H-53 Heavy-Lift Helicopter Program Advance Technology Review Board

Colonel Paul Croisetiere
Program Manager
H-53 Heavy-Lift Helicopter

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CH-53X Capabilities

Sea Basing
OMFTS
CONOPS

Mid-Life Upgrade Requirements

The Gap

Technology Base
- Engines, drivetrains
- C4I, avionics
- CAD / CAM

CH-53X FOC

CH-53X IOC

Acquisition

Lack of CH-53 Investment / Spirals

Baseline


Time

Baseline


Time

PMA-261

Heavy Lift

Capability Gap
Meeting the Requirements

High Efficiency Rotor Blade w/swept anhedral tip

Common Engine System

Survivability Enhancements

Survivability
- 89% (T)
- 90% (O)

Mission Reliability
- 89% (T)
- 90% (O)

Logistics Footprint (Air & Sea)
- The current CH-53E logistics footprint as defined in Appendix B (T)
- 10% reduction from current CH-53E logistics footprint (O)

Sortie Generation Rate / Average Sortie Duration
- 2.6 / 2.25 within the mission description defined in ORD Appendix K (T/O)

KPP

<table>
<thead>
<tr>
<th>KPP</th>
<th>Threshold (T) and Objective (O)</th>
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<tbody>
<tr>
<td>Interoperability</td>
<td>• Satisfy 100% of the IERs listed as “critical” Table B (T)</td>
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<tr>
<td></td>
<td>• Satisfy 100% of all the IERs listed in Table B (O)</td>
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<tr>
<td>Range / Payload</td>
<td>Unrefueled Mission radius of 110 NM with a 27,000 lbs external load (T)</td>
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<tr>
<td>(Navy High / Hot)</td>
<td>Unrefueled Mission radius of 110 NM with a 30,000 lbs external load (O)</td>
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<tr>
<td>Mission Reliability</td>
<td>89% (T)</td>
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<td>90% (O)</td>
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<tr>
<td>Sortie Duration</td>
<td>See Appendix H</td>
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</table>

Commonality with:
- V22
- H1
- CASS
- VXX
- H-60

Drive Train

Low Maintenance Elastomeric Rotorhead

Joint Interoperable Modern Cockpit

Structure

High Efficiency Rotor Blade w/swept anhedral tip
CH-53X Technologies

Rotor Blade

- Anhedral Tip Main Rotor Blade
  - Increased lift of 5,000 pounds without increase in power
  - Increased aircraft performance
  - 4th generation technology

Drive Train

- Gear Box Technology

Helicopter Structure

- High gross weight
- Survivability

Reliability

Cargo Systems
CH-53X Technologies

Survivability:
  • DIRCM
  • SIRFC

Modernized Avionics:
  • Information Exchange Requirements
    - Tactical Data Links
    - CNS/ATM Compliant
  • Glass Cockpit
    - Addresses obsolescence issues
    - Open architecture
    - Modularized Software
    - Common!!!!
# Integrated Program Schedule

## Heavy Lift

<table>
<thead>
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<th>Fiscal Year</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
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### Acquisition Milestones
- Pre-Syst
- System Development & Demonstration
- System Integration
- Demo
- LRIP / IOTE
- Production / Deployment
- FRP

#### Contract Events
- ▼ = Progress Reviews
- ▲ = BOA DO
- 04
- 05
- ▲ SDD KA
- ▲ LRIP 1 KA
- ▲ MY FRP KA

#### Engineering Events
- ▼ = Trade Studies
- ▼ PDR
- ▼ CDR

#### ILS Events
- ▼ IOC-SR
- ▲ MSD
- ▲ Core Capability

#### Production
- 6x16 (HMH)
- 1x15 (FRS)
- 1x4 (HMX)
- 1x1 (R&D)
- 15% BAA
- 5% over
- Total Buy 154

#### Test Events
- ▲ ALFT&E
- ▼ First Flight
- ▲ CT / DT
- ▼ OA
- ▼ OA
- ▼ IOTE

#### Training Systems
- ▼ KA Lot 1
- ▼ KA Lot 2

*Draft as of 040405*