

Presentation 22299
Environment, Safety, and Occupational Health (ESOH)
Risk and Requirements Management Proposal
for the new
Department of Defense Adaptive Acquisition Framework (AAF)

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Overview



- **Bottom Line Upfront (BLUF)**
- **Department of Defense (DoD) Restructuring of Systems Engineering (SE) and Environment, Safety, and Occupational Health (ESOH)**
 - **Organizational**
 - **Policy**
- **Proposed ESOH Responses to Restructuring**
 - **Focus on fundamental / core ESOH management issues**
 - **ESOH risks**
 - **ESOH requirements**
 - **Focus on data vice documents (plans and reports)**
 - **Scope of efforts and Priorities**

- Yesterday – Acquisition and Sustainment ESOH policy in DoD Instruction (DoDI) 5000.02 Enclosure 3, Systems Engineering
- Today – New Defense Acquisition System (DAS) evolving to an Adaptive Acquisition Framework with multiple pathways to rapid development and fielding of mission enabling technologies
 - No "Systems Engineering" policy; No "ESOH" policy
 - Recommendation made to address Systems Engineering (SE) and ESOH requirements as part of Life-Cycle Sustainment Planning
- The Office of the Under Secretary of Defense (USD) acquisition reorganization moved ESOH functions into two separate organizations – USD Acquisition and Sustainment [USD(A&S)] & USD Personnel & Readiness [USD(P&R)]; not in USD Research and Engineering [USD(R&E)]
- ESOH risks and requirements management must align with the new DAS and USD organizational constructs and focus on:
 - Fundamental ESOH management issues
 - Data vice plans and reports

DoD Restructuring of SE and ESOH – Organizational



- USD for Acquisition, Technology, and Logistics (AT&L) reorganized into:
 - USD(R&E)
 - USD(A&S)
- SE is in USD(R&E) along with:
 - Technology Development
 - Digital Engineering (DE) / Model-Based Systems Engineering (MBSE)
 - Mission Engineering and Systems of Systems Engineering
 - Systems Security / Cyber Security
- Environmental Management is in USD(A&S) / Office of the Assistant Secretary of Defense [ASD](Sustainment)] / Deputy Assistant Secretary of Defense [DASD](Environment)]
- Safety (Operational and System) and Occupational Health are in USD(P&R) / ASD(Readiness)

DoD Restructuring of SE and ESOH – Policy

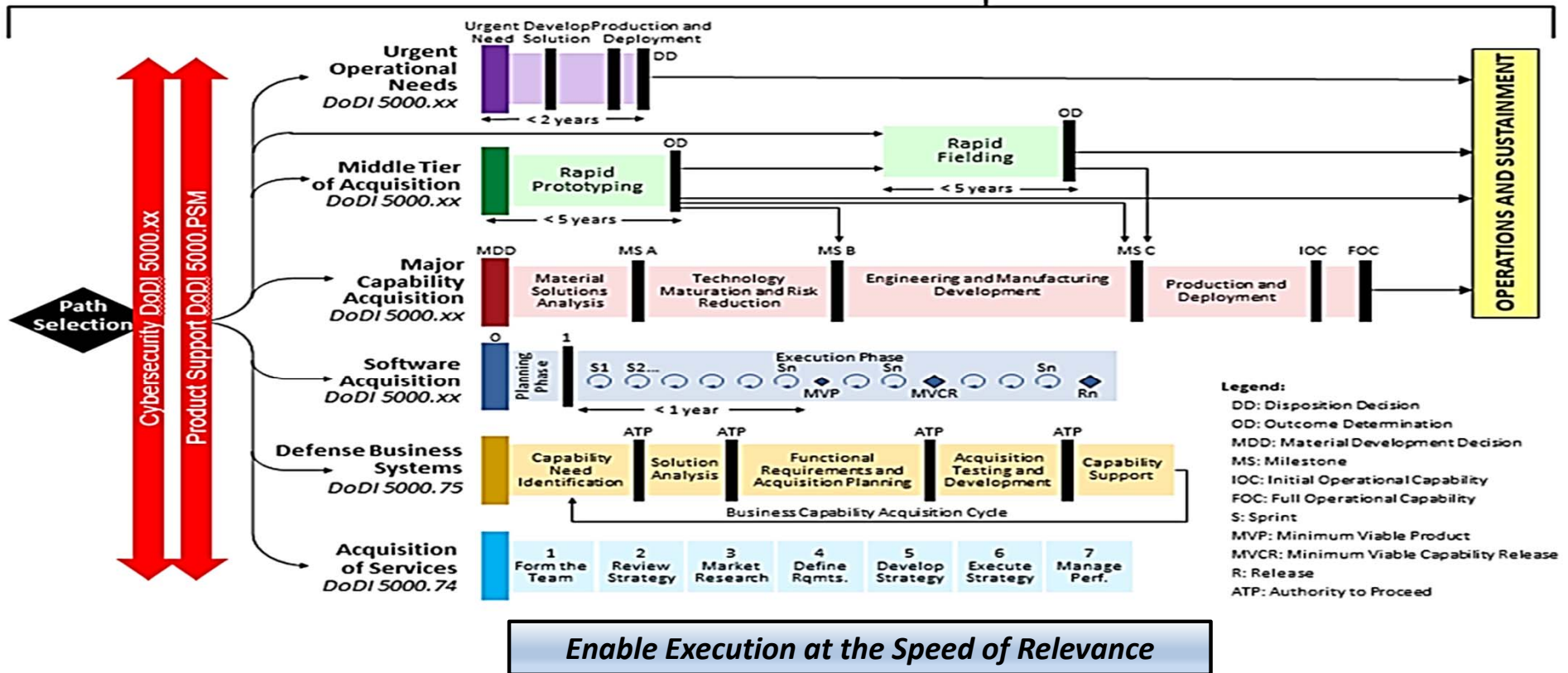
Tenets of the Defense Acquisition System

1. Simplify Acquisition Policy
2. Tailor Acquisition Approaches
3. Empower Program Managers
4. Data Driven Analysis
5. Active Risk Management
6. Emphasize Sustainment



DoDD 5000.01: The Defense Acquisition System

DoDI 5000.02: Operation of the Adaptive Acquisition Framework



DoD Restructuring of SE and ESOH – Policy



- Goal of this new DAS is "Enable Execution at the Speed of Relevance"
 - Driven by Peer Competitors of China and Russia
 - Can no longer assure victory in one-on-one conflict with our Peer Competitors
- Tenets of the new DAS:
 - Simplify acquisition policy
 - Tailor acquisition approaches
 - Empower Program Managers (PMs)
 - Data driven analysis
 - Active risk management
 - Emphasize sustainment

DoD Restructuring of SE and ESOH – Policy



- DoD Directive 5000.01, "The Defense Acquisition System"
- DoDI 5000.02, renamed "Operation of the Adaptive Acquisition Framework" vice "Operation of the Defense Acquisition System"
 - Policy content streamlined – reduced from 170 to 11 pages
 - Deletes functional enclosures, including Enclosure 3 "System Engineering" that incorporated ESOH requirements
- Adaptive Acquisition Framework consists of six acquisition paths (four new and two existing) with separate DoDI policy for each
 - Draft DoDI 5000.UB, "Urgent Capability Acquisition" – 21 pages
 - Draft DoDI 5000.UC, "Operation of the Middle Tier of Acquisition (MTA)" – 13 pages
 - Draft DoDI 5000.MCA, "Major Capability Acquisition" – 39 pages
 - Draft DoDI 5000.XX, "Software Acquisition" – in development
 - DoDI 5000.75, "Business Systems Requirements and Acquisition," 2 Feb 2017 – 32 pages
 - DoDI 5000.74, "Defense Acquisition of Services," 5 Jan 2016, Incorporating Change 2 31 Aug 2018 – 40 pages

DoD Restructuring of SE and ESOH – Policy



- Adaptive Acquisition Framework:
 - Provides multiple pathways based on unique characteristics and risk profile of the warfighter capability (product, system, service) being acquired
 - Provides greater authority and flexibility to PMs in the management and execution of the acquisition program
 - Emphasizes management of risks – cost, schedule, and performance (technical risks) – to enable "Speed with Discipline"
 - Requires data driven decision making
 - Relies heavily on DE / MBSE as key enabler of speed with discipline -- digital model of the system is the single authoritative source of all information about the system
- There will also be multiple functional DoD 5000 documents in addition to the eight USD(A&S) Adaptive Acquisition Framework documents.

DoD Restructuring of SE and ESOH – Policy



- Separate DoD 5000 Functional Policies and the Preparing Activities:
 - SE by USD(R&E)
 - Developmental Test and Evaluation by USD(R&E)
 - Program Protection by USD(R&E)
 - Information Technology by DoD Chief Information Office
 - Cybersecurity by USD(A&S)
 - Product Support by USD(A&S)
 - Acquisition Intelligence by USD(A&S)
 - Intellectual Property by USD(A&S)
 - Human Systems Integration by USD(P&R)
 - Operational Test and Evaluation by Director of Operational Test and Evaluation
 - Analysis of Alternatives by Director of Cost Assessment and Program Evaluation (DCAPE)
 - Cost Estimating by DCAPE

DoD Restructuring of SE and ESOH – Policy



ISSUANCE	TITLE	STATUS	EST AIR FORCE COORD	EST PUBLISH
DoDD 5000.01	The Defense Acquisition System	OPR (A&S) coord	Mid Oct	Dec-19
DoDI 5000.02	Operation of the Adaptive Acquisition Framework	OPR (A&S) coord	Mid Oct	Dec-19
PATHWAY DODIs				
DoDI 5000.UB	Urgent Capability Acquisition	Formal coord	Complete Sep (AF Response: Concur)	Nov-19
DoDI 5000.UC	Operation of the Middle Tier of Acquisition	Signed; with final legal	Complete Aug (AF Response: Non-concur)	Oct-19
DoDI 5000.mca	Major Capability Acquisition	Prep for OPR (A&S) coord	Mid Oct	Dec-19
DoDI 5000.75	Business Systems Requirements and Acquisition	Delayed: Address FY2020 NDAA	Complete Sep (AF Response: Concur)	Jan-20
Interim Memo	Software Acquisition	Informal coord (multiple versions)	Mid Oct	Dec-19
SEPERATELY ISSUED FUNCTIONAL POLICY				
DoDI 5000.xx	Systems Engineering	In development	Late Oct	Dec-19
DoDI 5000.xx	Developmental and Operational T&E	In development	Late Oct	Dec-19
DTM	Human Systems Integration	DTM Drafted	Late Sep	
	Analysis of Alternatives	No new policy; adequately covered in DoDD 5105.84		amend as needed
	Cost Estimating and Reporting	No new policy; adequately covered in DoDI 5000.73		expect update
DoDI YYYY.xx	Cybersecurity	New Instruction in development	Late Oct	Dec-19
DoDI 5000.ab	Intellectual Property	Formal coord	Complete Sep (AF Response: Concur)	Oct-19
DoDI 5000.ac	Acquisition Intelligence	Released to WHS for coord	Early Oct	Dec-19
<i>as of 8 Oct 2019</i>				

Proposed ESOH Responses to Restructuring



- During informal / formal reviews of the various USD(A&S) DoD 5000 documents, submitting comments with recommendation of adding ESOH management direction
- Submitting comments via:
 - DoD Acquisition ESOH Integrated Product Team chaired by Mr. David Asiello of DASD(Environment)
 - Service Components
- Tailoring the ESOH input for each of the DoD 5000 Adaptive Acquisition Framework documents
- Recommending SE and ESOH addressed as part of the Life-Cycle Sustainment Planning in the Adaptive Acquisition Framework documents
 - ASD(Sustainment) supports this approach
 - No indication that DoD 5000.XX on SE will require SE Plan or incorporate ESOH

Proposed ESOH Responses to Restructuring



- Focus on fundamental ESOH management issues and data needs for programs
 - ESOH risks
 - ESOH requirements
 - Reviews, approvals, certifications
 - Hazardous Materials (HAZMAT) management
 - National Environmental Policy Act (NEPA) compliance
- Utilize Military and Non-Governmental standards to standardize and expedite management of ESOH risks and requirements
- Generate data to support program decision making instead of generating plans and reports
- Integrate ESOH data on risks and requirements into the system design, especially for programs using DE / MBSE for development and sustainment

Proposed ESOH Responses to Restructuring



- ESOH Risk Management
 - Significant part of a DoD program's efforts to manage cost, schedule, and performance risks
 - Use Military-Standard (MIL-STD)-882E, "DoD Standard Practice to System Safety"
 - Focus on:
 - Identifying ESOH hazards that could cause a system-related mishap resulting in damage to people, equipment, or the environment
 - Assessing the risks (probability / likelihood or severity / consequence) of a mishap
 - Identifying potential mitigations that could lower the risks
 - Selecting mitigations to implement based on tradeoffs involving cost, schedule, and performance implications of each mitigation option
 - Accepting risks prior to exposing people, equipment, or the environment to hazards
 - System users and program management must agree to accept a given risk
 - Risk acceptance decision making must be at the appropriate management levels for a given acquisition framework and risk levels

Proposed ESOH Responses to Restructuring



- ESOH Requirements – External Reviews, Approvals, Certifications
 - Programs must identify external reviews, approvals, and certifications that would normally apply to the system
 - Assess value added of those requirements and trade-offs between complying versus requesting approvals to waive
 - These external requirements can drive cost, schedule, and performance impacts
 - However, obtaining waivers can be cost and schedule prohibitive for a program
 - For instance, aircraft will require some type of airworthiness approval to fly in the National Airspace, International Airspace, or on DoD ranges
 - Airworthiness assessments can assist with ESOH risk management and provide critical design criteria
 - Airworthiness approvals can contribute to ability to market the system to allies
 - However, review process can be time consuming and costly

Proposed ESOH Responses to Restructuring



- ESOH Requirements Management – HAZMAT Management
 - Use the Aerospace Industries Association (AIA) National Aerospace Standards (NAS) 411 and 411-1
 - AIA developed these standards in conjunction with DoD
 - NAS411: "Hazardous Materials Management"
 - NAS411-1: "Hazardous Materials Target List"
 - Prohibit or restrict the use of HAZMAT In accordance with NAS411-1 either in a system or as required for a system's operation and maintenance
 - As worldwide restrictions increase on HAZMAT usage, these materials can:
 - Become significant supply chain risks
 - Cause limitations on where DoD could employ or sell systems
 - Pose unacceptable risks to people and the environment
 - Drive up total ownership costs

Proposed ESOH Responses to Restructuring



- ESOH Requirements Management – NEPA Compliance
 - Programs must work with system user to identify the locations where and when they plan to test, train, and field a new or modified system
 - Include these dates and locations on the Integrated Master Schedule as being on the critical path
 - Work with the system user to verify that the locations can comply with applicable statutory NEPA requirements prior to the planned events
 - Otherwise, programs may encounter potentially significant schedule delays or even work stoppages if programs are not working with the user to track NEPA compliance status
 - NEPA compliance issues are already affecting planning for testing of hypersonic systems and for use of Governmental ranges for contractor-owned / contractor-operated aircraft providing training assets to the Air Force

Proposed ESOH Responses to Restructuring

- ESOH Risk and Requirements Management
 - Execute to the extent possible given resources of time and people
 - Integrate efforts into program's DE / MBSE
- Recommended Management Priorities
 - ESOH Risks:
 - Use MIL-STD-882E methodology to identify hazards and potential High risks
 - Focus management efforts on High risks
 - ESOH Requirements – External Reviews, Approvals, Certifications
 - Contact external agencies to inform and assess flexibility, options
 - Inform management of potential show stoppers
 - ESOH Requirements – HAZMAT Management
 - Use NAS411 and NAS411-1 without tailoring
 - Focus management efforts on "Prohibited" materials
 - ESOH Requirements – NEPA Compliance
 - Work closely with system user, who must take the lead to comply with NEPA
 - Identify system specific data the user will need for NEPA analyses

SUMMARY



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