Satisfying Requirements While Achieving Life-Cycle Cost Goals

RADM Kathleen M. Dussault, US Navy
Director, Supply, Ordnance and Logistics Operations Division
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Standard Form 298 (Rev. 8-98)  
Prescribed by ANSI Std Z39-18
“Satisfying Requirements While Achieving Life-Cycle Cost Goals”

- Panelists:
- Mr. Lou Kratz, Lockheed Martin Corporation
  - “Achieving Life Cycle Capability”

- Mr. William Lucyshyn, University of Maryland
  - “Acquisition of Mine-Resistant, Ambush-Protected (MRAP) Vehicles: A Case Study”

- Mr. J. David Patterson, University of Tennessee
  - Discussant
“Total ownership costs are part of my requirements and acquisition decisions. We will not buy a ship if it is unaffordable today and we will not buy it if it will be unaffordable over its lifetime.”

Chief of Naval Operations, Admiral Gary Roughead
The TOC Picture

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LATEST TOC OBJECTIVE

LASTEST SCP ESTIMATE

INITIAL SCP

OLM

MILCON

RDT&E

PROCUREMENT

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<tr>
<th>LRIP</th>
<th>FRP – Qty/Period</th>
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<td>$$$</td>
<td>FYDP $$$</td>
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Remaining LC FYs $$$ by Year

Acquisition Research Program: Creating Synergy for Informed Change

Naval Postgraduate School
Monterey, CA
Navy’s Primary TOC Challenges:

- **Life Cycle Costs are set early in an acquisition program – most set prior to Milestone B**
  - Understanding & influencing the cost drivers is essential
  - Need to increase the focus on TOC at every decision point

- **The majority of the 2020 Battle Force exists today**
  - 222 of today’s 285 ships are required in 2020
  - Platforms must achieve their Expected Service Life

- **Life cycle costs of next generation systems must be more fully understood**
  - Increased fidelity of sustainment strategies is essential
  - The VA Class Submarine is representative of the future
N4 Strategy for TOC Reduction

Goal - Infuse affordability considerations into the life cycle of Navy platforms and systems through:

– Navy’s TOC advocate – focused on Sustainment
– Acquisition Governance
  • SECNAVINST 5000.2E Navy Acquisition Process Instruction revision (ready for signature)
  • Affordability Metrics: Probability of Program Success (PoPS) v2.0 criteria
  • Gate Review Participation
– JCIDS and Logistics Functional Capabilities Board (LOG FCB) Engagement
– Affordability Cross Functional Teams (CFT)
– Logistics Human Capital Campaign
JCIDS & LOG FCB Process Engagement

JCIDS Process Reviews

- Review all Joint Capability Integration and Development System (JCIDS) process documents from all services as the Navy rep for logistics and sustainment (CBA, ICD, CONOPS, CDD, CPD, DCR)
- Assess for TOC and affordability implications
- Some impact Navy budget/mission, others do not

Logistics Functional Capability Board (FCB) Navy Representative

- Prepare Navy leadership for Logistics topics at the Joint Capabilities Board (JCB) and Joint Requirements Oversight Council (JROC)
- Logistics JCB is chaired by USTRANSCOM – most other JCBs chaired by Joint Staff
- Coordinate Logistics Capability Gap Assessment response
- Navy representative for Logistics Joint Urgent Operational Needs (JUONS)
Affordability Cross Functional Team (CFT)

Venue for Continuous Discussion of Affordability Opportunities

Provides a Mechanism to Capture Initiatives and Track Performance against Projections

Establishes a Deliberative, Disciplined Process for Evaluating and Investing in Affordability Initiatives

Serves as a Cross-cutting Forum for Continuous Cost Reduction Initiatives

Provider EXCOMM

Provider ESG

OPNAV N4 Affordability CFT Chair

Decisions

Programming

Highest potential

Affordability CFT

NAVSEA

NAVAIR

SPAWAR

ONR

NAVSUP

CNIC

NAVFAC
Logistics Professional Development Framework Vision

**Targeted position and its required Competencies**
- Supply Management: 3
- Distribution/Transportation: 5
- Maintenance Support: 1
- Defense Lifecycle Logistics: 2

**Name & Contact information**
- Name: John Smith
- Serial number: 2454KF91
- Manager: Julie Jones

**Workforce Category Levels**
- Supply Management: 1
- Distribution & Transportation: 2
- Maintenance Support: 1
- Defense Life Cycle Logistics: 2

**Fundamental Competencies**
- Public Service Motivation: Experienced
- Continual Learning: Experienced
- Oral/Written Communication: Foundation
- Integrity/Honesty: Experienced
- Interpersonal Competencies: Advanced

**Leadership & Management Competencies**
- Business Acumen: Experienced
- Leading People: Foundation
- Leading Change: Experienced
- Results Driven: Experienced
- Communication: Advanced

**Notional Example of a Logistician’s PDF profile**
- PDF:
  - Regular assessment & career progress tracking
  - Consistent expectations for job requirements
  - Individualized roadmap towards career goals

**Current position and competency levels**
- Supply Management: 1
- Distribution/Transportation: 2
- Maintenance Support: 1
- Defense Lifecycle Logistics: 2
Virginia Class Submarine
RTOC IPT
Focus Areas

**Acquisition IPT**

DFA Initiatives
- Block III revisited
- Block IV new ideas
- Ideas generated in other IPTs
  - ManTech

Capability Enhancement
- Reduce EDSRA Cycle Time to 11 months or less
- Initial barrier investigations
  - Space Closeouts to Prep for SS00
  - DMD scheduling
  - Propulsor/Shafting
  - LWWAA (Maintenance, Testing, Alignment)
- End Game
  - FBW Testing Process
  - CSO Equipment Build/Testing (Sail, VLS prior to UD00)

Commonality
- Open architecture payload middleware
  - Common sail
- HM & E platform management system
  - CCSM
  - Electric Actuation

**Support**

Sparing
- PBL
- RBS Modeling
- On-Board Retail
- Wholesale
- OSISL
- Shop Stores
- Stocking Policies
- Combined Procurement

Training /Tech Data

Operational Basing & Level Requirements
- Special Requirements
- Stand Up
- Capabilities per I-Level
- Capabilities Shipyard

In-Service Engineering (ISE) / Modernization

**Manning**

- Initial NSSN manpower studies and plan
- SMMTT for APBs
- CNA Study
- Impact of new technology

**Life Cycle**

- Design for Life Cycle Affordability
- Attack cost drivers identified in TOC Baseline
- Sustainment efforts
- Infrastructure/tools/technology
- 15 Deployments Over Life of Each Ship
- Reduce Total Time for Depot Maintenance to <36 months

**Maintenance**

- Reduce EDSRA Cycle Time to 11 months or less
- Initial barrier investigations
  - Space Closeouts to Prep for SS00
  - DMD scheduling
  - Propulsor/Shafting
  - LWWAA (Maintenance, Testing, Alignment)
  - End Game
  - FBW Testing Process
  - CSO Equipment Build/Testing (Sail, VLS prior to UD00)
Virginia Class Submarine
Identified 15 potential Cross Functional Team Candidates

Sub-system Prioritization Graph

- Nuclear Reactor and Reactor Plant Mechanical Systems
- Propulsion and Reactor Plant Control and Instrumentation

Ease of Capture

- Generally high on ease of capture
- Bimodal Response – needs further evaluation
- Generally rated medium on ease of capture
- Generally rated low on ease of capture

Sub-system TOC Cost ($B)
- Size of Bubble, ~$4B, is sub-system O&S cost

1. Insulation & Coatings
2. Combat Control System
3. Non-Acoustic Sensors
4. Portable Equipment and Consumable Supplies
5. Acoustic Sensors
6. Pressure Hull
7. Air Revitalization and Ventilation
8. Communications
9. High / Low Pressure Air
10. Hydraulics
11. Interior Communications
12. Propulsion Equipment & Shafting
13. Habitability Furnishings
15. Electric Systems

Virginia Class Submarine
NPS
Acquisition Research Program: Creating Synergy for Informed Change
Naval Postgraduate School
Monterey, CA
VIRGINIA Class Maintenance Life Cycle - 15 Deployments by Block IV

TFT Study
SSN 774 – 775
Total Man-days: 827K
Depot months: 60 (15%)
Deployments: 13

TFT Study
SSN 776 – 781
Total Man-days: 827K
Depot months: 60 (15%)
Deployments: 13

TFT Study
SSN 782 – 791
Total Man-days: 734K
Depot months: 56 (14%)
Deployments: 14

Transition to Block IV Target
Total Man-days: TBD
Depot months: 40 (10%)
Deployments: 15

Block IV Target
SSN 792 – 803
Total Man-days: TBD
Depot months: 40 (10%)
Deployments: 15
INTRODUCTIONS
Satisfying Requirements While Achieving Life-Cycle Cost Goals

“Achieving Life Cycle Capability”

Mr. Lou Kratz, Lockheed Martin Corporation
VP of Logistics & Sustainment, Corporate Engineering & Technology for Lockheed Martin Corporation.
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