US Department of Defense Systems Engineering Policy and Guidance

Aileen Sedmak

Office of the Deputy Assistant Secretary of Defense for Systems Engineering

17th Annual NDIA Systems Engineering Conference

Springfield, VA | October 29, 2014

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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***

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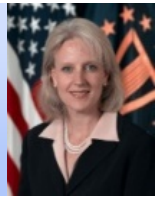
DASD, Systems Engineering

DASD, Systems Engineering
Stephen Welby
Principal Deputy Kristen Baldwin



Systems Analysis
Kristen Baldwin (Acting)

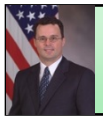
Addressing Emerging Challenges on the Frontiers of Systems Engineering

- Analysis of Complex Systems/Systems of Systems
- Program Protection/Acquisition Cyber Security
- University, FFRDC and Industry Engineering and Research
- Modeling and Simulation

Major Program Support
James Thompson

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

- Engineering Assessment / Mentoring of Major Defense Programs
- Program Support Reviews
- OIPT / DAB / ITAB Support
- Systems Engineering Plans
- Systemic Root Cause Analysis



Mission Assurance
Robert Gold

Leading Systems Engineering Practice in DoD and Industry

- Systems Engineering Policy & Guidance
- Development Planning/Early SE
- Specialty Engineering (System Safety, Reliability and Maintainability Engineering, Quality, Manufacturing, Producibility, Human Systems Integration)
- Counterfeit Prevention
- Technical Workforce Development
- Standardization

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

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Agenda

- **Interim DoD Instruction (DoDI) 5000.02 and changes to Systems Engineering policy**
- **DoD Standards efforts**
- **FY2015 Activities**

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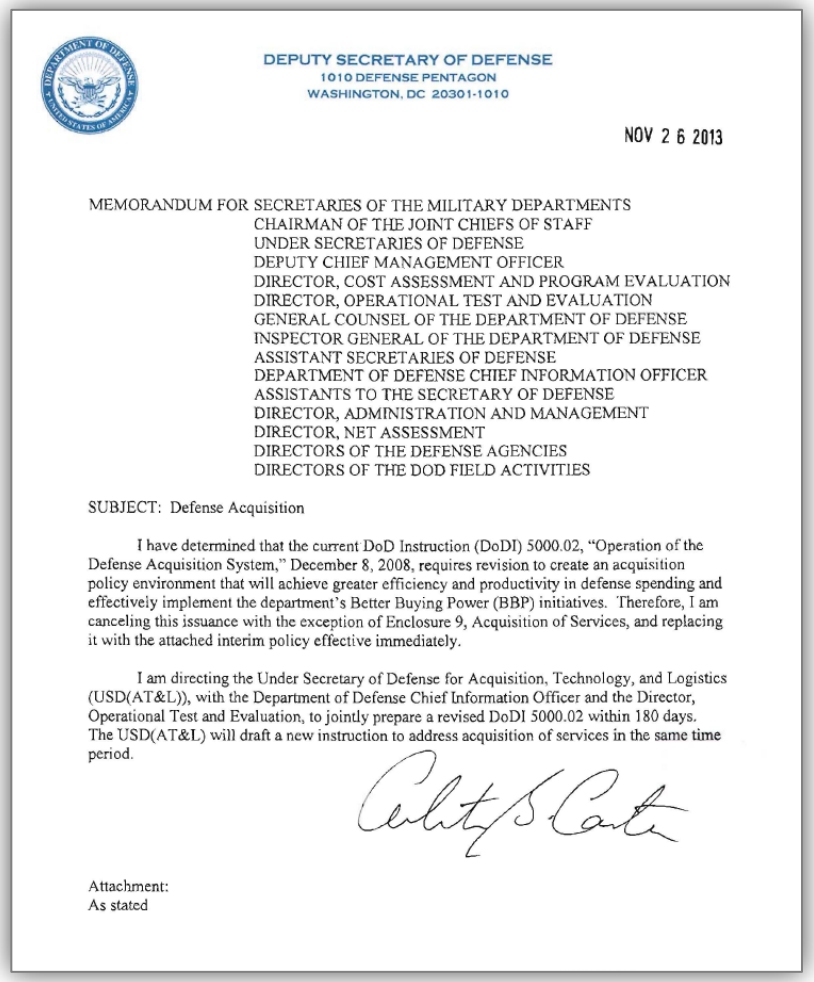
Deputy Secretary of Defense Memorandum, "Defense Acquisition"

- **The Interim DoDI 5000.02 is <u>effective immediately</u>**
- **DoDI 5000.02, dated December 8, 2008, is cancelled EXCEPT for Enclosure 9, Acquisition of Services**
- **Revised DoDI 5000.02 to be issued soon**
- **New Acquisition of Services Instruction to be drafted**



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

NOV 2 6 2013

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DEPUTY CHIEF MANAGEMENT OFFICER
DIRECTOR, COST ASSESSMENT AND PROGRAM EVALUATION
DIRECTOR, OPERATIONAL TEST AND EVALUATION
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
ASSISTANT SECRETARIES OF DEFENSE
DEPARTMENT OF DEFENSE CHIEF INFORMATION OFFICER
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, NET ASSESSMENT
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Defense Acquisition

I have determined that the current DoD Instruction (DoDI) 5000.02, "Operation of the Defense Acquisition System," December 8, 2008, requires revision to create an acquisition policy environment that will achieve greater efficiency and productivity in defense spending and effectively implement the department's Better Buying Power (BBP) initiatives. Therefore, I am canceling this issuance with the exception of Enclosure 9, Acquisition of Services, and replacing it with the attached interim policy effective immediately.

I am directing the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), with the Department of Defense Chief Information Officer and the Director, Operational Test and Evaluation, to jointly prepare a revised DoDI 5000.02 within 180 days. The USD(AT&L) will draft a new instruction to address acquisition of services in the same time period.

Attachment:
As stated

Signed November 26, 2013

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Interim DoDI 5000.02 Overarching Objectives

- **Decrease emphasis on "rules" and increase emphasis on process intent and thoughtful program planning**
- **Provide program structures and procedures tailored to the dominant characteristics of the product being acquired and to unique program circumstances, e.g., risk and urgency**
- **Enhance the discussion of program management responsibility and key supporting disciplines**
- **Institutionalize changes to statute and policy since the last issuance of DoD Instruction 5000.02**

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Generic Acquisition and Procurement Milestones and Decision Points

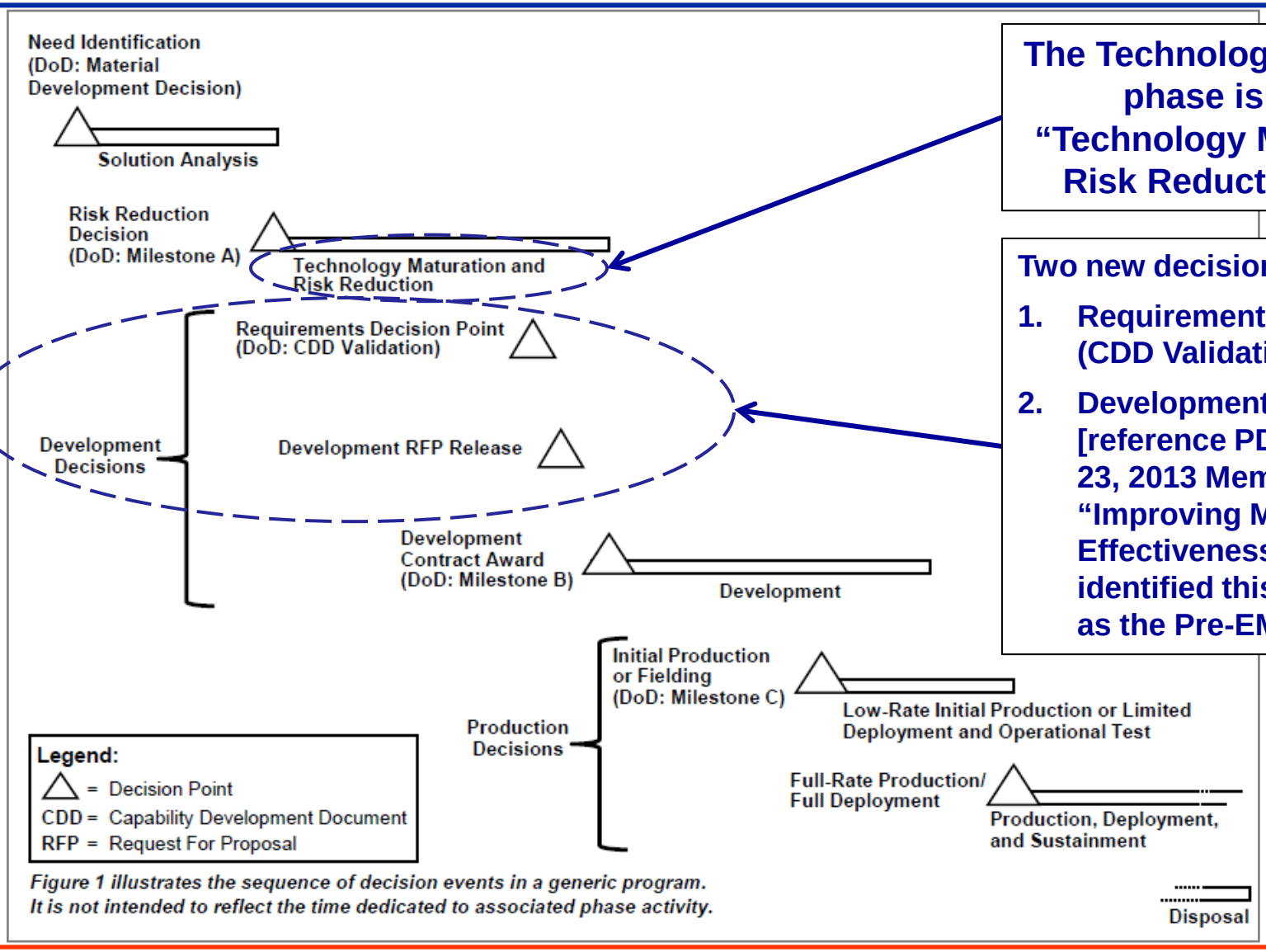

Figure 1 illustrates the sequence of decision events in a generic program. It is not intended to reflect the time dedicated to associated phase activity.

The Technology Development phase is renamed "Technology Maturation and Risk Reduction (TMRR)."

Two new decision points:

1. **Requirements Decision Point (CDD Validation)**
2. **Development RFP Release [reference PDUSD(AT&L) June 23, 2013 Memorandum, "Improving Milestone Process Effectiveness" which identified this decision point as the Pre-EMD Review]**

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New Acquisition Models

- **Six acquisition program models are a starting point for program-specific planning:**
  - Model 1: Hardware Intensive Program
  - Model 2: Defense Unique Software Intensive Program
  - Model 3: Incrementally Fielded Software Intensive Program
  - Model 4: Accelerated Acquisition Program
  - Hybrid Program A (Hardware Dominant)
  - Hybrid Program B (Software Dominant)
- **These models recognize the critical role of software**

Acquisition programs should use the models as a starting point in structuring a program to acquire a specific product

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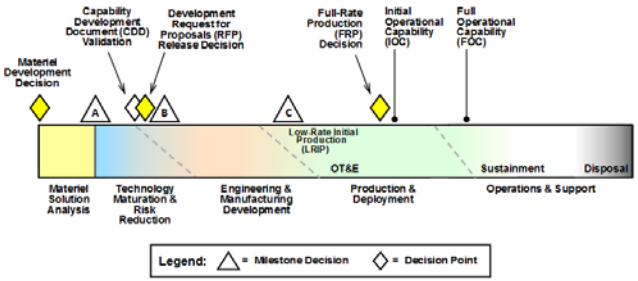
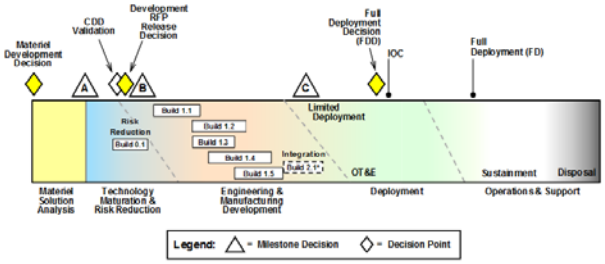
Six Acquisition Models

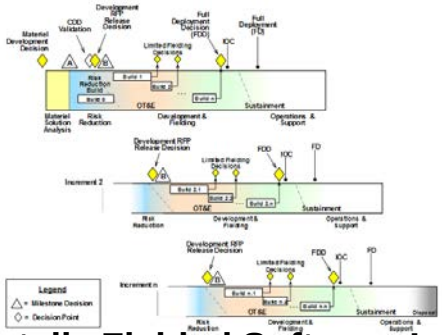


Model 1: Hardware Intensive Program

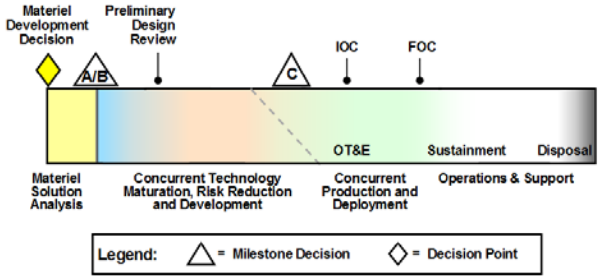


* The actual number and type of builds during the program will depend on system type.

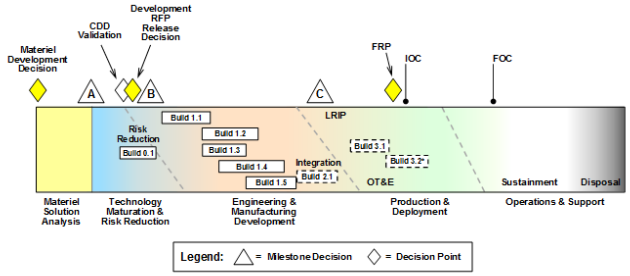
Model 2: Defense Unique Software Intensive Program



Model 3: Incrementally Fielded Software Intensive Program

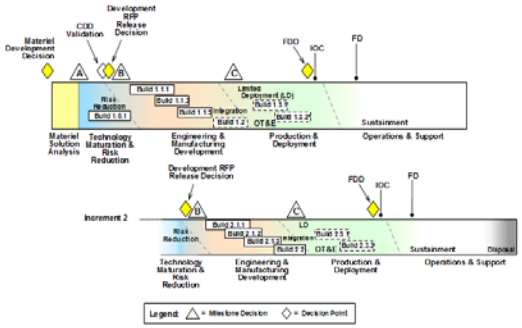


Model 4: Accelerated Acquisition Program



* The actual number and type of builds during the program will depend on system type.

Hybrid Program A (Hardware Dominant)



Hybrid Program B (Software Dominant)

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Interim DoDI 5000.02 versus 2008 Systems Engineering Enclosure

Enclosure 3 (Interim DoDI 5000.02) 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

Enclosure 12 (2008) 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

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2. Systems Engineering Plan

(Major Revision based on 10 USC 139b and DoDI 5134.16)

- **Prepare a SEP as a management tool to guide the SE activities on the program**
- **Submit for approval at each milestone review, beginning with Milestone A**
  - DASD(SE) will review and approve the SEP for all MDAPs and MAIS programs; Component Head or as delegated will approve the SEP for all other programs
  - DoD Components will submit SEPs to the DASD(SE) at least 45 calendar days before the scheduled DAB
  - Update the SEP as needed after contract award… updated SEP will be provided to the DASD(SE)
- **Support the Acquisition Strategy, including the program interdependencies and communicate the overall technical approach to balance system performance, life-cycle cost, and risk in addressing warfighter needs**
- **Describe the program's overall technical approach, including key technical risks, processes, resources, organization, metrics, and design considerations**
  - Detail the timing and criteria for the conduct of technical reviews
  - Address system integration with existing and approved architectures and capabilities
  - Identify and manage risk of external dependencies which are outside their span of control in order to ensure timely design, development, deployment, and sustainment of the system
  - Document interface requirements and interface products to track interdependent program touch points
  - Guide the details in the program's schedule
- **Information systems may with prior concurrence of the appropriate SEP approval authority, employ portfolio, organization, or enterprise level documents to satisfy their systems engineering planning requirements**
- **Defense business systems may include system engineering planning in applicable sections of the business case and program charter… DASD(SE) will review and approve those systems engineering sections for MAIS programs**

Program Managers should include the SEP (either an approved Plan or draft Plan) in the RFP as either guidance or a compliance document depending on the maturity of the plan and the acquisition strategy.

Note: See Interim DoDI 5000.02 for full text

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Systems Engineering Plan (SEP)

Enclosure 1, Table 2. Milestone and Phase Information Requirements

INFORMATION REQUIREMENT	PROGRAM TYPE[1]				LIFE-CYCLE EVENT[1,2]								SOURCE	APPROVAL AUTHORITY
	MDAP	MAIS	ACAT		MDD	MS A	CDD Val	Dev RFP Rel	MS B[4]	MS C	FRP/FD Dec	OTHER		
			II	≤ III										
	NOTES													
Systems Engineering Plan (SEP)	•	•	•	•		•		✓	✓	✓			Sec. 2 of Enc. 3 of this instruction	DASD(SE) or Component Head (or as delegated)
	Regulatory. A draft[5] update is due for the Development RFP Release Decision Point; approved at Milestone B. Use the SEP outline (https://dap.dau.mil/policy/Lists/Policy%20Documents/Attachments/3283/PDUSD-Approved.SEP%20Outline.docx) on the Defense Acquisition Guidebook (Reference (l)) site. DBS programs may include systems engineering planning in applicable sections of the Business Case and Program Charter. The DASD(SE) is the approval authority for MDAPs and MAIS programs; the Component Head or as delegated will approve the SEP for all other programs.													

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New Content in SE Enclosure
(1 of 4)

3. Development Planning (DTM 10-017)

- Conduct early SE analyses and assessments to support decisions to enter acquisition, to mature technology, and to begin system design
- In preparation for Materiel Development Decision (MDD) and to inform AoA, identify how the proposed candidate materiel solution approaches are technically feasible and have the potential to effectively address capability gaps, desired operational attributes, and associated external dependencies
- During the MSA Phase to support selection of preferred materiel solution and development of the draft Capability Development Document (CDD) or equivalent document
- In preparation for Milestone A to provide technical basis for executing TMRR Phase (documented in the SEP)

4. Systems Engineering Trade-Off Analyses (Better Buying Power Memo 2.0)

- Conduct during acquisition life cycle to assess system affordability and technical feasibility to support requirements, investment, and acquisition decisions.
- Depict relationships between system life-cycle cost and system's performance requirements, design parameters, and delivery schedules
- Provide results to the Milestone Decision Authority (MDA) to support validation of the CDD (or equivalent requirements document)
- Identify major affordability drivers and show how the program meets affordability constraints

5. Technical Risk and Opportunity Management (Systemic Root Cause Analysis)

- Quantify and reflect implications in IMS and IMP; program risk, and opportunities as applicable, will be assessed at technical reviews and will include specific cost and schedule implications
- Address risk identification, analysis, mitigation planning, mitigation implementation, and tracking
- Work with science and technology and acquisition leadership to influence technology investment planning in support of performance objectives and thresholds

6. Technical Performance Measures and Metrics (DoDI 5134.16)

- Assess program progress against established plans
- Provide insight into technical progress and program risk

Note: See Interim DoDI 5000.02 for full text

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New Content in SE Enclosure
(2 of 4)

9. Modeling and Simulation (moved from 2008 version, Enclosure 6 Integrated T&E)

- Integrate into program planning and engineering efforts to support consistent analyses and decisions throughout program's life cycle
- Integrate, manage, and control models, data, and artifacts to ensure consistency with system and external program dependencies, provide comprehensive view of program, and increase efficiency and confidence throughout program's life cycle

10. Manufacturing and Producibility (PL 111-383 section 812)

- Identify and manage manufacturing and producibility risks across program's life cycle (documented in the SEP)
- Assess manufacturing readiness (i.e. maturity of critical manufacturing processes) beginning in the MSA phase

11. Software (PL 112-239 section 933; PL 111-383 section 932)

- Document software unique risks, metrics, resources and related activities in the SEP
- Capture software assurance vulnerabilities and risk based remediation strategies in the PPP

12. Reliability and Maintainability (DTM 11-003)

- Formulate comprehensive R&M program to ensure R&M requirements are achieved
- Will consist of engineering activities including for example: R&M allocations, block diagrams and predictions; failure definitions and scoring criteria; failure mode, effects and criticality analysis; maintainability and built-in test demonstrations; reliability testing at the system and subsystem level; and a failure reporting, analysis, and corrective action system maintained through design, development, production and sustainment
- Prepare preliminary Reliability, Availability, Maintainability, and Cost Rational (RAM-C) Report attached to the SEP in support of Milestone A and updated for subsequent decision points
- Reliability growth curves
  - Reflect the reliability growth strategy and be employed to plan, illustrate and report reliability growth
  - Include in the SEP beginning at Milestone A, and in the TEMP beginning at Milestone B
  - State in a series of intermediate goals and track through fully integrated, system-level test and evaluation events
  - Assess reliability growth required for system to achieve its reliability threshold during test and report results up to the MDA
  - Monitor and report throughout the acquisition process (as part of technical reviews and at DAES reviews)

Note: See Interim DoDI 5000.02 for full text

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New Content in SE Enclosure
(3 of 4)

13. Program Protection (10 USC 2358; PDUSD(AT&L) Memorandum "Document Streamlining – Program Protection Plan", July 18, 2011)

- Employ system security engineering practices and prepare a Program Protection Plan (PPP) to guide efforts and actions of others to manage risks
  - Critical program information and mission critical functions and components
  - Threats to and vulnerabilities of these items
  - Plan to apply countermeasures to mitigate associated risks
  - Planning for exportability and potential foreign involvement
  - Program's Component CIO-approved Cybersecurity Strategy
- Submit the PPP for MDA approval at each Milestone review, beginning with Milestone A
  - For programs with DAE as MDA, the PPP will be submitted to DASD(SE) not later than 45 calendar days prior to the relevant review
  - For Milestone B, the draft PPP will be provided to the DASD(SE) 45 days prior to the Development RFP Release Decision Point
  - Include the PPP in the RFP and update after contract award to reflect contractor's approved technical approach
- Incorporate automated software vulnerability analysis tools throughout the life cycle and ensure remediation of software vulnerabilities is addressed in PPPs, test plans, and contract requirements

14. Open Systems Architectures (Better Buying Power 2.0)

- Use open systems architecture design principles, where feasible and cost-effective, to support an open business model (see paragraph 7.d in Enclosure 2)
- To the maximum extent practicable, leverage the guidance and procedures in the "DoD Open Systems Architecture Contract Guidebook for Program Managers"

17. Insensitive Munitions (10 USC 2389; DoDD 5000.01)

- For all systems containing energetics, comply with Insensitive Munitions requirements

Note: See Interim DoDI 5000.02 for full text

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New Content in SE Enclosure
(4 of 4)

20. Design Reviews (moved from 2008 version, Enclosure 2 Procedures, and revised)

- Preliminary Design Review (PDR)
  - Assess maturity of preliminary design and establish allocated baseline
  - Confirm system is ready to proceed into detailed design with acceptable risk
  - PDR assessment provided to MDA for MDAPs and MAIS programs
    - Assess technical risks and program's readiness to proceed into detailed design
    - Conducted by DASD(SE) for ACAT ID and IAM; by CAE for ACAT IC and IAC
    - DASD(SE) participates in program's PDRs [removed PDR Report requirement]
- Critical Design Review (CDR)
  - Assess design maturity, design built-to/code-to documentation, and risks, and establish initial product baseline
  - Decision point that system design is ready to begin developmental prototype hardware fabrication and/or software coding with acceptable risk
  - CDR assessment provided to MDA for MDAPs and MAIS programs
    - Assess conduct of review and technical risk
    - Conducted by DASD(SE) for ACAT ID and IAM; by CAE for ACAT IC and IAC
    - DASD(SE) participates in CDR [removed CDR report requirement]

21. Program Support Assessments (DoDI 5134.16)

- Support milestones and decision reviews, or conducted in response to technical issues on ACAT ID and IAM programs
- Assist Program Managers technical planning and improve execution by sharing best practices and lesson's learned and providing actionable recommendations
- DASD(SE) conducts independent, cross-functional assessments of program technical management and SE progress and plans, with support from other DoD organizations
- DoD Components provide access to all program records and data (10 USC 139b)

Note: See Interim DoDI 5000.02 for full text

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Other Changes in the SE Enclosure

7. Technical Reviews

- Conduct technical reviews of program progress for systems in development as basis for transitioning between phases within development plan of work
- Be event-driven and based on the review entrance criteria as documented in the SEP
- Deleted requirement for independent subject matter expert participation

8. Configuration Management

- Establish and control product attributes and the technical baseline across the total system life cycle
- At completion of the system-level CDR, the Program Manager will assume control of the initial product baseline, to the extent that the competitive environment permits

➢ Paragraphs removed from 2008 version of SE Enclosure

- Systems Engineering Across the Acquisition Life Cycle: Replaced with new Purpose paragraph
- Systems Engineering Leadership: Will be addressed in a separate personnel policy document
- Data Management and Technical Data Rights: Data Management Strategy was renamed Intellectual Property Strategy and moved to Program Management (Enclosure 2)
- Modular Open Systems Approach: Replaced with new Open Systems Architecture paragraph

Note: See Interim DoDI 5000.02 for full text

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Agenda

- ✓ **Interim DoDI 5000.02 and changes to Systems Engineering policy**
- ➢ **DoD Standards efforts**
- • **FY2015 Activities**

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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 Technical Process Corporate Memory and Enable Communication Between and Across the Department, Industry, and our Allies

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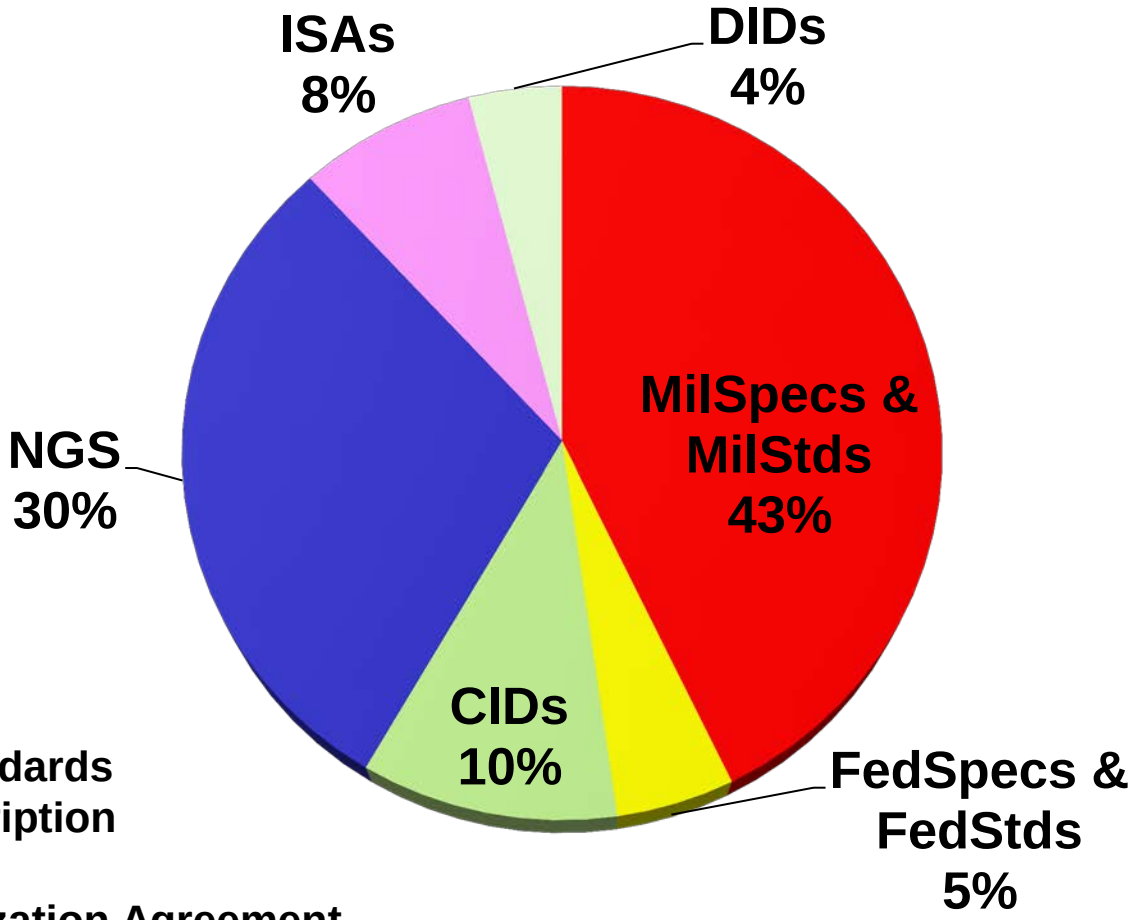
Types of Standardization Documents Used by the DoD

28,000+ Active Documents as of March 2014



NGS = Non-Government Standards
CID = Commercial Item Description
DID = Data Item Description
ISA = International Standardization Agreement

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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

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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

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Status of Standards Efforts

- **Systems Engineering Standard**
  - Working with IEEE to update IEEE 15288 and develop DoD addendum IEEE 15288.1
- **Technical Reviews & Audits Standard**
  - Working with IEEE to develop DoD addendum IEEE 15288.2
- **Configuration Management Standard**
  - Working with SAE to develop DoD addendum EIA 649-1
- **Manufacturing Management Standard**
  - Working with SAE to develop new standard AS6500
- **Logistics Support Analysis**
  - Adopted GEIA-STD-0007, Logistics Product Data
  - TA-STD-0017, Product Support Analysis
  - Issued MIL-HDBK-502A to provide DoD implementation guidance for TA-STD-0017

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Systems Engineering (SE) and Technical Reviews & Audits (TR&A) Standards

- **Air Force leading DoD SE and TR&A standards teams**
- **Institute of Electrical and Electronics Engineers (IEEE) selected as Standards Developing Organization (SDO)**
- **IEEE 15288, Systems & Software Engineering System Life Cycle Processes, is basis for DoD addenda**
  - IEEE 15288.1, addendum with DoD “delta” changes
  - IEEE 15288.2, mostly “stand-alone” with ties to 15288
- **Schedule**
  - Committee ballots completed: September 2014
  - Final approval & publication anticipated: December 2014

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Configuration Management Standard

- **Navy leading the DoD working group**
- **Working with SAE G-33 Committee on Data and Configuration Management to develop DoD addendum to ANSI/EIA 649B standard, EIA-649-1**
- **Schedule**
  - Committee ballots completed: September 2014
  - Final approval & publication anticipated: December 2014

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Manufacturing Management Standard

- **Air Force leading DoD working group**
- **Working with SAE to develop new standard, SAE AS6500**
- **Schedule**
  - Committee ballots completed: September 2014
  - Final approval & publication anticipated: December 2014

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Logistics Support Analysis Standards

- **DoD Logistics Support Analysis team determined**
  - TechAmerica standard (now SAE) GEIA-STD-0007, “Logistics Product Data,” adequate to procure required supportability analysis data
  - TechAmerica standard (now SAE) TA-STD-0017, “Product Support Analysis (PSA),” addressed some, but not all necessary logistics support analysis tasks across the system life cycle
  - MIL-HDBK-502 revision needed to
    - Provide DoD guidance on applying TA-STD-0017
    - Address overall PSA process and its associated activities, the selection and tailoring of those activities to meet DoD program supportability objectives, and sample contract language for acquiring PSA deliverables
- **MIL-HDBK-502A approved March 8, 2013**
  - Available at http://quicksearch.dla.mil/

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Agenda

- ✓ **Interim DoDI 5000.02 and changes to Systems Engineering policy**
- ✓ **DoD Standards efforts**
- ➢ **FY2015 Activities**

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FY2015 Planned Activities

- **Final DoDI 5000.02**
  - Formal comment adjudication completed
  - Completing formal staffing and approval
- **DAG Chapter 4, Systems Engineering**
  - Initiated update in 2014 to support Interim DoDI 5000.02
  - Release pending final DoDI 5000.02
- **SEP Outline**
  - Update pending final DoDI 5000.02
- **Adoption of SE-related Standards**
- **Development of focused policy, guidance, white papers**
  - Early SE white papers
  - Updated RAM-C Manual with Annotated Outline
  - DAG Chapter 13, Program Protection, incorporation of DAG Chapter 4 Systems Engineering framework
  - Co-lead DoD 5200.39 Manual, *CPI Identification and Protection within Research, Development, Test, and Evaluation* development with USD(I)
  - Risk Management Guide
  - Digital System Model/Digital Thread development – relates to USAF Own the Technical Baseline

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Agenda

- ✓ **Interim DoDI 5000.02 and changes to Systems Engineering policy**
- ✓ **DoD Standards efforts**
- ✓ **FY2015 Activities**

Questions?

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For Additional Information

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Systems Engineering: Critical to Defense Acquisition

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

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

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Statute & Policy Driving the Update

POLICY

USD(AT&L) Memos
- Better Buying Power 1 & 2
- Designation of Subprograms for MDAPs
- EVM Systems Performance, Oversight, and Governance
- Government Performance of Critical Acquisition Functions
- Preservation and Storage of Tooling for MDAPs
- Reporting Requirements for Programs Qualifying as Both MAIS & MDAP
- Should-cost Memos
- Strengthened Sustainment Governance
- Improving Technology Readiness Assessment Effectiveness

PDUSD(AT&L) Memos
- Improving Milestone Process Effectiveness
- Post-CDR Reports and Assessments
- Milestone Decision Documentation Outlines

Other Memos
- Guidelines for Operational Test and Evaluation of Information and Business Systems
- DoD CIO Policy for CCA Confirmations

DIRECTIVE TYPE MEMOS

DTM 09-027: Implementation of WSARA 2009
DTM 09-025: Space Systems Acquisition Policy
DTM 09-016: Supply Chain Risk Management (SCRM) to Improve the Integrity of Components Used in DoD Systems
DTM 10-015: Requirements for Life Cycle Management and Product Support
DTM 10-017: Development Planning
DTM 11-003: Reliability Analysis, Planning, Tracking, and Reporting
DTM 11-009: Acquisition Policy for Defense Business Systems

DoDI 5000.02

STATUTE

Title 10
§2334: Independent cost estimation and analysis
§2366: Major systems and munitions programs: survivability and lethality testing required before full scale production
§2445c: MAIS Programs

NDAA
§332 of FY09: Fuel Logistics Requirements
§805 of FY10: Life-Cycle Management and Product Support
§803 of FY11: Enhancing … Rapid Acquisition
§804 of FY11: … Acquisition Process for Rapid Fielding of Capabilities in Response to Urgent Operation Needs
§811 of FY11: Cost Estimates for MDAP and MAIS
§812 of FY11: Management of Manufacturing Risk
§932 of FY11: Computer Software Assurance
§831 of FY11: [Waiver of Nunn-McCurdy for a Change in Quantity]
§811 of FY12: Calculation Of Time Period [for MAIS] Critical Changes…
§801 of FY12: Core Depot-level Maintenance and Repair Capabilities
§832 of FY12: Assessment, Management, and Control of Operating and Support Costs for Major Weapon Systems
§834 of FY12: Management of Manufacturing Risk in MDAPs
§901 of FY12: Revision of DBS Requirements
§811 of FY13: Limitation on use of cost-type contracts
§812 of FY13: Estimates of Potential Termination Liability …
§904 of FY13: Additional Responsibilities ….. (T&E)

ADDITIONAL CONSIDERATIONS

- JCIDS Reissuance
- New Emphasis on Cybersecurity
- New Emphasis on Intellectual Property (IP) Strategy
- FY10 NDAA, Sec. 804: Agile IT Development

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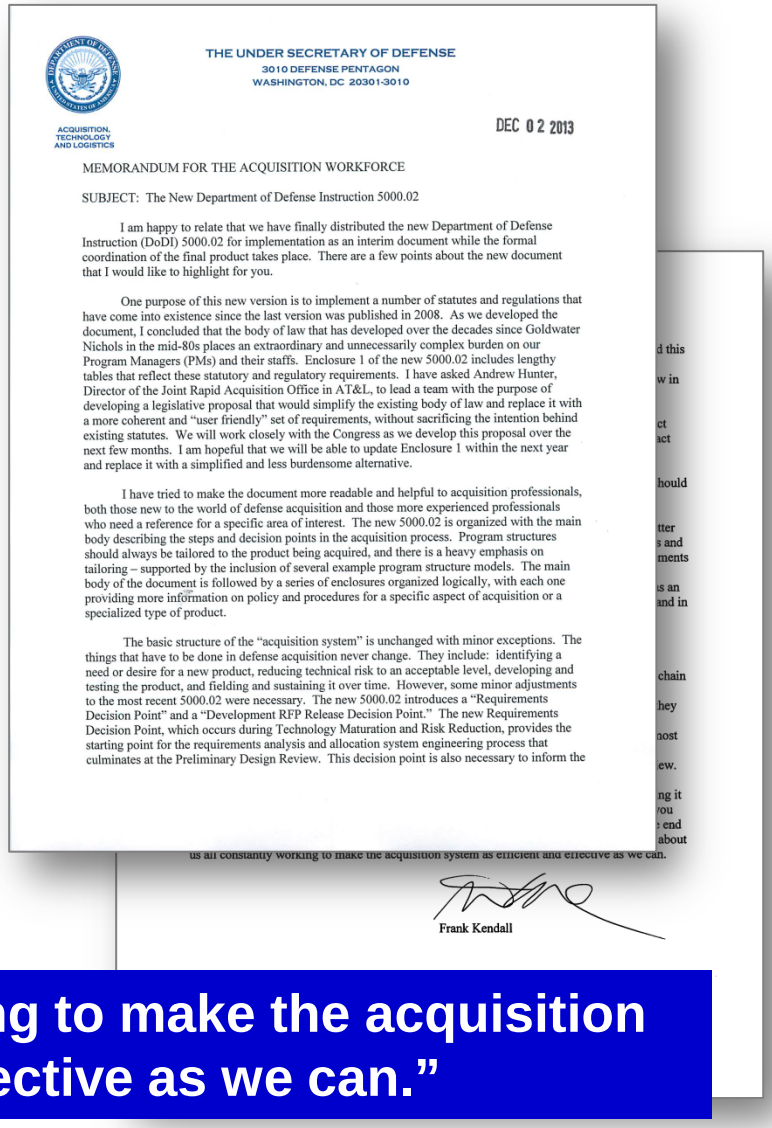
USD(AT&L) Memorandum, "The New Department of Defense Instruction 5000.02"

- **One purpose of this new version is to implement a number of statutes and regulations that have come into existence since the last version was published in 2008…**
- **I have tried to make the document more readable and helpful to acquisition professionals, both those new to the world of defense acquisition and those more experienced professionals…**
- **The basic structure of the "acquisition system" is unchanged with minor exceptions… a "Requirements Decision Point" and a "Development RFP Release Decision Point"**
- **Updating 5000.02 provided an opportunity to integrate several of the Better Buying Power initiatives…**
- **Finally, I have also tried to reinforce the importance and primacy of the acquisition chain of command – particularly the Program Executive Officers (PEOs) and PMs…**



THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION, TECHNOLOGY AND LOGISTICS

DEC 02 2013

MEMORANDUM FOR THE ACQUISITION WORKFORCE

SUBJECT: The New Department of Defense Instruction 5000.02

I am happy to relate that we have finally distributed the new Department of Defense Instruction (DoDI) 5000.02 for implementation as an interim document while the formal coordination of the final product takes place. There are a few points about the new document that I would like to highlight for you.

One purpose of this new version is to implement a number of statutes and regulations that have come into existence since the last version was published in 2008. As we developed the document, I concluded that the body of law that has developed over the decades since Goldwater Nichols in the mid-80s places an extraordinary and unnecessarily complex burden on our Program Managers (PMs) and their staffs. Enclosure 1 of the new 5000.02 includes lengthy tables that reflect these statutory and regulatory requirements. I have asked Andrew Hunter, Director of the Joint Rapid Acquisition Office in AT&L, to lead a team with the purpose of developing a legislative proposal that would simplify the existing body of law and replace it with a more coherent and "user friendly" set of requirements, without sacrificing the intention behind existing statutes. We will work closely with the Congress as we develop this proposal over the next few months. I am hopeful that we will be able to update Enclosure 1 within the next year and replace it with a simplified and less burdensome alternative.

I have tried to make the document more readable and helpful to acquisition professionals, both those new to the world of defense acquisition and those more experienced professionals who need a reference for a specific area of interest. The new 5000.02 is organized with the main body describing the steps and decision points in the acquisition process. Program structures should always be tailored to the product being acquired, and there is a heavy emphasis on tailoring – supported by the inclusion of several example program structure models. The main body of the document is followed by a series of enclosures organized logically, with each one providing more information on policy and procedures for a specific aspect of acquisition or a specialized type of product.

The basic structure of the "acquisition system" is unchanged with minor exceptions. The things that have to be done in defense acquisition never change. They include: identifying a need or desire for a new product, reducing technical risk to an acceptable level, developing and testing the product, and fielding and sustaining it over time. However, some minor adjustments to the most recent 5000.02 were necessary. The new 5000.02 introduces a "Requirements Decision Point" and a "Development RFP Release Decision Point." The new Requirements Decision Point, which occurs during Technology Maturation and Risk Reduction, provides the starting point for the requirements analysis and allocation system engineering process that culminates at the Preliminary Design Review. This decision point is also necessary to inform the

us all constantly working to make the acquisition system as efficient and effective as we can.

Frank Kendall

"It is about us all constantly working to make the acquisition system as efficient and effective as we can."

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Additional Information

Interim DoD Instruction 5000.02 Operation of the Defense Acquisition System, November 25, 2012

http://www.dtic.mil/whs/directives/corres/pdf/500002_interim.pdf

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Systems Engineering Plan (SEP) and Related Documents

Enclosure 1, Table 2. Milestone and Phase Information Requirements

INFORMATION REQUIREMENT	PROGRAM TYPE[1]				LIFE-CYCLE EVENT[1,2]								SOURCE	APPROVAL AUTHORITY
	MDAP	MAIS	ACAT		MDD	MS A	CDD Val	Dev RFP Rel	MS B[4]	MS C	FRP/FD Dec	OTHER		
			II	≤ III										
	NOTES													
Corrosion Prevention Control Plan	•	•							•	✓			Sec. 15 of Enc. 3 of this instruction	CAE or as delegated
	Regulatory. Required for ACAT ID and IC programs. Approved by the CAE. Design considerations related to corrosion control are included in the Systems Engineering Plan (SEP). Required for MAIS programs if the system includes mission critical hardware that will be operated in a corrosive environment.													
Item Unique Identification Implementation Plan	•	•	•	•		•		✓	✓	✓			DoDI 8320.04 (Ref. (am))	CAE or as delegated
	Regulatory. Design considerations related to unique identification are included in the SEP.													
PESHE AND NEPA/E.O. 12114 COMPLIANCE SCHEDULE	•	•	•	•					•	✓	✓		42 U.S.C. 4321-4347 (Ref. (ao)) E.O. 12114 (Ref. (ap))	CAE or as delegated
	STATUTORY. The Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) and National Environmental Policy Act (NEPA) / Executive Order (E.O.) 12114 Compliance Schedule is approved by the CAE. Related design considerations must be included in the SEP; related operations or sustainment considerations after Milestone C will be included in the LCSP. For programs responding to urgent needs, only due at the Production Milestone; DoD Components will develop expedited baseline processes for these programs. Not required for software programs with no hardware component.													
Systems Engineering Plan (SEP)	•	•	•	•		•		✓	✓	✓			Sec. 2 of Enc. 3 of this instruction	DASD(SE) or Component Head (or as delegated)
	Regulatory. A draft[5] update is due for the Development RFP Release Decision Point; approved at Milestone B. Use the SEP outline (https://dap.dau.mil/policy/Lists/Policy%20Documents/Attachments/3283/PDUSD-Approved.SEP%20Outline.docx) on the Defense Acquisition Guidebook (Reference (l)) site. DBS programs may include systems engineering planning in applicable sections of the Business Case and Program Charter. The DASD(SE) is the approval authority for MDAPs and MAIS programs; the Component Head or as delegated will approve the SEP for all other programs.													

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Other SE Enclosure Paragraphs

15. Corrosion Prevention and Control

16. Environment, Safety, and Occupational Health

18. Item Unique Identification

19. Spectrum Supportability

Note: See Interim DoDI 5000.02 for full text

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DoD Policies on Standardization

- **DoD Instruction 4120.24, "Defense Standardization Program"**
  - Implements Public Law
  - Assigns Responsibilities for Defense Standardization Program
  - Designates DASD(SE) as the Defense Standardization Executive
- **DoD Manual 4120.24-M, "Defense Standardization Program Policies and Procedures"**
  - Establishes the Operating Rules for the Defense Standardization Program

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Defense Standardization Program Policy Responsibilities

Secretary of Defense

↓

Under Secretary of Defense for Acquisition, Technology, and Logistics

↓

Assistant Secretary of Defense for Research & Engineering

↓

Deputy Assistant Secretary of Defense, Systems Engineering

Defense Standardization Executive

Mr. Stephen Welby

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