Headquarters U.S. Air Force

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8211 - U.S. Air Force Technical Sufficiency Reviews of Acquisition ESOH Risk Management

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Report Documentation Page

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Bottom Line Up Front

- Efforts to integrate and institutionalize ESOH considerations into Acquisition Systems Engineering continue
- Policy and guidance in place
- Focus is now on implementation and accountability
- Today's presentation addresses accountability – integrating ESOH into Acquisition program Technical Sufficiency Reviews

"Technical Sufficiency Reviews" – generic term for the subset of Acquisition program reviews that assess technical planning and management

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Overview

- Policy evolution
- Four Accountability Tools
  - Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)
  - System Safety – ESOH Management Evaluation Criteria for DoD Acquisition
  - Program reviews of High and Serious ESOH risks
  - Program Support Review (PSR)
- Integrating ESOH into Systems Engineering Booklet

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Policy Evolution

- Initial focus on integrating ESOH into Acquisition systems engineering policy and guidance
  - DoDI 5000.02 (8 Dec 08)
    - Evolution began in 1996
    - Incorporates key policy memos from 2004-2007
  - Defense Acquisition Guidebook (DAG)
    - Defines expectations for how to implement DoDI 5000.02
    - Provides detailed guidance
  - "System Safety in Systems Engineering" DAU CLE009
    - Established in 2005
    - Over 2000 graduates

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Policy Evolution (cont'd)

- Subsequent focus on revitalizing systems engineering
  - DoD emphasis began in 2003
  - ESOH, as part of systems engineering, also benefited
  - Reflected in DoDI 5000.02 and DAG
  - Re-established OSD and Service oversight of programs
- Current focus of both systems engineering and ESOH on accountability by mandating reviews
  - PESHE
  - System Safety – ESOH Management Evaluation Criteria for DoD Acquisition
  - Program reviews of High and Serious ESOH risks
  - PSR

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PESHE

- Mandated by DoDI 5000.02 (dating back to 1996)
- Required contents
  - Describes the strategy for integrating ESOH into systems engineering
  - Documents the status of program ESOH risk management
- Required reviews
  - Milestone B, Milestone C, and Full Rate Production Decisions
  - In support of Systems Engineering Plan (SEP) and Acquisition Strategy reviews
- E2S2 presentations on Monday and Thursday

Essential for PESHE to Document Actual Program Office Activities, not regurgitate policy

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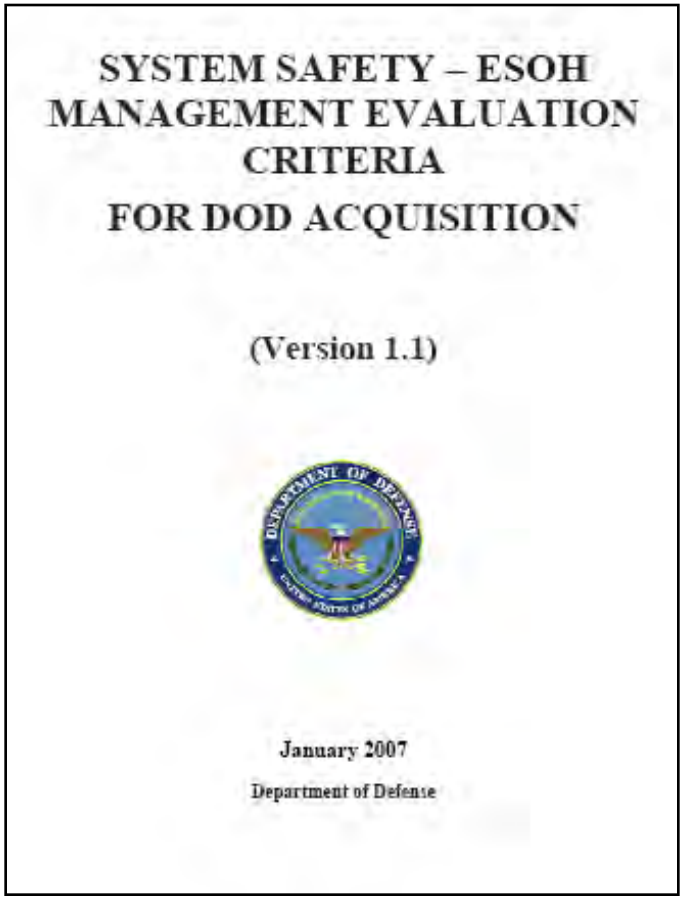
System Safety – ESOH Management Evaluation Criteria for DoD Acquisition

- Tool to assess SE technical discipline in the integration of ESOH using System Safety methodology
  - Technical and Program Reviews (self assessment)
  - Milestone Review Process (oversight assessment)
- Four key areas for evaluation
  - Planning
  - Requirements Analysis
  - Hazard analysis
  - Resources
- Assessment criteria for each area for each life cycle phase
- Weighted summation of four ratings to overall rating for each life cycle phase


SYSTEM SAFETY – ESOH MANAGEMENT EVALUATION CRITERIA FOR DOD ACQUISITION

(Version 1.1)

January 2007

Department of Defense

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Program reviews of High and Serious ESOH risks

- 2004 USD(AT&L) memo required reporting of ESOH risk status at technical and program reviews (as appropriate)
- 2006 USD(AT&L) memo required reporting of High and Serious risks at all program reviews (internal and external)
- Incorporated into DoDI 5000.02
- Purpose:
  - Provides periodic reassessments of risk acceptance decisions
  - Maintains visibility on efforts to mitigate risks
- Requirements:
  - Report on all "current" high and serious risks regardless of acceptance status
  - Document details in PESHE

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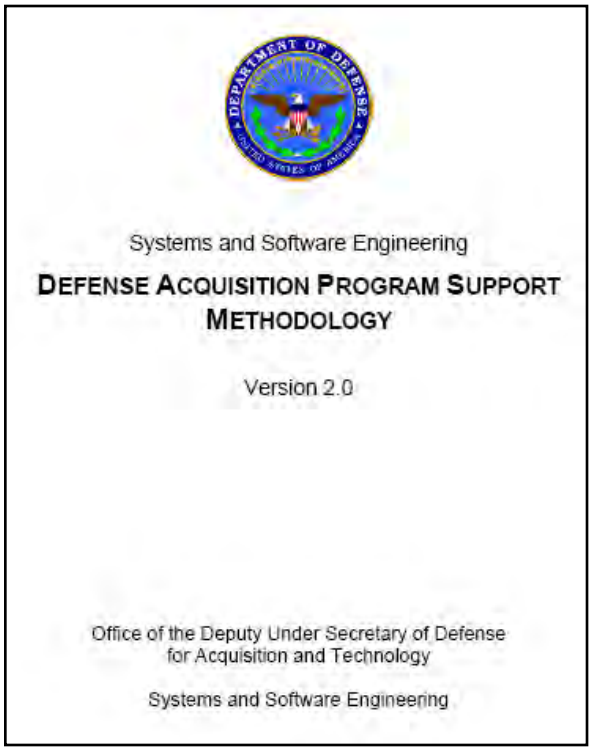
Program Support Review (PSR)

- OSD began in 2003
- DoDI 5000.02 (2008) requirements
  - "PSRs are a means to inform an MDA and Program Office of the status of technical planning and management processes by identifying cost, schedule, and performance risk and recommendations to mitigate those risks"
  - "PSRs shall be conducted by cross-functional and cross-organizational teams appropriate to the program and situation"
- Teams use *Defense Acquisition Program Support (DAPS) Methodology*
  - Section 4.0 Technical Process
  - Sub Area 4.1 Design Considerations
  - Factor 4.1.4 ESOH



Program Support Review (PSR)

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Mission Capabilities
Concept of Operations
Mission Description
Family of Systems/System of Systems Dependencies/Interfaces
Analysis of Alternatives
Validity and Currency
Linkage and Traceability
Capabilities
Reasonableness, Stability, and Testability
Key Performance Parameters and Key System Attributes
Resources
Program Schedule Overview (Tier 1)
Viability
Constraints and Dependencies
Budget Sufficiency and Phasing
Program Funding and Allocation
Program Schedule Overview (Tier 1)

Viability
Constraints and Dependencies
Budget Sufficiency and Phasing
Program Funding and Allocation
Continuity and Stability
Staffing Level
Sufficiency of Numbers and Qualifications
Continuity and Stability
Management
Acquisition Strategy
Credibility
Acceptability
Knowledge-Based Decisions and Milestones
Statutory and Regulatory Compliance and Guidance
Entrance and Exit/Success Criteria
Certifications
Program and Project Management
Program Plan/Schedule (IMP/IMS)

Work Breakdown Structure (WBS)
Management Structure and Communications
Management Methods, Metrics, and Techniques
Information Management (IDE, IT, Data Rights)
Management of Dependencies and External Interfaces (FoS / SoS)
Contracting
Prime Contractor Management
Subcontractor Management
Value Engineering
Technical Process
Design Considerations
System Assurance
Modular Open Systems Approach
Architecture
Corrosion
Spectrum Management
Sustainment as a Design Consideration

Environment, Safety, and Occupational Health
Human Systems Integration (HSI)
Requirements Development
Analysis and Decomposition
Management of Requirements
Technology Maturity and Integration
Technical Baselines
Technical Review Planning
Configuration Management
Baseline Stability
Engineering Tools
Systems and Software Engineering (SSE) Tools
Modeling and Simulation (M&S) Tools
Producibility and Production Planning Tools
Software
Software Development Plan

Estimation
Design Verification
Test and Evaluation Plan
Verification Correlation
Supportability Planning
Acquisition Logistics
Performance-Based Logistics (PBL)
Sustainment
Performance
Effectiveness
Design Capabilities
Assessment
Suitability
Reliability Assessment
Availability Assessment
Maintainability Assessment
Survivability
Live Fire Test and Evaluation Assessment
Production
Assessed Manufacturing
Assessed Quality
Special Interest Areas
Readiness Levels

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Integrating ESOH Into Systems Engineering Booklet

- Builds on CLE009 and depicts when ESOH activities should be performed to influence system design throughout the systems engineering process
- System Safety-ESOH Mgt. Evaluation Criteria are included

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Summary

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Questions?