



Department of Defense Systems Engineering Policy and Standardization

Robert Gold

**Office of the Deputy Assistant Secretary of Defense
for Systems Engineering**

**18th Annual NDIA Systems Engineering Conference
Springfield, VA | October 27, 2015**



DASD, Systems Engineering Mission



Systems Engineering focuses on engineering excellence – the creative application of scientific principles:

- To design, develop, construct and operate complex systems
- To forecast their behavior under specific operating conditions
- To deliver their intended function while addressing economic efficiency, environmental stewardship and safety of life and property

DASD(SE) Mission: Develop and grow the Systems Engineering capability of the Department of Defense – through engineering policy, continuous engagement with component Systems Engineering organizations and through substantive technical engagement throughout the acquisition life cycle with major and selected acquisition programs.

A Robust Systems Engineering Capability Across the Department Requires Attention to Policy, People and Practice

- ***US Department of Defense is the World's Largest Engineering Organization***
- ***Over 108,000 Uniformed and Civilian Engineers***
- ***Over 39,000 in the Engineering (ENG) Acquisition Workforce***



DASD, Systems Engineering



 **DASD, Systems Engineering**
Stephen Welby
Principal Deputy  **Kristen Baldwin**

 **Major Program Support**
James Thompson

Supporting USD(AT&L) Decisions with Independent Engineering Expertise

- Engineering Assessment / Mentoring of Major Defense Programs
- Program Support Assessments
- Overarching Integrated Product Team and Defense Acquisition Board Support
- Systems Engineering Plans
- Systemic Root Cause Analysis
- Development Planning/Early SE
- Program Protection

 **Engineering Enterprise**
Robert Gold

Leading Systems Engineering Practice in DoD and Industry

- Systems Engineering Policy and Guidance
- Technical Workforce Development
- Specialty Engineering (System Safety, Reliability and Maintainability, Quality, Manufacturing, Producibility, Human Systems Integration)
- Security, Anti-Tamper, Counterfeit Prevention
- Standardization
- Engineering Tools and Environments

Providing technical support and systems engineering leadership and oversight to USD(AT&L) in support of planned and ongoing acquisition programs



Agenda

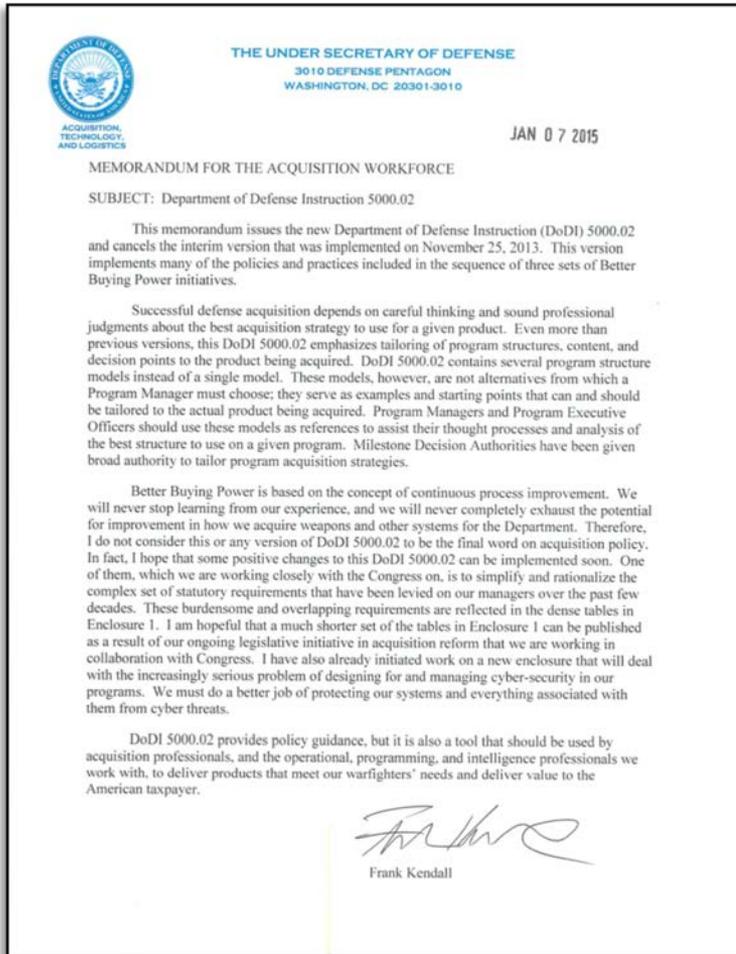


- **Update on DoDI 5000.02, Enclosure 3 Systems Engineering**
- **Status of Systems Engineering Policy and Guidance Accomplishments**
- **DoD Standardization Accomplishments**



DoD Instruction 5000.02

January 7, 2015



- On January 7, 2015, USD(AT&L) issued the new DoD Instruction (DoDI) 5000.02 and canceled the interim version
- References Enclosure 9 of DoDI 5000.02, December 8, 2008, Acquisition of Services until cancelled by issuance of the new acquisition of services instruction
- This version contains minor revisions to Enclosure 3 Systems Engineering as compared to the Interim DoDI 5000.02

We will continue to learn from our experiences and consider continuous improvements in how we acquire weapons and other systems for the Department



DoDI 5000.02 Structure

- **Core Instruction - Operation of the Defense Acquisition System**
- **13 Enclosures**
 1. Acquisition Program Categories and Compliance Requirements
 2. Program Management
 3. **Systems Engineering**
 4. Developmental Test and Evaluation (DT&E)
 5. Operational and Live Fire Test and Evaluation (OT&E and LFT&E)
 6. Life-Cycle Sustainment
 7. Human Systems Integration (HSI)
 8. Affordability Analysis and Investment Constraints
 9. Analysis of Alternatives (AoA)
 10. Cost Estimating and Reporting
 11. Requirements Applicable to All Programs Containing Information Technology (IT)
 12. Defense Business Systems (DBS)
 13. Rapid Fielding of Capabilities



Interim DoDI 5000.02 versus 2008 Systems Engineering Enclosure

Interim DoDI 5000.02 (25 Nov 2013) Enclosure 3 Systems Engineering

1. Purpose
2. Systems Engineering Plan
3. Development Planning
4. Systems Engineering Trade-Off Analyses
5. Technical Risk and Opportunity Management
6. Technical Performance Measures and Metrics
7. Technical Reviews
8. Configuration Management
9. Modeling and Simulation
10. Manufacturing and Producibility
11. Software
12. Reliability and Maintainability
13. Program Protection
14. Open Systems Architecture
15. Corrosion Prevention and Control
16. Environment, Safety, and Occupational Health (ESOH)
17. Insensitive Munitions
18. Item Unique Identification
19. Spectrum Supportability
20. Design Reviews
21. Program Support Assessments

Red = New
Blue = Revised

DoDI 5000.02 (8 Dec 2008) Enclosure 12 Systems Engineering

1. Systems Engineering Across the Acquisition Life Cycle
2. Systems Engineering Plan
3. Systems Engineering Leadership
4. Technical Reviews
5. Configuration Management
6. Environment, Safety, and Occupational Health (ESOH)
7. Corrosion Prevention and Control
8. Modular Open Systems Approach (MOSA)
9. Data Management and Technical Data Rights
10. IUID
11. Spectrum Supportability

14 New Sections
7 Revised Section
4 Removed Sections



Final versus Interim Enclosure 3 Systems Engineering



DoDI 5000.02 (7 Jan 2015) Enclosure 3 Systems Engineering

1. Purpose
2. [Systems Engineering Plan](#)
3. Development Planning
4. Systems Engineering Trade-Off Analyses
5. Technical Risk and Opportunity Management
6. Technical Performance Measures and Metrics
7. [Technical Reviews](#)
8. Configuration Management
9. Modeling and Simulation
10. Manufacturing and Producibility
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Interim DoDI 5000.02 (25 Nov 2013) Enclosure 3 Systems Engineering

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20. Design Reviews
21. Program Support Assessments

merged content

Blue = Sections that contain significant revisions



Enclosure 3 Systems Engineering Summary of Changes



2. Systems Engineering Plan

- Removed the SEP reporting guidance specific to information systems and defense business systems (DBS); SEPs are required for all program types and domains
- Note: Both the DBS business case and the program charter requirements were removed from the DoDI 5000.02.

7. Technical Reviews

- Combined Para. 20 Design Reviews with Para. 7 Technical Reviews
- Clarified the intent of the system-level CDR assessment
- Clarified that DASD(SE) will be a participant for conducting the assessments for ACAT ID and IAM programs

12. Reliability and Maintainability (R&M)

- Clarified the requirement for the RAM-C Report to only be required for MDAPs

14. Open Systems Architectures

- Incorporated concepts of “modular” and “reuse”

15. Corrosion Prevention and Control

- Removed standalone requirement for a Corrosion Presentation and Control Plan
- Note: Corrosion Prevention and Control design considerations is already required in the SEP

20. Program Support Assessments

- Clarified that DASD(SE) will conduct PSAs on MDAP and MAIS programs, and other programs as directed by DAE



Other Significant Changes

- **Replaced “field” with “deploy”, such as Limited Deployment Decision (LDD) for MAIS programs**
- **Added ‘framing assumptions’ to support decision points: Milestone A, Development RFP Release, and Milestone B**
- **Clarified the scope of the Configuration Steering Board (CSB)**
 - “The Program Manager, in consultation with the PEO and the requirements sponsor, will, on at least an annual basis, identify and propose to the CSB a set of recommended requirements changes to include descoping options that reduce program cost and/or moderate requirements and changes needed to respond to any threat developments.”
- **Enclosure 1, Table 2, Milestone and Phase Information Requirements**
 - Merged statutory requirements associated with the Acquisition Strategy into one row (pages 47-48)
 - Added concept of operations (CONOPS) to Operational Mode Summary/Mission Profile (i.e., CONOPS/OMS/MP)
 - Added new requirement for “Waveform Assessment Application”
 - Removed the following requirements:
 - Business Case (DBS programs only)
 - Business Process Re-Engineering (captured in Enclosure 1, Table 9, Clinger-Cohen Act (CCA) Compliance)
 - Corrosion Prevention and Control Plan (captured in SEP)
 - Independent Risk Assessment (DBS programs only)
 - Orbital Debris Mitigation Risk Report (space programs only)
 - Post-System Functional Review Report (space programs only)
 - Program Charter (DBS programs only)

Note: See DoDI 5000.02 for full text



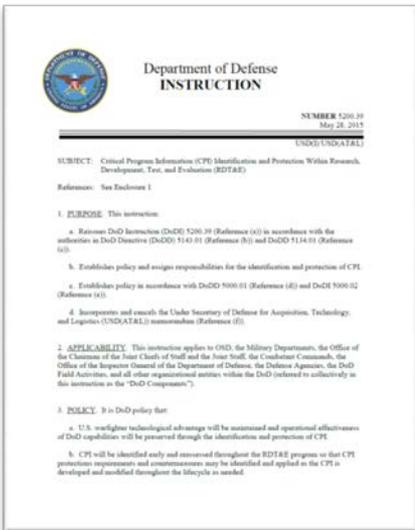
Agenda



- ✓ **Update on DoDI 5000.02, Enclosure 3 Systems Engineering**
- **Status of Systems Engineering Policy and Guidance Accomplishments**
- **DoD Standardization Accomplishments**

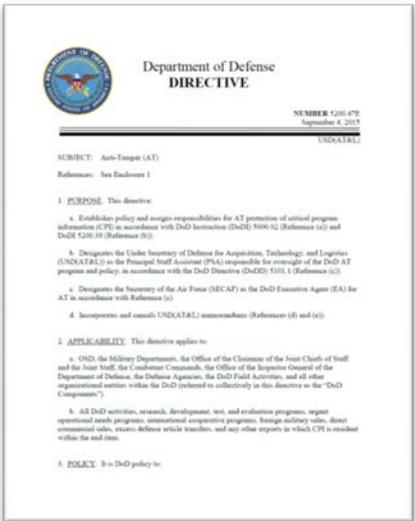


Advances in CPI and AT Policy



• DoD Instruction 5200.39, “Critical Program Information (CPI) Identification and Protection Within Research, Development, Test, and Evaluation (RDT&E),” May 28, 2015

- Focuses the definition of CPI on capability elements that provide a technological advantage
- Requires that CPI be identified early and reassessed throughout the program
- Emphasizes horizontal identification and protection



• DoD Directive 5200.47E, “Anti-Tamper,” September 4, 2015

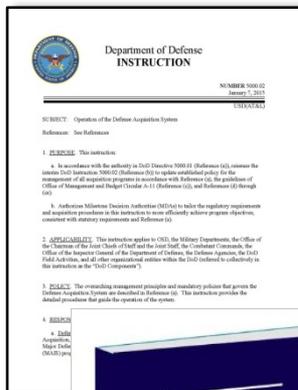
- Establishes AT program governance, specifically designates SAF as the DoD Executive Agent for AT and requires that DoD Component heads establish Offices of Primary Responsibility for AT
- Requires that DoD Component heads conduct AT planning, implementation, and evaluations in alignment with guidance from the DoD Executive Agent for AT



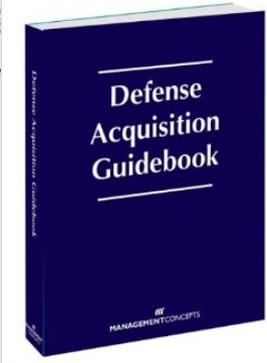
Engineering Tools and Environment Language in Policy & Guidance



DoDI 5000.02, Enclosure 3, Section 9: Modeling and Simulation



DoD Digital Engineering Fundamental



Defense Acquisition Guidebook Ch.4



Defense Acquisition University Website

DoDI 5000.02, Operation of the Defense Acquisition System

Requires the integration of Mod/Sim activities into program planning and engineering efforts

(<http://www.dtic.mil/whs/directives/corres/pdf/500002p.pdf>)

Defense Acquisition Guidebook (DAG) Ch 4 – System Engineering

Defines the Mod/Sim capabilities, benefits, roles, responsibilities, and activities (<https://acc.dau.mil/dag4>)

MS&A Fundamentals / DoD Digital Engineering Fundamental

Defines a set of high-level truths for Mod/Sim usage in Systems Engineering support to acquisition

(<http://www.acq.osd.mil/se/docs/SE-MSA-Fundamentals.pdf>)

Digital System Model/Digital Thread Definitions

Define the digital representation of a system and the analytical framework that models the system's capabilities and performance



Modular Open Systems Efforts



■ Standards

- Technical Standards Working Group (TSWG) – exploratory group to determine what role ...standards generated or adopted...should play in supporting M/OSAs

■ Better Buying Power 3.0 - MOSA

- ...continues the emphasis on open systems architectures and modularity, focusing on providing technical enablers and tools that can be employed by the acquisition workforce and industry to enhance technology insertion, particularly in the most rapidly advancing areas of commercial technology

● OSA WG

- Completing work on contract and intellectual property guidance begun under earlier BBP initiatives

● Programs

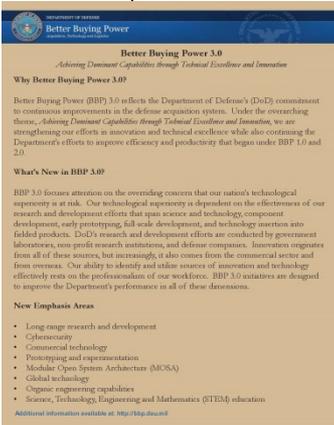
- Continued use of modular and open system approaches to promote competition, make use of innovation, improve interoperability, conserve resources, and/or enable technical refresh.



SYSTEMS ENGINEERING PLAN (SEP) OUTLINE

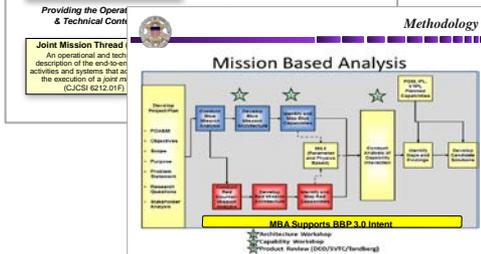
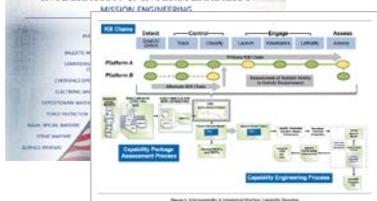
20 April 2011

Version 1.0, 04/20/2011





Systems of Systems Engineering

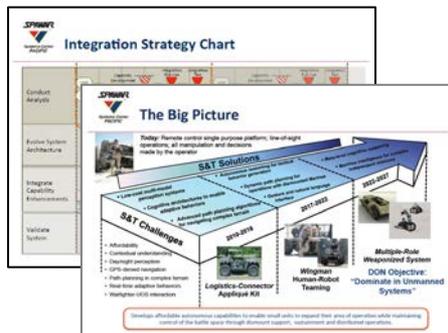
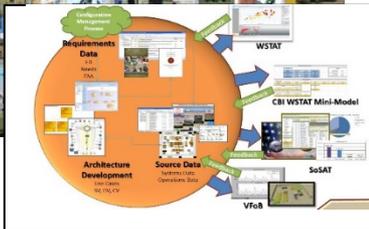


Reviewed SoS Engineering Guidance in light of current applications

- Current content of SoS SE Guide and DAG on SoS continues to be valid
- Identified set of current issues not yet addressed in guidance as candidates for FY16 follow-up

Identified opportunities for future SoS Engineering engagement

- Services and Joint Staff Working Group
- SoS Initiatives
 - o Army Chem-Bio
 - o NLCC
 - o Assembled Capabilities
 - o SATCOM
 - o SPAWAR Unmanned Systems



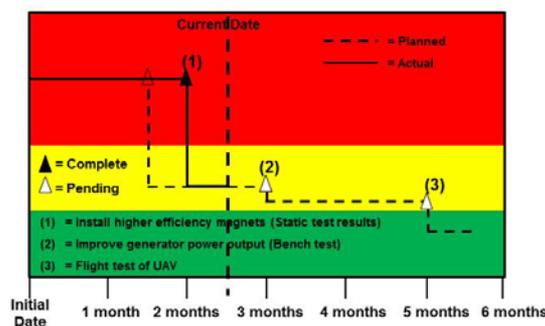
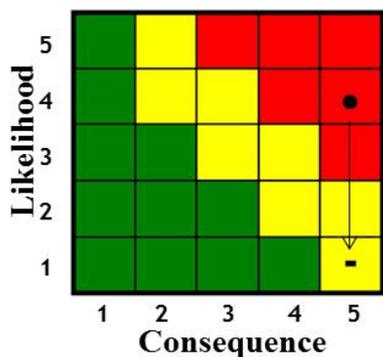
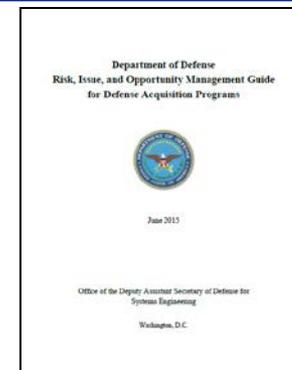


Risk, Issue, and Opportunity Management Guide



Published the DoD Risk, Issue, and Opportunity (RIO) Management Guide for DoD Acquisition, June 2015

- Incorporated 1300+ Service, DAU, and NDIA comments
- Aligned with DoDI 5000.02 and Better Buying Power
- Introduces complementary Issue and Opportunity Management
- Provides broad guidance, expectations, and terms of reference
- Provides example templates and tools

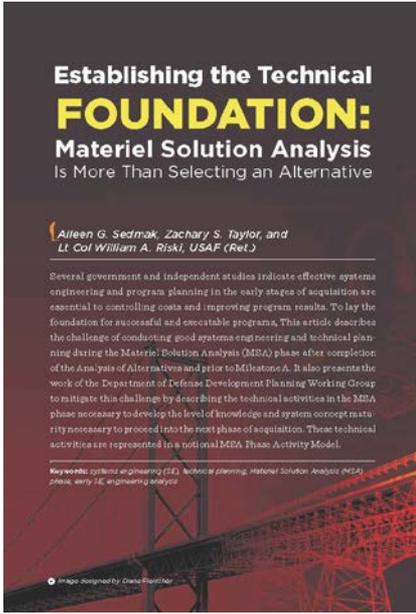


<http://www.acq.osd.mil/se/docs/RIO-Guide-Jun2015.pdf>

The RIO Management Guide provides techniques, tools and templates to enable better management of technical risks, issues and opportunities

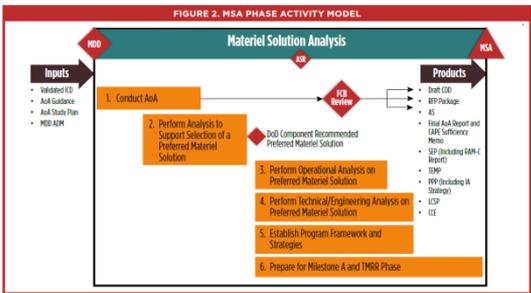


Technical Activities in the Materiel Solution Analysis (MSA) Phase



“Establishing the Technical Foundation: Materiel Solution Analysis Is More Than Selecting an Alternative” published in the Defense Acquisition Research Journal, October 2015 Issue

- Describes the challenge of conducting good SE and technical planning during the MSA phase with limited funding
- Presents an MSA Phase Activity Model developed by the DoD Development Planning Working Group (DPWG)
- Based on the Milestone A “Phase and Information Requirements” from DoDI 5000.02 and other DoD policy and guidance



<http://www.dau.mil/publications/DefenseARJ/ARJ/ARJ75/ARJ75-Sedmak.pdf>



Agenda



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Reinvigorating Defense Standardization



- **Acquisition Reform efforts cancelled tens of thousands of military specifications and standards**
- **Military specifications and standards were partially replaced with Non-Government Standards (NGS)**
- **DoD continues strong support of NGS, however**
 - DoD requires NGS that are contractually enforceable
 - NGS may not capture DoD requirements

Standards provide our corporate technical process memory and enable communication between and across the Department, industry, and our Allies



DoD Standardization Authority



- **Public Law 104-113, “National Technology Transfer and Advancement Act”**
 - Unless inconsistent with law or impractical, Federal Agencies should use voluntary consensus standards
 - Federal Agencies should participate in development of voluntary consensus standards, if compatible with Agency mission, priorities, and resources
- **USD(AT&L) appointed the Deputy Assistant Secretary of Defense, Systems Engineering (DASD(SE)) as the Defense Standardization Executive (DSE)**
 - Need to make standardization a more effective engineering tool to restore discipline and consistency in executing engineering processes in acquisition and logistics

Opportunity to leverage our standardization processes and products as a key engineering tool in promoting acquisition excellence



Standards Focus Areas



- **Defense Standardization Council identified key initial areas where standards are needed to restore discipline and consistency (authorized initiation of working groups on May 6, 2011)**
 - Systems engineering
 - Technical reviews and audits
 - Configuration management
 - Manufacturing management
 - Logistics support analysis
- **Focus is on supporting Department needs by leveraging voluntary consensus standards**
- **Future focus: Identifying other areas where additional standards can drive acquisition effectiveness and efficiency**
 - Human systems integration
 - Corrosion control and prevention



IEEE Standard for Application of Systems Engineering on Defense Programs



- **IEEE 15288.1 is an addendum to ISO/IEC/IEEE 15288, Systems & Software Engineering – System Life Cycle Processes, with Defense-specific language**
 - Implements ISO/IEC/IEEE 15288 for use by defense organizations and industry partners in acquiring systems or engineering support
 - Allows flexibility for innovative implementation and tailoring of specific systems engineering processes to be used by system suppliers, developers, integrators, maintainers, and sustainers
 - Available for purchase from IEEE Standards Store (www.techstreet.com/ieee)
 - Available, without charge, through ASSIST to DoD military and civil service employees (<https://assist.dla.mil/online/start/>) *Copyright rules apply
- **Implementation guidance drafted by NDIA for OSD consideration**
 - Tailoring guidance based on key program characteristics
 - Sample RFP language to invoke tailored standard
 - Guidance for assessing contractor compliance
- **Issued May 15, 2015; adopted for use by DoD June 5, 2015***

*Adoption is an expression of acceptance of an NGS for repetitive use by those organizations shown as adopting activity, custodians, or review activities. While it is not mandatory for an NGS to be adopted to be used, adoption is strongly encouraged to provide for document visibility and identify a DoD technical focal point.



IEEE Standard for Technical Reviews and Audits on Defense Programs



- **IEEE 15288.2 is a stand-alone document with ties to the ISO/IEC/IEEE 15288 Project Assessment and Control process**
 - Establishes requirements, to be tailored and placed on contract, for technical reviews and audits performed throughout the acquisition life cycle of DoD programs
 - Provides description, intent, focus, expectations, and entry/exit/success criteria for each technical review and audit
 - Available for purchase from IEEE Standards Store (www.techstreet.com/ieee)
 - Available, without charge, through ASSIST to DoD military and civil service employees (<https://assist.dla.mil/online/start/>) * Copyright rules apply
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Configuration Management Standard



- **SAE EIA649_1, Configuration Management Requirements for Defense Contracts, is an addendum to ANSI/EIA-649B, Configuration Management Standard**
 - Implements ANSI/EIA-649B for use by defense organizations and industry partners during all phases of the acquisition life cycle
 - Allows flexibility for innovative implementation and tailoring of specific configuration management processes to be used by system suppliers, developers, integrators, maintainers, and sustainers
 - http://standards.sae.org/EIA649_1/
- **Accompanying implementation guidance**
 - Tailoring guidance based on acquisition phase needs
 - GEIA-HB-649A, Configuration Management Standard Implementation Guide, provides guidance applicable to both ANSI/EIA-649B and SAE EIA649_1
 - Pending revision of MIL-HDBK-61 will provide guidance specifically for application/implementation of SAE EIA649_1
- **Issued 20 Nov 2014; adopted for use by DoD 04 Mar 2015**



Manufacturing Management Standard



- **SAE AS6500, Manufacturing Management Program, is a stand-alone document**
 - Establishes requirements, to be tailored and placed on contract, aimed at promoting timely development, production, modification, fielding, and sustainment of affordable products
 - Addresses manufacturing management best practices for each phase of the acquisition life cycle
 - <http://standards.sae.org/AS6500>
- **Accompanying implementation guidance**
 - Tailoring guidance included in planned Air Force revision to MIL-HDBK-896
 - Guidance for contractual application and contractor compliance
- **Issued November 11, 2014; adopted for use by DoD January 20, 2015**



Standards Implementation

- **Use of NGS is not mandatory unless they appear on the list of mandatory standards for consideration:**
 - DoD Information Technology Standards Registry (DISR)
 - DSP Standardization Directory (SD) 21, Listing of Specifications and Standards Mandated for use by the Department of Defense by Public Laws or Government Regulations
 - MIL-STD-3018, Parts Management
 - U.S.-Ratified Materiel International Standardization Agreements (ISAs)
- **Expectation is that standards are tailored to program-specific needs, before being placed on contract**
- **Tailoring considerations**
 - Key program characteristics (e.g. Technical complexity, size, domain, technical risk)
 - Acquisition phase(s)
- **Benefits from Standardization**
 - Improved military operational readiness
 - Decreased total ownership costs
 - Reduced acquisition cycle times



Future Planned Activities



- **DAG Chapter 4, Systems Engineering**
 - Update to support BBP 3.0 initiative *Streamline Documentation Requirements and Staff Reviews* and the final DoDI 5000.02
- **SEP Outline**
 - Update pending BBP 3.0 initiatives
- **Development of tailoring guidance for SE-related NGS**
- **Development of focused policy, guidance, white papers**
 - Updated RAM-C Guide with Annotated Outline
 - Expanding the Data Taxonomy in DAG Chapter 4

Large Body of Knowledge for Systems Engineering



Conclusion



- **Systems engineering is an evolving discipline**
- **There is a large body of policy, guidance, and standards based on a large body of knowledge and experience**
- **Plan to continue to evolve the systems engineering capability of the Department of Defense**

**A Robust Systems Engineering Capability Across the Department
Requires Attention to Policy, People and Practice**



Systems Engineering: Critical to Defense Acquisition



Defense Innovation Marketplace
<http://www.defenseinnovationmarketplace.mil>

DASD, Systems Engineering
<http://www.acq.osd.mil/se>



For Additional Information



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Acquisition Strategy

DoDI 5000.02, Enclosure 1, Table 2. Milestone and Phase Information Requirements

INFORMATION REQUIREMENT	PROGRAM TYPE ¹				LIFE-CYCLE EVENT ^{1,2,3}							SOURCE	APPROVAL AUTHORITY		
	MDAP	MAIS	ACAT		MDD	MS A	CDD Val	Dev RFP Rel	MS B ⁵	MS C	FRP/FD Dec			OTHER	
			II	≤ III											
ACQUISITION STRATEGY	•	•	•	•		•					✓	✓		SEC. 803, P.L. 107-314 (Ref. (j)) Para. 6a of Enc. 2 of this instruction	MDA
<p>STATUTORY for MDAPs at Milestone A; Regulatory for all other program types at all marked events including MDAPs after Milestone A. The Acquisition Strategy will include STATUTORY and Regulatory information. Major changes to the plan reflected in the Acquisition Strategy require MDA approval. The following STATUTORY requirements will be satisfied in the Acquisition Strategy:</p> <ul style="list-style-type: none"> BENEFIT ANALYSIS AND DETERMINATION: STATUTORY; applies to bundled acquisitions only. Includes MARKET RESEARCH to determine whether consolidation of the requirements is necessary and justified. Required at Milestone C if there was no Milestone B; an update is not required at the FRP/FD decision point. 15 U.S.C. 632 (Reference (j)) defines a bundled contract as a contract that is entered into to meet requirements that are consolidated in a bundling of contract requirements. The term "bundling of contract requirements" means consolidating two or more procurement requirements for goods or services previously provided or performed under separate smaller contracts into a solicitation of offers for a single contract that is likely to be unsuitable for award to a small-business concern. SOURCE(S): 15 U.S.C. 644(e) (Ref. (j)), 15 U.S.C. 657q (Ref. (j)) CONSIDERATION OF TECHNOLOGY ISSUES: STATUTORY. Promotes, monitors, and evaluates programs for the communication and exchange of technological data. Not required below ACAT II nor after the Development RFP Release. For urgent needs, expedited consideration of technology issues will be reviewed during the COURSE OF ACTION ANALYSIS. SOURCE(S): 10 U.S.C. 2364 (Ref. (g)) CONTRACT-TYPE DETERMINATION: STATUTORY. Satisfied when the MDA approves the Acquisition Strategy with specified contract types. Only required for MDAPs at Development RFP Release and Milestones B and C. The MDA for an MDAP may conditionally approve the contract type selected for a development program at the Development RFP Release Decision Point, and give final approval at the time of Milestone B approval. The development contract type must be consistent with the level of program risk and may be either a fixed price or cost type contract. If selecting a cost-type contract, the MDA must comply with the conditions and reporting requirements listed in Table 6 in this enclosure. The DoD MAY NOT enter into cost-type contracts for production of an MDAP unless compliant with the conditions and notifications listed in Table 6. SOURCE(S): SEC. 818, P.L. 109-364 (Ref. (k)), SEC. 811, P.L. 112-239 (Ref. (l)) COOPERATIVE OPPORTUNITIES: STATUTORY. Only due at the first program milestone review. The requirement for a Cooperative Opportunities Document will be satisfied via the International Involvement section in the Acquisition Strategy outline. For programs responding to urgent needs, proven capabilities will be assessed during the COURSE OF ACTION ANALYSIS. SOURCE(S): 10 U.S.C. 2350a (Ref. (g)), SEC. 243, P.L. 111-383 (Ref. (m)) GENERAL EQUIPMENT VALUATION: STATUTORY; a program description that identifies contract-deliverable military equipment, non-military equipment, and other deliverable items; includes plan(s) to ensure that all deliverable equipment requiring capitalization is serially identified and valued. Only required at Milestone C; updated as necessary for the FRP/FD Decision. The capitalization thresholds are unit costs at or above \$1 million for Air Force and Navy general fund assets, and unit costs at or above \$250 thousand for all internal use software and for other equipment assets for all other general and working capital funds. SOURCE(S): P.L. 101-576 (Ref. (n)), Statement of Federal Financial Accounting Standards 23 (Ref. (o)) INDUSTRIAL BASE CAPABILITIES CONSIDERATIONS: STATUTORY for MDAPs; Regulatory for others. Summarizes the results of the industrial base capabilities' analysis. SOURCE(S): 10 U.S.C. 2440 (Ref. (g)) INTELLECTUAL PROPERTY (IP) STRATEGY: STATUTORY for major weapon systems and subsystems; Regulatory for other program types. The IP Strategy must be updated as appropriate to support and account for evolving IP considerations associated with the award and administration of all contracts throughout the system life cycle. Becomes part of the Life-Cycle Sustainment Plan (LCSP) during Operations and Support (O&S). For programs responding to urgent needs, due at the Development Milestone. SOURCE(S): 10 U.S.C. 2320 (Ref. (g)), Para. 6a(4) of Enclosure 2 of this instruction MARKET RESEARCH: STATUTORY. A stand-alone, Regulatory requirement at MDD. STATUTORY updates (as part of the ACQUISITION STRATEGY) required at Milestone A and the Development RFP release point; not required thereafter. Conducted to reduce the duplication of existing technologies and products, and to understand potential materiel solutions, technology maturity, and potential sources, to assure maximum participation of small business concerns, and possible strategies to acquire them. For programs responding to urgent needs, included in the Course of Action Approach at the Development Milestone. SOURCE(S): 10 U.S.C. 2377 (Ref. (g)), 15 U.S.C. 644(e)(2) (Ref. (j)), This instruction SMALL BUSINESS INNOVATION RESEARCH (SBIR)/SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAM TECHNOLOGIES: STATUTORY. Program managers will establish goals for applying SBIR and STTR technologies in programs of record and incentivize primes to meet those goals. For contracts with a value at or above \$100 million, program managers will establish goals for the transition of Phase III technologies in subcontracting plans and require primes to report the number and dollar amount of Phase III SBIR or STTR contracts. Not required at Milestone B. SOURCE(S): 15 U.S.C. 638 (Ref. (j)) TERMINATION LIABILITY ESTIMATE: STATUTORY. Only for MDAPs. Must be documented in the ACQUISITION STRATEGY for any contract for the development or production of an MDAP for which potential termination liability could reasonably be expected to exceed \$100 million. Updates may therefore be required at other than the marked events. The estimate must include how such termination liability is likely to increase or decrease over the period of performance. The Program Manager must consider the estimate before making recommendations on decisions to enter into or terminate such contracts. SOURCE(S): SEC. 812, P.L. 112-239 (Ref. (l)) 															



Concept of Operations/Operational Mode Summary/Mission Profile



DoDI 5000.02, Enclosure 1, Table 2. Milestone and Phase Information Requirements

INFORMATION REQUIREMENT	PROGRAM TYPE ¹				LIFE-CYCLE EVENT ^{1,2,3}								SOURCE	APPROVAL AUTHORITY
	MDAP	MAIS	ACAT II ≤ III		MDD	MS A	CDD Val	Dev RFP Rel	MS B ⁵	MS C	FRP/FD Dec	OTHER		
Concept of Operations/Operational Mode Summary/Mission Profile (CONOPS/OMS/MP)	•	•	•	•		•		✓		✓			JCIDS Manual (Ref. (r))	DoD Component
Regulatory. The CONOPS/OMS/MP is a Component approved acquisition document that is derived from and consistent with the validated/approved capability requirements document. The CONOPS/OMS/MP describes the operational tasks, events, durations, frequency and environment in which the materiel solution is expected to perform each mission and each phase of the mission. The CONOPS/OMS/MP will be provided to the MDA at the specified decision events and normally provided to industry as part of the RFP.														



Waveform Assessment Application



DoDI 5000.02, Enclosure 1, Table 2. Milestone and Phase Information Requirements

INFORMATION REQUIREMENT	PROGRAM TYPE ¹				LIFE-CYCLE EVENT ^{1,2,3}								SOURCE	APPROVAL AUTHORITY
	MDAP	MAIS	ACAT II ≤ III		MDD	MS A	CDD Val	Dev RFP Rel	MS B ⁵	MS C	FRP/FD Dec	OTHER		
Waveform Assessment Application	•	•	•	•					•	✓			DoDI 4630.09 (Ref. (ap))	DoD CIO
Regulatory. Application to the DoD CIO for approval of the development or modification of waveforms. Required at Milestone C if a waveform is added or modified after Milestone B.														



Govt Access to IEEE 15288.1 and 15288.2



- IEEE 15288.1 and 15288.2 are currently available at no charge to DoD military and civilian employees only via ASSIST, the DLA-sponsored database for DoD specifications and standards.
- Request an ASSIST Online account if you don't have one; can take 3-5 business days to receive approval:
<https://assist.dla.mil/online/start/>
- Once your account is approved, log into ASSIST using your CAC.
- Enter 15288 into the Doc ID box to bring up the two 15288 records. Select the hyperlink to either one of the records, 15288.1 or 15288.2. Then within the "Responsibilities" block, the last line states "Available From: Click here for information on where to obtain this document." Click the hyperlink at "Click here"
- There will be a hyperlink to the standard right below where it says "DoD users may view/download this standard here:"
- Repeat for the second standard.