

Headquarters U.S. Air Force

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10097 – Environment, Safety, and Occupational Health (ESOH) Lessons Learned from DoD Acquisition Systems Engineering Program Support Reviews

**Year of the Air Force
Family**



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Report Documentation Page

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Link to OSD Acquisition ESOH Presentation

- **Current Initiatives Target the Entire Life Cycle Framework**
 - **ESOH in Joint Capabilities Integration & Development System (JCIDS)**
 - **Environmental Sustainability Criteria used for decision making**
 - **Expanded use of DFAR Clauses**
 - **Expanded review of documentation**
 - **Participation in Program Support Reviews**



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- **PSR Policy**
 - **PSR Practice**
 - **PSR ESOH Lessons Learned**



- **8 Dec 2008 DoDI 5000.02, Operation of the Defense Acquisition System**
 - **Section E12, Systems Engineering**
 - **Section E12.6, ESOH**
 - **Integrate ESOH into Systems Engineering using MIL-STD-882D, the DoD Standard Practice for System Safety**
 - **Use MIL-STD-882D in all developmental and sustaining engineering activities**
 - **As part of risk reduction, eliminate ESOH hazards where possible, and manage ESOH risks where hazards cannot be eliminated**



- **8 Dec 2008 DoDI 5000.02, Operation of the Defense Acquisition System**
 - **Section E12, Systems Engineering**
 - **Section E12.6, ESOH continued**
 - **The PM must report the status of all High and Serious ESOH risks and applicable ESOH Technology Requirements for program reviews and fielding decisions**
 - **Prior to exposing people, equipment, or the environment to a known system-related ESOH hazards**
 - **Risks must be accepted by the appropriate authority**
 - **User concurrence for High and Serious risks**



- **8 Dec 2008 DoDI 5000.02, Operation of the Defense Acquisition System**
 - **Section E12, Systems Engineering**
 - **Section E12.6, ESOH continued**
 - **Prepare Programmatic ESOH Evaluation (PESHE)**
 - **Maintain a NEPA Compliance Schedule and prepare or assist in preparation of NEPA documents to support site specific actions**
 - **Participate in Class A & B mishap investigations**



- **8 Dec 2008 DoDI 5000.02, Operation of the Defense Acquisition System**
 - **Section E2, Procedures**
 - **Section E2.9, Review Procedures**
 - **Section E2.9.f, Program Support Reviews (PSRs)**
 - **Done to support DAB reviews or requests by AT&L or PM**
 - **Conducted by DDR&E/SE**
 - **Focused on technical planning and management processes**
 - **Use cross-functional and cross-organizational teams**
- **Guidance Documents**
 - **Defense Acquisition Guidebook (DAG)**



- **Guidance Documents continued**
 - **Defense Acquisition Program Support (DAPS) Guide**
 - **Section 4.0, Technical Processes**
 - **Sub-Area 4.1, Design Considerations**
 - **Factor 4.1.4, ESOH (pages 223-232)**
 - **Factor 4.1.7, Corrosion (Hexavalent Chromium)**
 - **Criteria and Focus Questions for**
 - **Pre-Milestone A**
 - **Pre-Milestone B**
 - **Pre-Milestone C**
 - **Post-Milestone C (Production & Deployment)**



PSR Practice 1 of 5

■ ESOH Participation

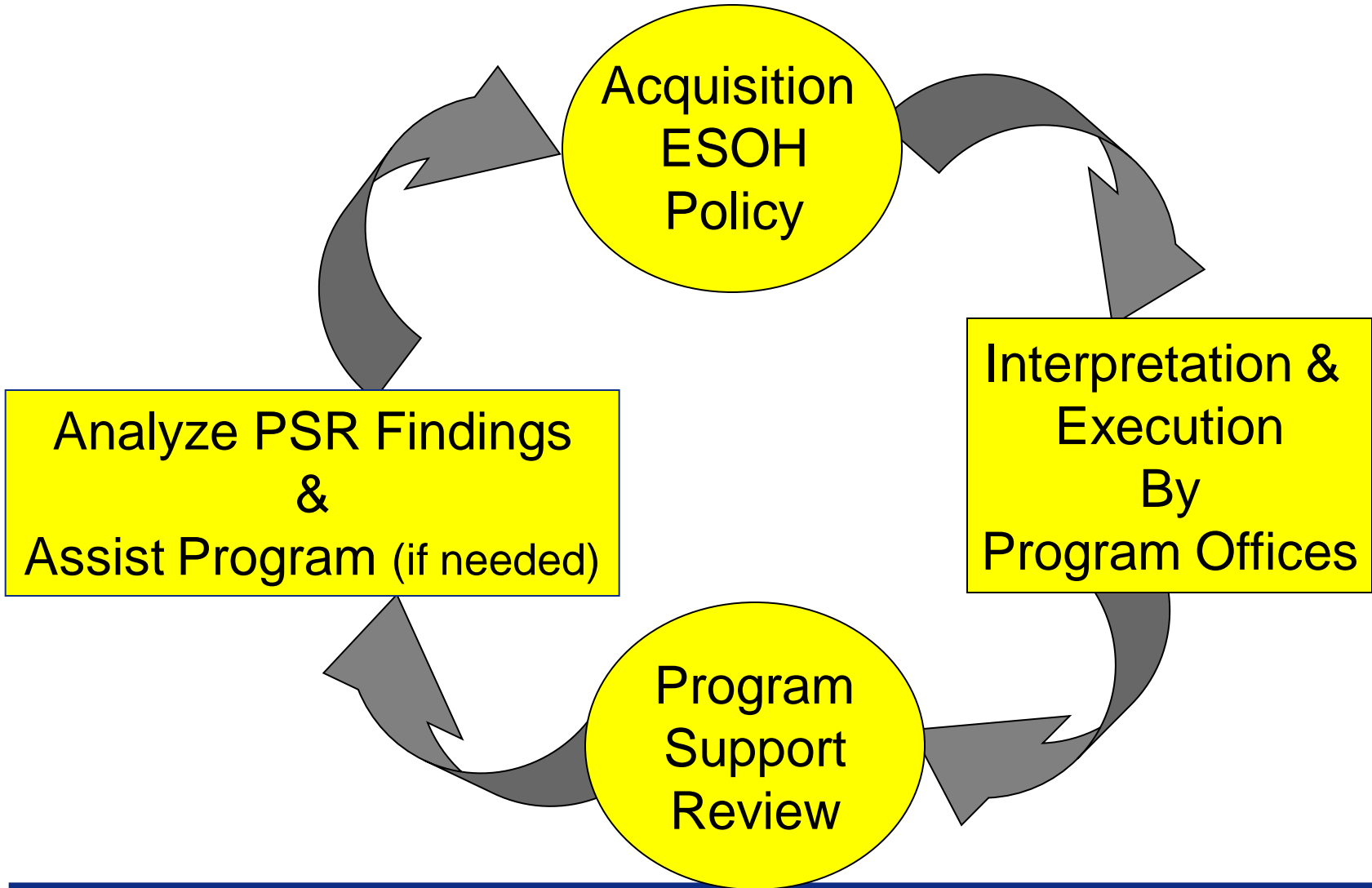
- OSD Systems Engineering-led PSRs underway since 2006
- DDR&E/SE team of in-house Systems Engineering Subject Matter Experts (SMEs) with additional OSD specialty-area SMEs
- Originally, PSR teams had no ESOH SMEs
- DoD Acquisition ESOH IPT led by DUSD (I&E) got ESOH content added to DAPS guide
- In 2009 and 2010, DUSD (I&E) led teams of ESOH SMEs from DoD Acquisition ESOH IPT Service reps to support several PSRs
- Efforts underway to formalize that process for including ESOH SMEs on all or most PSRs



- **ESOH Participation Objectives**
 - **Asses program compliance with the DoDI 5000.02 and DAG**
 - **Focus on PESHE**
 - **Integration strategy (ESOH into SE)**
 - **ESOH hazard tracking data**
 - **NEPA compliance schedule**
 - **ESOH current High and Serious risk and technology requirements reporting using DAG templates**
 - **Look for consistency with AS, SEP, & TEMP**
 - **Utilize the DAPS guide Criteria and Focus Questions**
 - **Findings help inform policy and guidance changes**

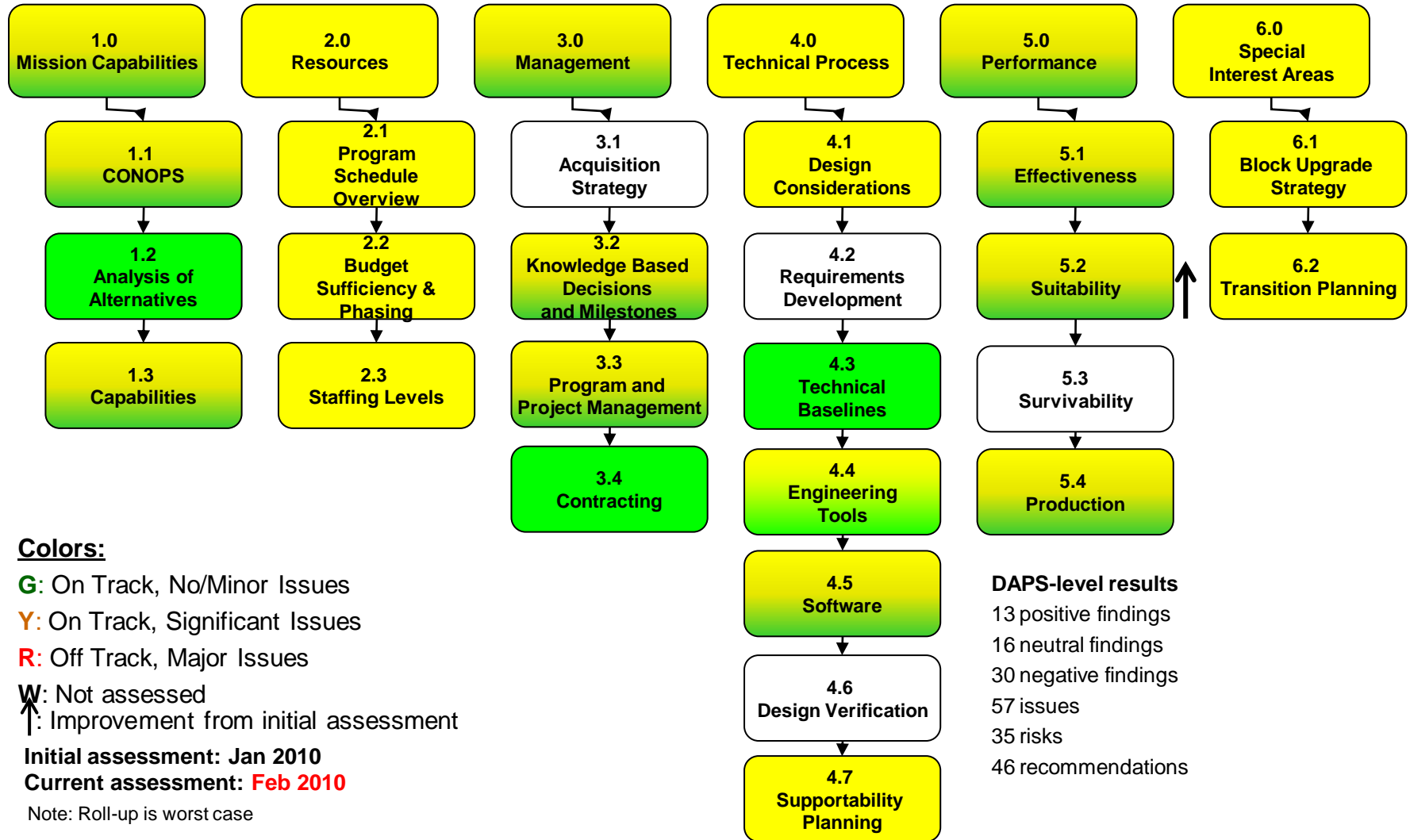


PSR Practice 3 of 5





PSR Practice 4 of 5



Colors:

G: On Track, No/Minor Issues

Y: On Track, Significant Issues

R: Off Track, Major Issues

W: Not assessed

↑: Improvement from initial assessment

Initial assessment: Jan 2010

Current assessment: **Feb 2010**

Note: Roll-up is worst case

DAPS-level results

- 13 positive findings
- 16 neutral findings
- 30 negative findings
- 57 issues
- 35 risks
- 46 recommendations



PSR Practice 5 of 5

Risk: Cost Increase

Drivers:

- Resource Management Decision (RMD) 802 quantity reduction (C)
- Unknown sustainment strategy (C)
- *Business Case Analysis* (BCA) timeline impact to POM-12 (C)

Recommendations:

- MS budget for highest-cost sustainment alternative, expedite BCA analysis

Risk: Initial Operational Capability Schedule

Drivers:

- Early use of schedule reserve (S)
- Recent training delays (S)
- Limited Production Qualification Testing (PQT) assets (S)

Recommendations:

- Program office perform schedule risk assessment

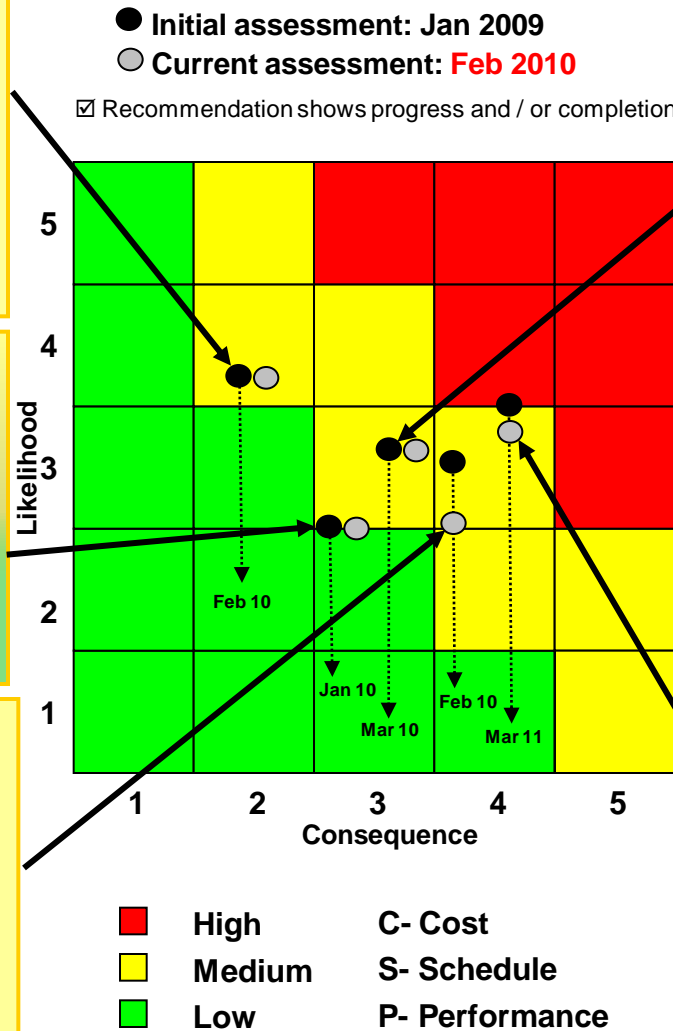
Risk: Program Manning

Drivers:

- MS authorization for staffing has not been approved by System Center (S, P)
- NA-1 Aircraft Product Directorate personnel turn-over / vacancies (S)
- Competition for qualified personnel (S)

Recommendations:

- MS develop high-priority mitigation plan for manning and staffing



Risk: Transition Planning

Drivers:

- *Transition Support Plan* lacks details for adoption of MS processes and procedures
- Potential Concept of Employment (CONEMP) differences (C, S)

Recommendations:

- MS get PCO on-board, conduct detailed review of contract, identify / implement changes
- Program identify process differences and planning gaps in *Transition Support Plan*

Risk: Sustainment Planning

Drivers:

- Inadequate sustainment planning at program inception, RMD 802 forces re-evaluation (C,S)
 - BCA late-to-need for supportability decision
 - No visibility into repairs and FRACAS for components below line-replaceable-unit level
- Insufficient plan for design sustainment (C,P)
 - Lack of defined block-upgrade strategy
 - ESOH, PESHE and Corrosion plans are incomplete

Recommendations:

- Program update technical documentation: SEP, AS, MOSA, PESHE, etc.
- MS define block-upgrade strategy
- MS monitor logistics data / spares, consider adding materiel availability (A_m) goal



PSR ESOH

Lessons Learned 1 of 2

■ Common findings

- ESOH risk data and technology requirements not in PESHE
- PESHE does not describe actual ESOH program implementation
- Program Office 'System Safety' and 'ESOH' efforts not integrated
- Lack of emphasis on implementing ESOH mitigations
- Failure to address USD (AT&L) hexavalent chrome policy

- See consistency between ESOH management and other program management areas, both good and bad
- Including ESOH in PSRs focuses Program Managers on ESOH
 - See OSD concerned about ESOH
 - Take responsibility for solving problems



PSR ESOH

Lessons Learned 2 of 2

- **Personal observations**

- **David Asiello, DUSD (I&E) PSR ESOH Team Lead**

- **"Structured process"**

- **Lori Hales, Booz Allen Hamilton**

- **"ESOH Risk Management integration"**

- **Bill Thacker, Booz Allen Hamilton**

- **"Review actual data"**

- **Lucy Rodriguez, Booz Allen Hamilton**

- **"System Safety and ESOH not integrated"**

- **Karen Gill, Booz Allen Hamilton**

- **"Disconnect between documents and reality"**

