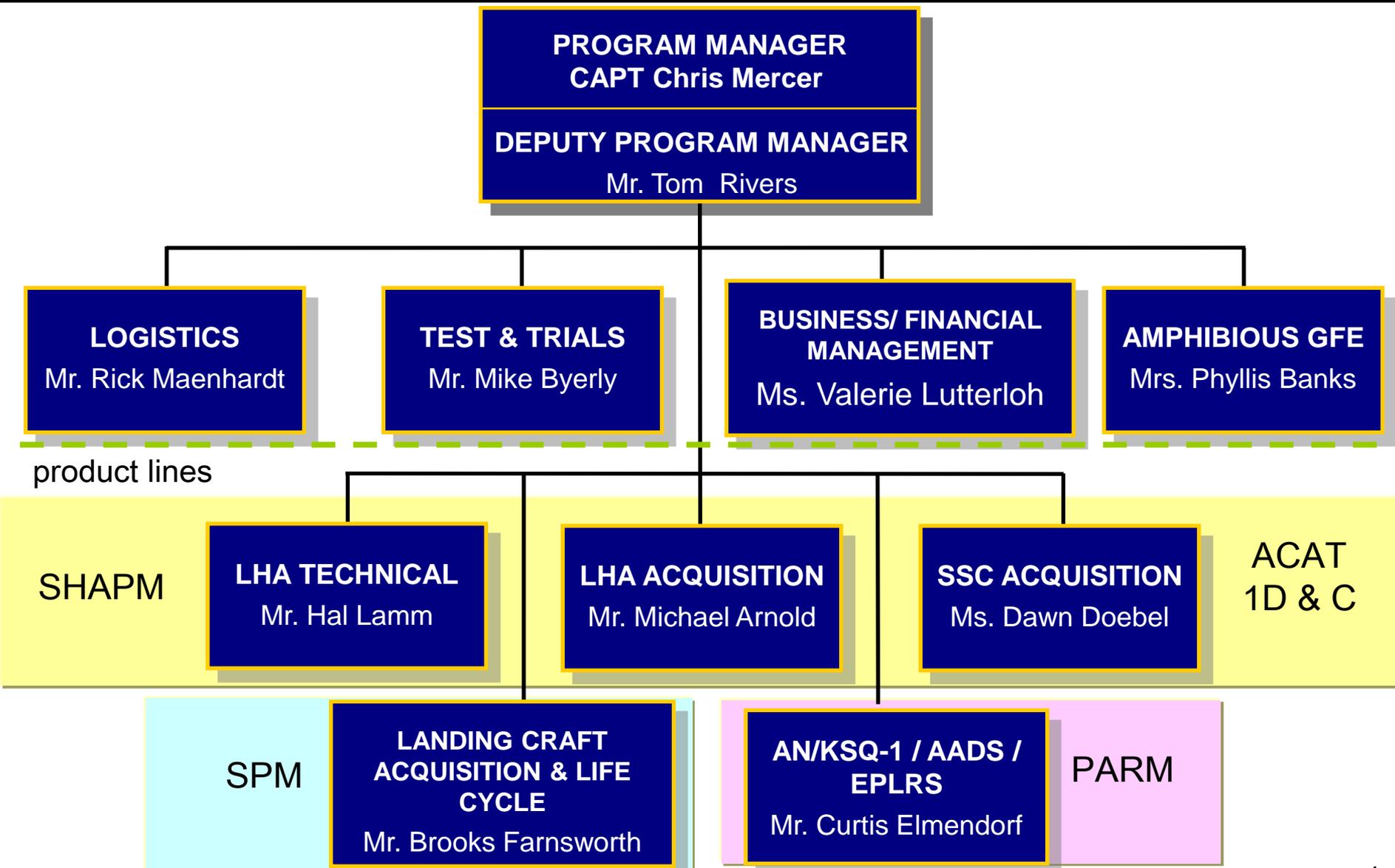
We acquire large deck amphibious assault ships, assault connectors, AADS capability and sustain LCACs and LCUs for the U.S. Navy Fleet so they are ready for the Navy and Marine Corps team to conduct warfighting missions for the nation.



Encompassing all aspects of the Acquisition and Life Cycle Continuum



Organization





LCU 1617... from 1959



In South Vietnam



LCU 1617 -- *Still in service today!*

LCU-1617

53 Years of Service

***Older than the oldest steel
commissioned vessel in service
today***



***And expected to
serve through
2023***





LCU 1600 - A Displacement Landing Craft with Unique Capabilities

Complements the capabilities brought by air cushion type craft

- Heavier lift capability than air cushioned vehicles or aircraft
- Independent operation capable
- Significantly greater range than any other connector
- Can serve as staging base for small boats
- Salvage support
- Port clearing
- Platform for Buoyant Hose Fuel Systems
- Passenger ferry (400 personnel)



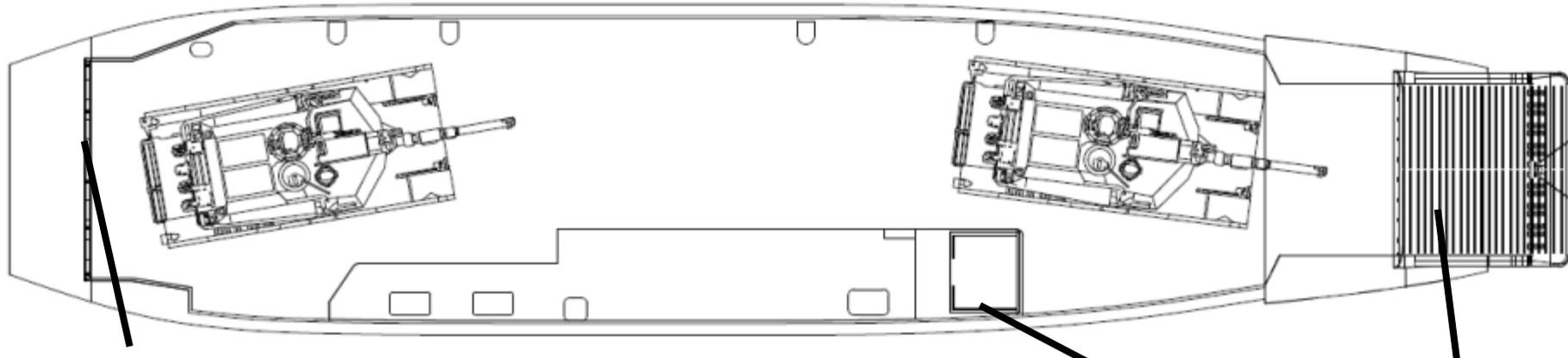
LCU General Characteristics

- Hull: Steel
- Length: approximately 135 feet
Beam: 29 feet 10 inches
- Draft (Fully Loaded):
 - Forward: 4 ft
 - Aft: 6 ft 7.5 inches
- Power Plant: Diesel propulsion with Kort nozzles, 2 shafts
- Max Speed: 12 knots (in significant wave height (3.5ft - 5 ft))
- Endurance at Sustained Speed: 1200 NM at 8 knots
- Lift Capacity: 170 short tons cargo, or 400 passengers, or 350 troops or 2 M1A1 Tanks (with mine plow)
- Bow and Stern Ramps (capable of repeated beach landing impacts)
- Accommodations: 14 (13 for Crew, plus 1 if a Boat Group Officer is embarked)
- Independent Operations: 10 Days (habitability, provisioning support)
- Full Load Displacement: 401 long tons
- Stern anchor and winch
- Redundant mechanical systems, segregated critical systems, firefighting, dewatering, first aid



Landing Craft Utility (LCU 1600)

LCU 1610, 1627 and 1646 Classes



Stern Ramp

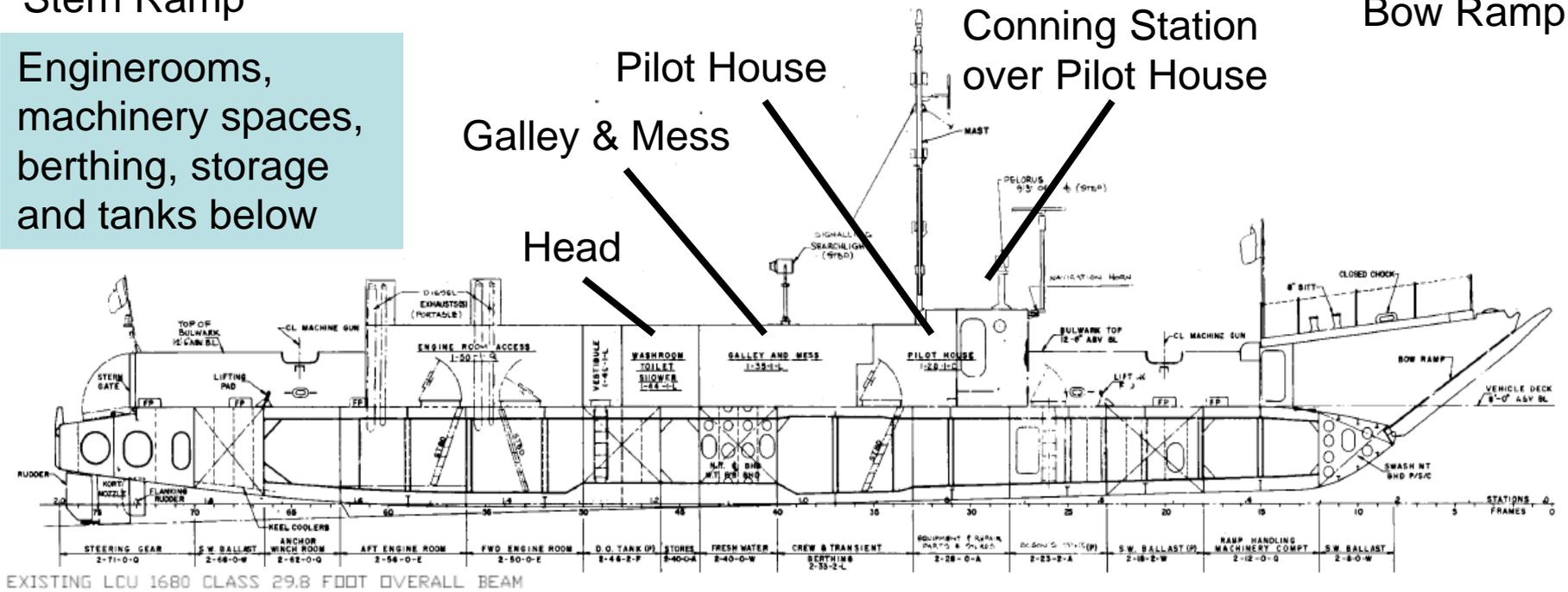
Conning Station
over Pilot House

Bow Ramp

Enginerooms,
machinery spaces,
berthing, storage
and tanks below

Pilot House
Galley & Mess

Head



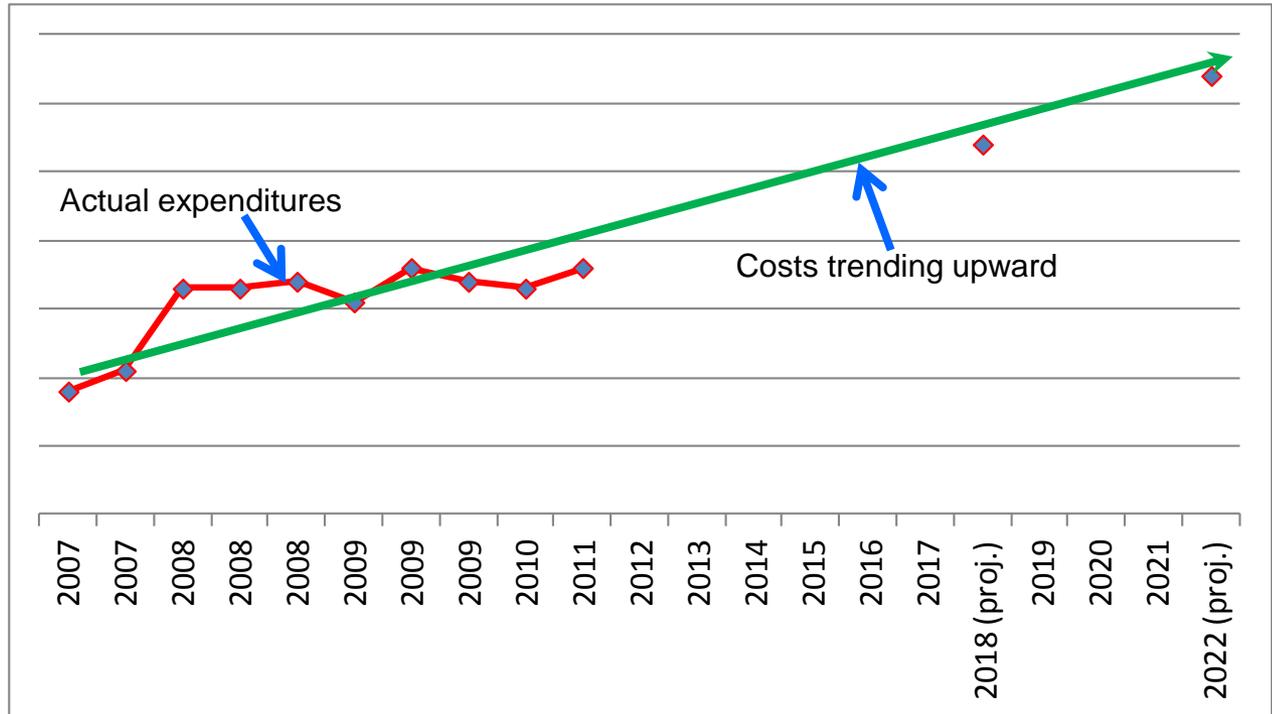


LCU Sustainment Costs Increasing

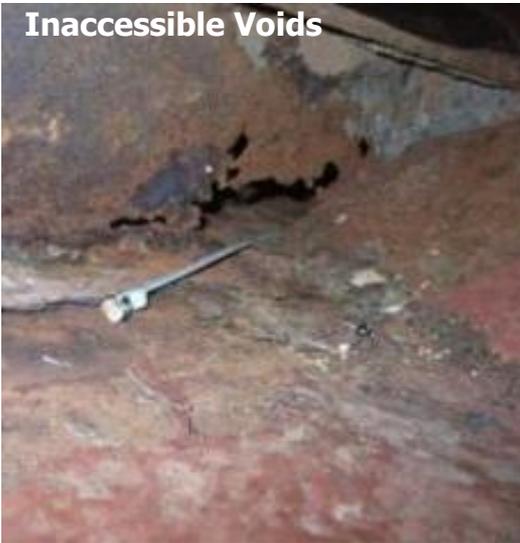
Obsolete Halon valves ---
and other components



\$



Inaccessible Voids



Obsolete engines and generators ---
and other major systems



Internal bow ramp



Increasing Demand and Relevance

- Theater Security Cooperation
- Humanitarian Assistance/Disaster Relief (HA/DR)
- Non-Combatant Evacuation
- Counter Insurgency
- Heavy-lift
- Endurance
- Independent operations
- Surface 'people mover' of choice
- Husbanding other craft, riverine operations, loitering, observation or patrol

Hurricane Sandy HA/DR ops in NY/NJ, Haiti in 2010, Katrina in 2005, the Tomodachi tsunami...



Speed is not a driving requirement



What is meant by RECAPITALIZATION?

- Recapitalization
 - Replacement of the original LCU 1600 capability
 - 25-year service life
 - Does not guarantee a new (build) platform
- Major decision driver - COST
 - Use existing amphibious ship support connections
 - Use existing basing and training
 - An accelerated build pace could save cost





Utility Landing Craft must be ...

Simple, Simple, Simple!

- Fundamental material selection
- Manual controls are OK
- Rugged
- Ease of maintenance and repair
- Fuel efficient
- Reliable
- High payload
- Independent operations – Habitability
- Keep it affordable!

Speed is not a driving requirement



Notional SC(X)(R) Capabilities

(Will be refined after AoA)

- Transportable in well deck of amphibious ships
- Bow and Stern ramps
- Roll-on and Lift-on cargo loading
- Unrefueled range similar to LCU 1600 class capability
- Sustained speed similar to LCU 1600 class capability
- Payload similar to LCU 1600 class capability
- Structure capable of withstanding beach landings and well deck entry
- Cargo deck point load strength capable of handling Marine Corps vehicles
- Beaching extraction and limited tow and salvage
- Operation in and clearing of debris-congested ports
- Independent operation similar to LCU 1600 class capability
- Small boat launch and recovery
- Communications suite
- Gun mounts and ammo storage



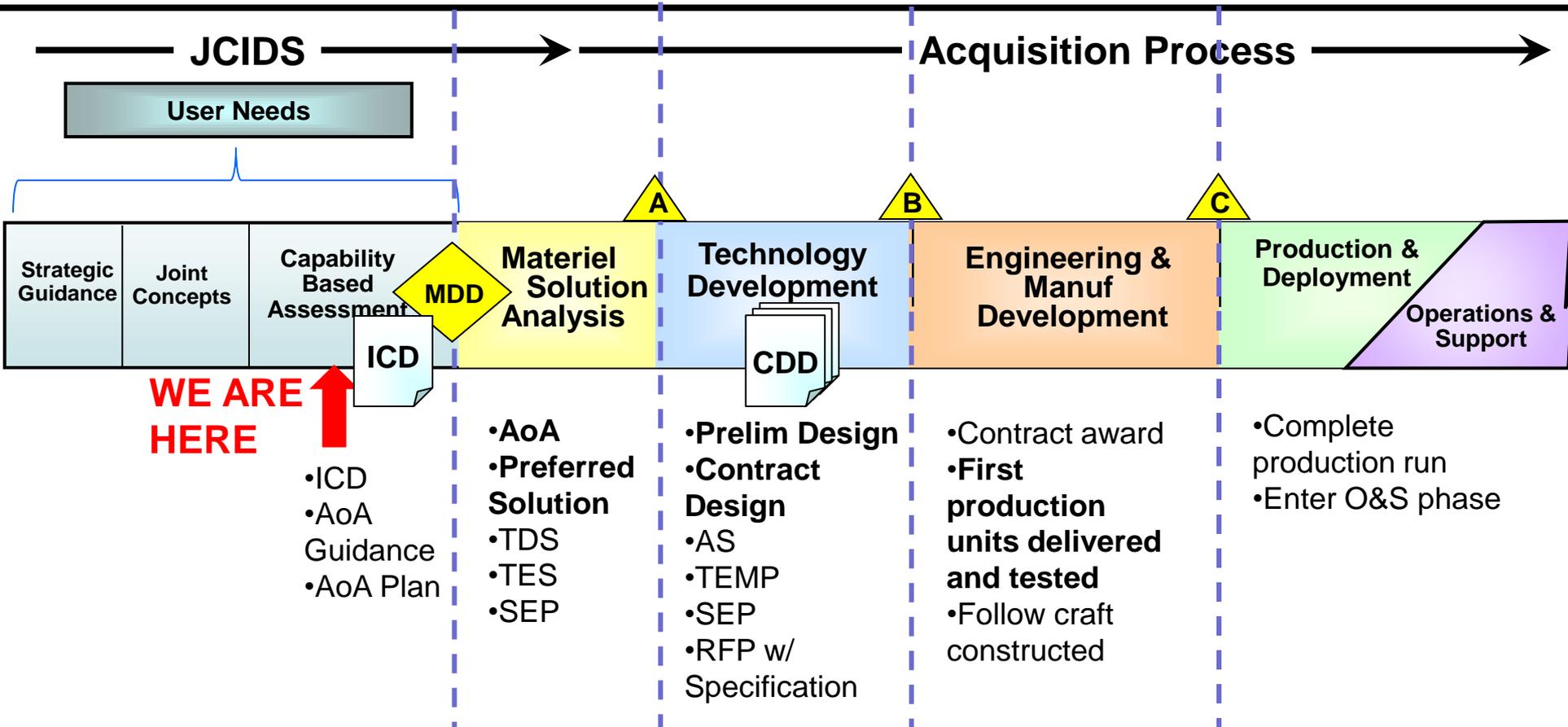
Maintainability Issues

- Anchor Windlass system
- Steering HPUs
- Bow Ramp corrosion
- Bow Ramp Winch Assembly
- Main Engines and Generators
- Skegs and inaccessible voids
- Poor ventilation in manned spaces
- Location of magazine results in high heat conditions
- Shafts
- Propellers
- Fire protection systems





Basic Acquisition Process for Ships/Craft



Activities after MS A are tailored for ships and craft procurement:

- Approved CDD needed earlier than MS B
- Prelim/Contract Design completed in Technology Development Phase
- First production units procured after MS B, not post-MS C



SC(X)(R) Program Status

- **Completed in 2011:**
 - **LCU in Support of Global Security Operations (ISO GSO) Study**
 - **Functional Area Analysis (FAA)**
 - **Capabilities-Based Assessment (CBA)**
- **Naval Capabilities Board (NCB)**
 - **Authorized development of Initial Capabilities Document (ICD) on 23 Nov 2011**
- **Initial R&D Funding - FY12**
- **RFI/Sources Sought issued to Industry 1 Aug 2012**
- **ICD in final review**
- **Initial Procurement Funding - FY17**



Way Ahead

- Gate 1 to approve ICD
- JROC declare non-interest
- Designation as ACAT III Program
- Obtain MDD
- Receive AoA Guidance and Tasking
- Conduct AoA





SC(X)(R) POC



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Naval Sea Systems Command
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Washington, DC 20376-2101



Questions?

LCU 1663 assisting with Hurricane Sandy recovery efforts

