Defense Acquisition Guidebook (DAG)  
Chapter 3 Systems Engineering Update: Overview Briefing  
Office of the Deputy Assistant Secretary of Defense for Systems Engineering  
March 2017  
https://shortcut.dau.mil/dag/CH3
Why Update the DAG Chapter 3?

Ensure Chapter 3 Is An Effective Tool for the Program Manager and the Systems Engineer

- Improve guidance to fully reflect current policy and DASD(SE) initiatives
- Address recommendations from Better Buying Power 3.0 *Streamline documentation requirements and staff reviews*
- Incorporate recognized Department-wide best practices
- Update formatting and structure of the document to align to new DAG standardization guidelines
The revised DAG renumbered Systems Engineering to CH 3

https://www.dau.mil/tools/dag
DAG Chapter 3 Outline

CH 3 – 1.0 Purpose

CH 3 – 2.0 Background
   2.1 Systems Engineering Policy and Guidance
   2.2 Systems Engineering Plan
   2.3 Systems Level Considerations
      2.3.1 Software
   2.4 Tools, Techniques, and Lessons Learned
      2.4.1 Modular Open Systems Approach
      2.4.2 Modeling and Simulation
      2.4.3 Sustainability Analysis
      2.4.4 Value Engineering
      2.4.5 Lessons Learned, Best Practices, and Case Studies
   2.5 Engineering Resources
   2.6 Certifications
   2.7 Systems Engineering Role in Contracting

CH 3 – 3.0 Business Practices: Systems Engineering Activities in the Life Cycle
   3.1 Life-Cycle Expectations
      3.1.1 Systems Engineering in Defense Acquisition Program Models
      3.1.2 Systems of Systems
   3.2 Systems Engineering Activities in Life-Cycle Phases (includes 6 subsections, one for each life-cycle phase)
   3.3 Technical Reviews and Audits (includes 8 subsections, one for each technical review and audit)

CH 3 - 4.0 Additional Planning Considerations
   4.1 Technical Management Processes (includes 8 subsections, one for each technical management process)
   4.2 Technical Processes (includes 8 subsections, one for each technical process)
   4.3 Design Considerations (includes 24 subsections, one for each design consideration)
New DAG Chapter 3
Major Content Changes

- Emphasizes Modular Open Systems Approach in accordance with NDAA FY15 Section 801 (CH 3-2.4.1)
- Updates SEP approval authority based on NDAA FY16 Section 832 (CH 3-2.2)
- Addresses the key SE considerations for the defense acquisition models and life-cycle phases defined in the DoDI 5000.02, January 7, 2015 (CH 3-3.1, CH 3-3.2, and CH 3-3.3)
- Incorporates key tenets of the new DoD Risk, Issue, and Opportunity Guide developed in accordance with BBP 3.0 *improve our leaders' ability to understand and mitigate technical risk* (CH 3-4.1.5)
- References recently DoD-adopted Non-Government Standards (IEEE/ISO/IEC15288, IEEE 15288.1, and IEEE 15288.2; EIA 649-1; AS 6500)
- Incorporates Department-wide best practices for software (CH 3-2.3.1), technical performance measures (CH 3-4.1.3 & CH 3-4.1.3.1), and technical planning process (CH 3-4.1.1)
- Enhanced Design Considerations in CH 3-4.3:
  - Affordability -- SE Tradeoff Analyses; Anti-Counterfeiting; Corrosion Prevention and Control (CPC); Environmental, Safety, and Occupational Health (ESOH); Intelligence (Life-cycle Mission Data Plan); Modular Design; and System Security Engineering
- Removed obsolete information
  - In-Service Reviews
Updated DAG Chapter 3 posted to DAU website in February 2017

https://shortcut.dau.mil/dag/CH3

For additional information, contact osd.atl.asd-re.se@mail.mil
Back-up
The DAG has been restructured to combine chapters

DAG (15 May 2013)

1. Department of Defense Decision Support Systems
2. Program Strategies
3. Affordability and Life-Cycle Resource Estimates
4. Systems Engineering
5. Life-Cycle Logistics
6. Human Systems Integration
7. Acquiring Information Technology, Including National Security Systems
8. Intelligence Analysis Support to Acquisition
9. Test and Evaluation
10. Decisions, Assessments, and Periodic Reporting
11. Program Management Activities
13. Program Protection
14. Acquisition of Services

DAG (26 February 2017)

1. Program Management
2. Analysis of Alternatives, Cost Estimating, & Reporting
3. Systems Engineering
4. Life Cycle Sustainment
5. Manpower Planning & Human Systems Integration
6. Information Technology & Business Systems
7. Intelligence Support & Acquisition
8. Test and Evaluation
9. Program Protection
10. Acquisition of Services

- CH 1 combines previous CH 1, 2, 10, and 11
- CH 6 combines previous CH 7 and 12
- CH 4 Systems Engineering renumbered to CH 3
<table>
<thead>
<tr>
<th>Current DAG Chapter 4 Outline</th>
<th>New DAG Chapter 3 Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.0 Overview</strong></td>
<td><strong>1.0 Purpose</strong></td>
</tr>
<tr>
<td>4.0.1 Purpose</td>
<td></td>
</tr>
<tr>
<td>4.0.2 Contents</td>
<td></td>
</tr>
</tbody>
</table>

| **4.1 Introduction**           |                       |
| 4.1.1 SE Policy and Guidance  |                           |
| 4.1.2 Systems Engineering Plan|                           |
| 4.1.3 Systems Level Considerations|                         |
| 4.1.4 Engineering Resources   |                           |
| 4.1.5 Certifications          |                           |
| 4.1.6 SE Role in Contracting  |                           |

| **4.2 SE Activities in the Life Cycle** |                       |
| 4.2.1 Life Cycle Expectations       |                           |
| 4.2.2 – 4.2.7 Acquisition Phases    |                           |
| 4.2.8 – 4.2.17 Technical Reviews and Audit |                      |

| **4.3 SE Processes**              |                       |
| 4.3.1 SE Processes Overview      |                           |
| 4.3.2 – 4.3.9 Technical Management Processes |                      |
| 4.3.10 – 4.3.17 Technical Processes |                           |
| 4.3.18 Design Considerations     |                           |
| 4.3.19 Tools, Techniques, and Lessons Learned |                     |

| **Legend**                       |                       |
| New Section Header:              |                           |
| Relocated Section:               |                           |