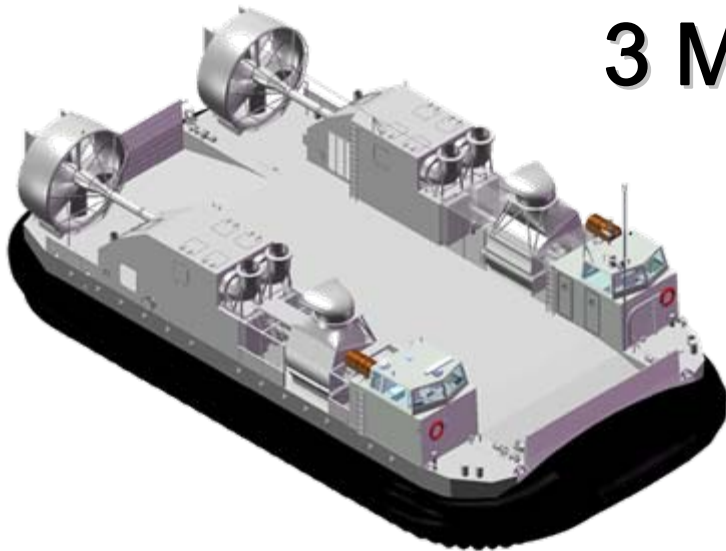




Navy League - Sea Air Space

Ship to Shore Connector (SSC)

3 May 2010





Agenda

- **Navy Air Cushion Vehicle (ACV)
Operational Relevance**
- **LCAC SLEP – Maintaining lift requirement**
- **USMC Ground Combat Element Growth**
- **SSC Overview**
- **SSC Acquisition and Design Strategies**
- **SSC Programmatic**



Navy ACV Operational Relevance



Jan'05 Tsunami Relief



Mar'03 Iraqi Freedom



Jan'10 Haiti Relief

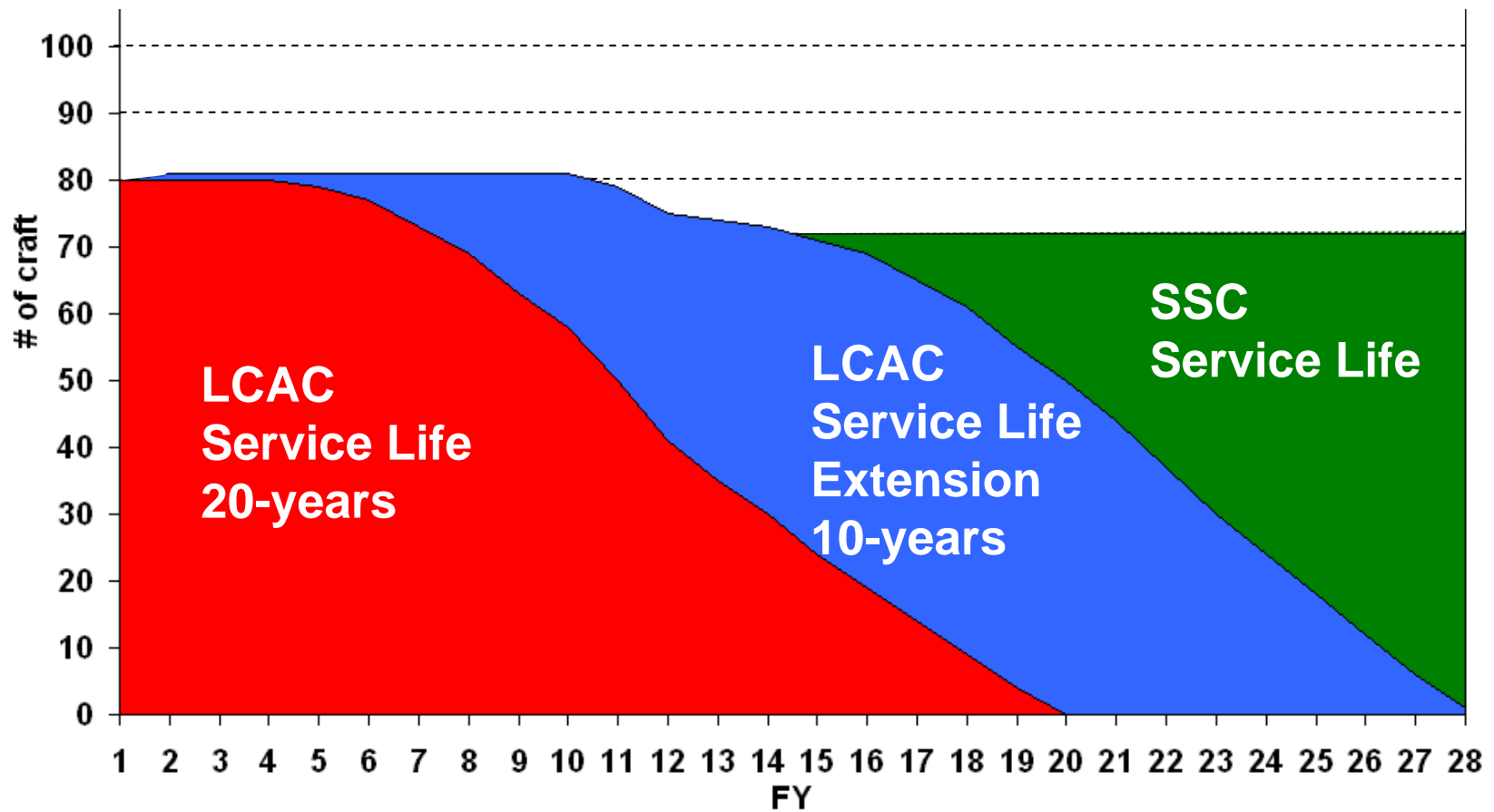


Jul'06 Beirut Evacuation

High Demand Signal



Navy ACV Lift Continuity



Meeting Demand Profile



LCAC / LCAC (SLEP)



LCAC:

- Initial Craft Delivered December 1984
- Designed for 20-year service life
- Capability: 60-ton load @ 35 knots+

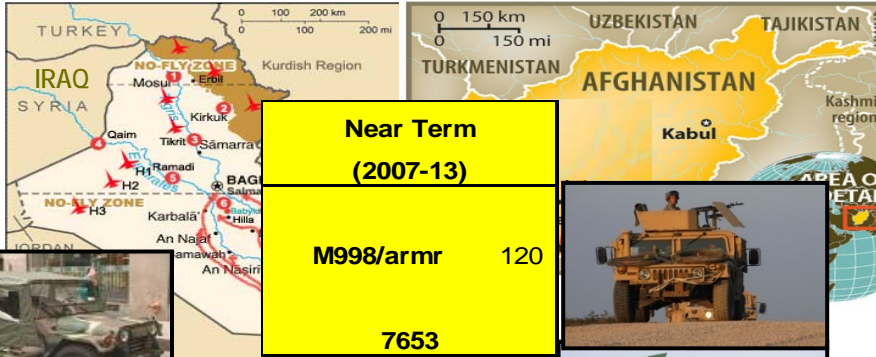
LCAC (SLEP):

- Buoyancy box refurbishment
- Rotating machinery refurbishment
- C4N Replacement
- Enhanced Engines
- Deep Skirt

LCAC SLEP = +10 Years of Service Life



USMC Ground Combat Element (GCE) Marine Expeditionary Brigade (MEB) Volume & Weight Increasing



Design Loadout	
M151/trlr	120
3000	
M939	40
22175	
M60 MBT	4
108000	
AAVA1	15
52000	
1230 STON	



Near Term (2007-13)	
M998/armr	120
7653	
MTVR w/MAS	40
49242	
M1A1 w/TWMP	4
148000	
AAV7A1 RAM/RS	15
51000	
2123 STON	



Notional Future (2012+)	
JLTV	120
22646	
MTVR w/MAS	40
49242	
M1A1 w/TWMP	4
148000	
EFV	15
72500	
3183 STON	



Ground Vehicles and Equipment 2x+ heavier

GCE Operational Demands = Increasing Lift Requirement



SSC Requirements

- **Transports weapon systems, equipment, cargo and personnel of the assault element from Marine Air/Ground Task force and Army Brigade Combat Team (BCT) in a Non-permissive environment (per STOM CONOPS, but not first wave), Cycle time derived from 8-10 hours MEB offload**
- **Deploys in LPD, LSD, and LHD/LHA Amphibious Well Deck Ships of > 2015 with a 30yr service life.**
- **High speed (>35 knots), high payload (~74 tons), day or night, from offshore 25nm or greater, capable of over-the-beach operations with ability to operate independent of tides, water depth, underwater obstacles, ice, or mud in NATO Sea State 3-4 (significant wave height of 4.1 - 6.2 ft), Beach gradient = current LCAC or >LCAC**
- **Temp range = current LCAC through Hot Arabian Gulf (~100°F)**

Meets Increased Lift Need



SSC Design Strategies

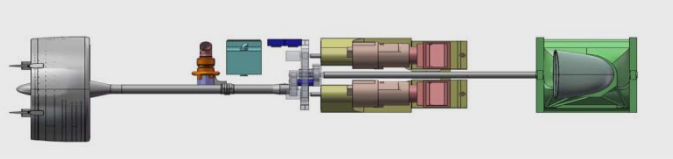
- From the outset, the Ship-to-Shore Connector (SSC) program followed an innovative approach focused on achieving reductions in Total Ownership Cost
- A Government-led Design Team is chartered to produce a design package focused on reducing maintenance costs, mean time to repair and craft manpower
- Design balances performance requirements against life cycle costs while keeping acquisition costs in mind
- Contractor has latitude in system/sub-system level detail design which provides opportunity for additional cost reductions

Affordability will Rival Capability



SSC Improvements vs. LCAC

More Lift + Lower Fuel Consumption Rate + Less Maintenance



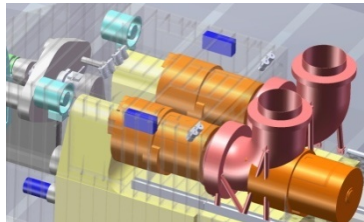
**Simpler & More Efficient Drive train/
One Gearbox per Side**



Extensive composites



**Main engine geared
electrical generators + APU
& 60Hz distribution bus**



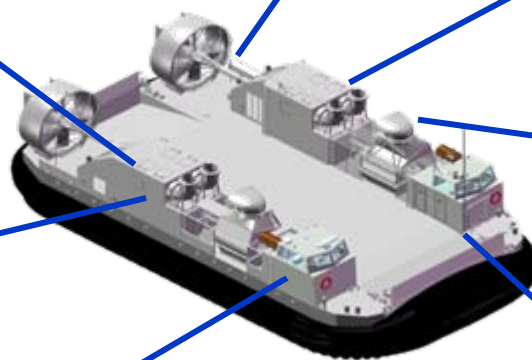
**More Powerful Engines w/ Greater
Fuel Efficiency & Digital FADEC**



**Gear driven
bowthrusters**



**Pilot/Co-Pilot Dual Controls
New C4N suite**



**Sustained speed >35 kts
NATO Sea State 3-4 @ 100degF
w/74 STON load**



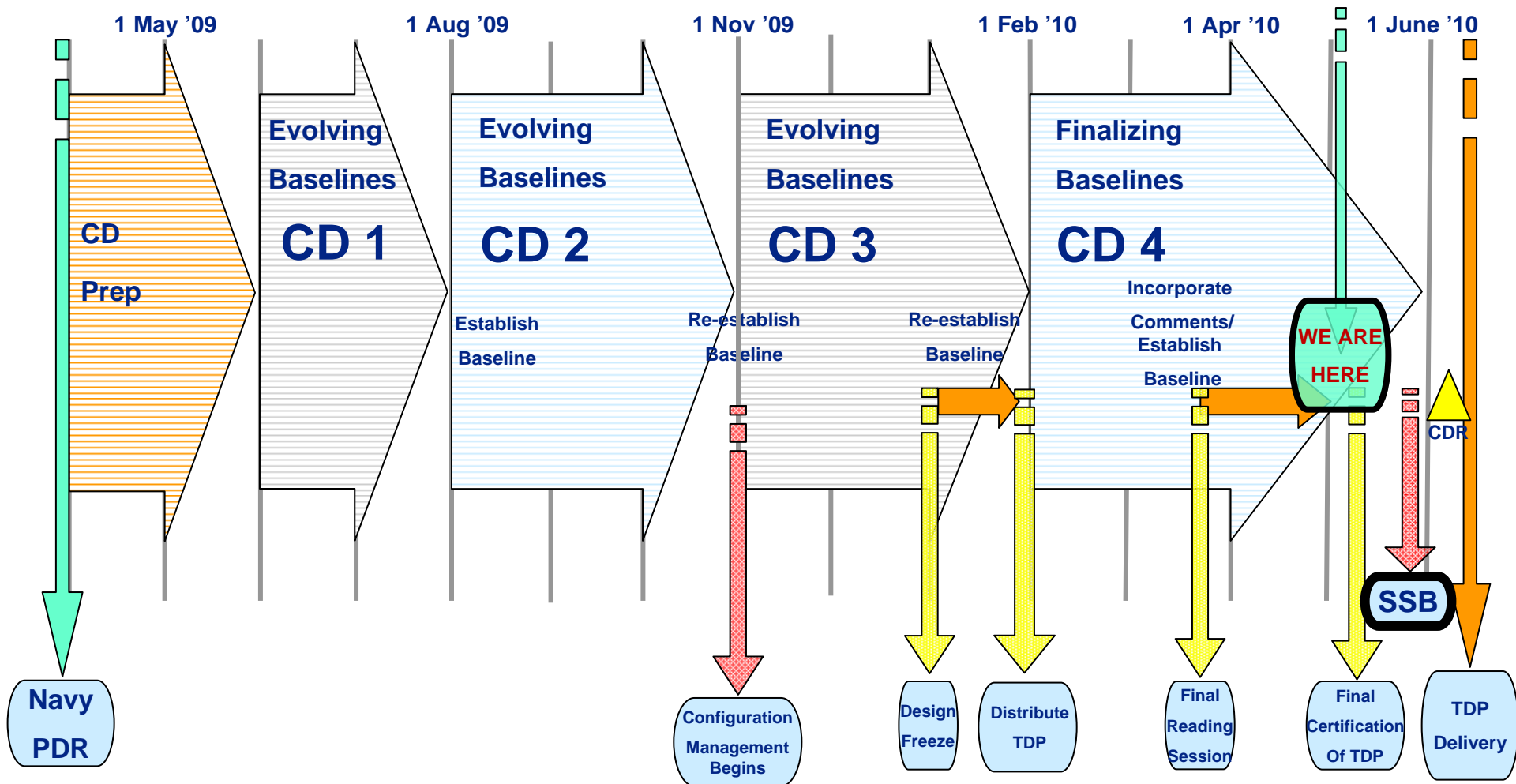
**Aluminum (5083)
Better corrosion resistance
& Immersion grade wet deck coating system**

Government Design ... Shipbuilder Detail Design

LOWER TOTAL OWNERSHIP COSTS



SSC Contract Design (CD) Schedule



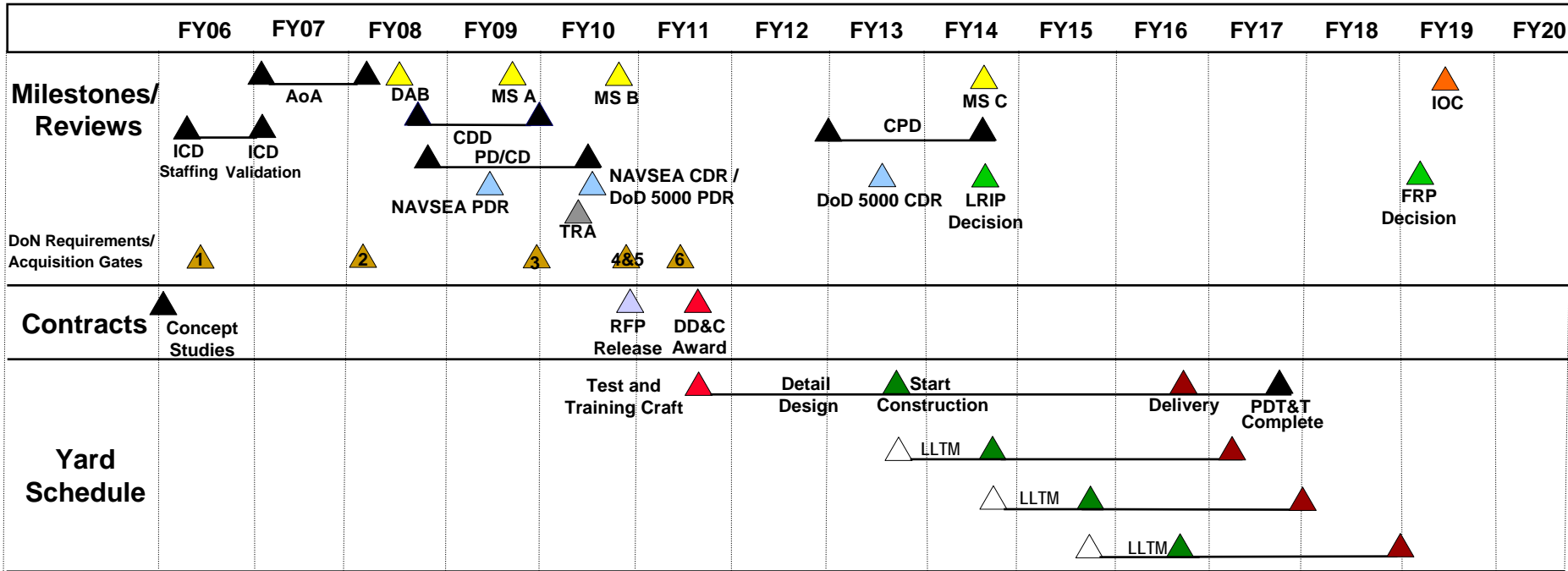
- Craft Design/Performance and Construction Specifications
- Contract Drawings

RFP

- Project Peculiar Documents (PPDs)
- Contract Data Requirements List (CDRL)



SSC Notional Program Schedule



*Presented at SSC Industry Day:
08 Dec 2009*



Questions?





BACK UP



USMC Equipment Images



+13.5 tons



+1.2 tons



Increased Lift Requirement