Headquarters U.S. Air Force

Integrity - Service - Excellence

11132 – Including ESOH Requirements in JCIDS Documents

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Link to OSD Acquisition ESOH

- **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 Defense Federal Acquisition Regulation clauses**
  - **Expanded review of documentation**
  - **Participation in Program Support Reviews**

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Agenda

- Background
- Process
- Draft AT&L Policy Memo
- Training Development
- Training Content
- Way Ahead

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Background

- **USD (AT&L) Memo – 21 Nov 06**
  - **To "influence the entire life cycle of systems" and effectively integrate ESOH considerations**
    - **Joint Capabilities Integration and Development System (JCIDS) – define system required capabilities**
    - **Materiel solution acquisition development process – to answer JCIDS requirements**
      - **Each High and Serious ESOH risk and applicable safety technology requirements are addressed in program reviews**
    - **Fielded systems – where any ESOH problems that may exist are manifested; the "pain" is felt by the operator community**
      - **Class A & B mishap reports must include System Program Office hazard analysis and materiel mitigation measure recommendations to eliminate or reduce risk of recurrence**

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Background

- **Specific 21 Nov 06 Memo JCIDS Task Statement**

"The Acquisition & Technology Programs Task Force will develop a process to provide the DoD Joint Capabilities Integration and Development System with recommendations that have the potential to cost effectively prevent accidents. These inputs should include all aspects of the MIL-STD-882D System Safety Process."

USD (AT&L) Memo – 21 Nov 06

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Background

- **Scope of JCIDS Task**
  - **"accident" as used by SECDEF = mishap**
  - **"all aspects of the MIL-STD-882D System Safety Process" =**

    MIL-STD-882D definition of mishap

    "An unplanned event or series of events resulting in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment"

System Safety Focus: Preserving combat capability by reducing the risk of mishaps

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Background

- **"ESOH in JCIDS" Objective**
  - **Constructive contribution to system design development starts with the JCIDS document development process**
  - **ESOH requirements need to be captured in JCIDS documents in terms of capabilities**
    - **Links ESOH compliance and risk reduction to system cost, performance and schedule requirements**
    - **Improves ability of Program Office ESOH staff to trace ESOH technical requirements to capabilities documentation**

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ESOH in JCIDS Process

- Applies to all JCIDS documents
- Requires ESOH senior leadership endorsement of JCIDS documents
  - Acknowledges that ESOH communities had opportunity to provide inputs (no guarantees)
  - Ensures ESOH leadership aware of future systems or system modifications for support planning purposes
  - Each DoD Component to designate ESOH senior leader(s) responsible for endorsing JCIDS documents
  - Each DoD Component to set up its own internal ESOH review process to support endorsements
- OSD developing training to support ESOH SME participation in JCIDS document development

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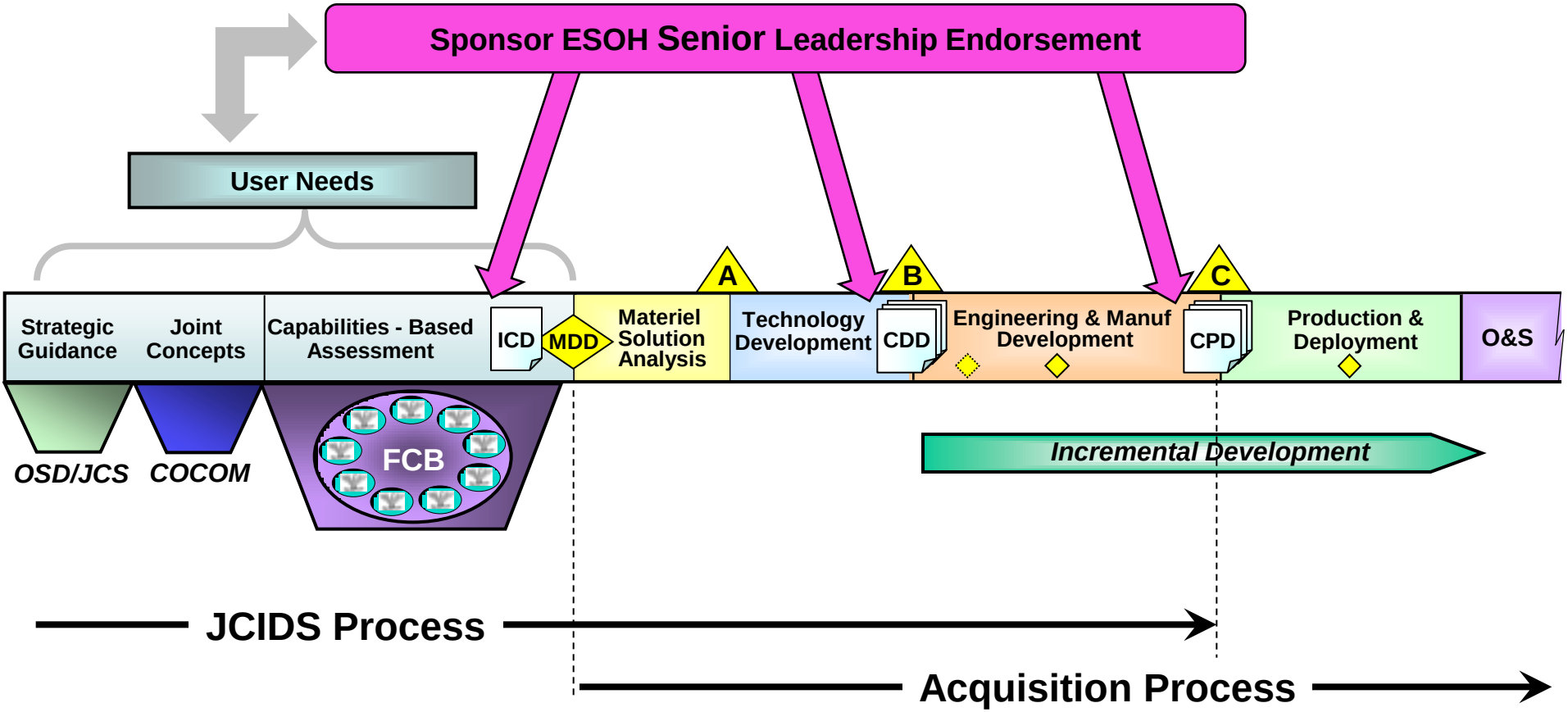
The Defense JCIDS and Acquisition Management Systems



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Draft AT&L Policy Memo

- Draft ready to enter formal staffing
- Linked to development of training materials
- Addressed to Components and Joint Staff
- Directs each Component to designate to AT&L the office(s) that must provide ESOH endorsements
- Requests Joint Staff incorporate process into CJCS 3170 Manual
- Directs the DoD Components to brief AT&L (or designee) annually on implementation status

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ESOH in JCIDS Training Development

- Purpose: to prepare ESOH practitioners to be effective participants in the JCIDS document development process
- Goal: training in place to support policy release
- End State: a Defense Acquisition University (DAU) Requirement Curriculum (RQM-110) Continuous Learning Module (CLM), similar to CLE009 “System Safety in Systems Engineering”
  - Generic DoD training, not Service-specific
  - Potential for follow-on Service-specific training development
- Two Phase Approach
  - Phase 1: Content Development
  - Phase 2: Production of On-Line Course

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ESOH in JCIDS Training Development

- **Phase I - Content Development: NDIA Systems Engineering Division ESOH Committee sponsored workshops to develop training materials content**
    1. **16-17 Sep 09 in St. Louis, MO**
    2. **18-19 Nov 09 in Arlington, VA**
    3. **17-19 Feb 10 in Arlington, VA**
- **Training material content**
    1. **Overview of the Capability-Based Planning process**
    2. **How to develop applicable and appropriate ESOH capability statements; and**
    3. **How to be an effective participant in the JCIDS document development process**

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ESOH in JCIDS Training Content

1. **Overview of the Capability-Based Planning process**
   - **CJCS 3170.01 Manual**
   - **Terminology**
   - **Top-level process description**
   - **Sequence and appropriate content of documents**
     - **Initial Capabilities Document (ICD)**
     - **Capability Development Document (CDD)**
     - **Capability Production Document (CPD)**

ESOH in JCIDS Training Content

2. How to develop applicable and appropriate ESOH capability statements

- Identifying potential ESOH issues/concerns for a given solution/system
  - Lessons learned from similar systems' mishap data, Notices of Violation, NEPA documents, ESOH hazard logs, etc.
  - ESOH engineering evaluation of proposed system concept or design (scope of evaluations are system maturity-dependent)
  - Results from testing activities
- Tailored for the given JCIDS document (ICD vs. CDD vs. CPD)
  - Degree of specificity
  - KPP/KSA Thresholds and Objectives; Other System Attributes

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ESOH in JCIDS Training Content

3. How to be an effective participant in the JCIDS document development process
   - Goal: effective advocacy for inclusion of ESOH capability statements
     - Describe contribution to preserving mission capability
     - Demonstrate potential program and ESOH risk reduction
     - Address any potential lifecycle cost savings
   - Understanding the appropriate use of parameters and attributes
     - Key Performance Parameters (KPPs): essential and critical to program success; typically not appropriate for ESOH
     - Key System Attributes (KSAs): crucial to program success; appropriate for the most significant ESOH issues
     - System Attributes: support KPPs and KSAs; appropriate for ESOH issues
     - Other System Attributes: appropriate for detailed ESOH inputs

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ESOH in JCIDS Way Ahead

- **Phase 2 - Production of Online Course**
  - **Develop formal training course**
    - **Pass configuration control to Instructional designers**
    - **Verify/Validate – Beta testing**
    - **Launch on DAU Learning Management System ~ Mar 2011**
  - **Formal staffing of policy memo through OSD and Components**
    - **Expected to begin Jan 2011**
    - **ECD Mar 2011**

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Conclusion

Proposed approach designed to contribute to preservation of combat capability by reducing preventable losses without encumbering the JCIDS process

Questions?

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ATP TF Response to AT&L JCIDS Task

- ATP TF stood up Preventable Accident Reduction Working Group (PARWG)
  - Purpose: Develop response to 21 Nov 06 USD (AT&L) memo assigning ATP TF JCIDS task
  - Focus: Process to provide opportunity for including ESOH recommendations into the Sponsor JCIDS document development process
  - Development: Vetted process details with J-8 and DoD Secretariat Systems Engineering and ESOH principals
  - Implementation: Parallel development of policy and supporting training

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Key Outcomes - Workshop 3

- Using the "Mobile Gun System" as a recurring example throughout training to demonstrate appropriate capability statements – same example system currently threaded through DAU course CLE009, System Safety in Systems Engineering
- Navigating JCIDS process using the DAU framework chart as backbone for overview of JCIDS process
- Inclusion of prioritized ESOH requirements document list in ICD Appendix B, References
- Identification of "special cases" for ESOH capability statements in ICDs. Examples to include:
  - C5 meeting ICAO standard for commercial airport access
  - Identifying presence of marine endangered species prior to use of high duty cycle SONAR

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Key Outcomes - Workshop 3

- Tools for assessing ESOH capability needs
  - ESOH Considerations and Exacerbating Conditions – multi-step tool to identify and prioritize (red/yellow/green) capability needs for a given system. May also serve as library for example text .
  - Progressive Resource Applicability Guide – Identifies sources where ESOH capability needs may be identified and indicates their applicability to the main JCIDS documents (ICD, CDD, CPD). Table builds as each document covered in training
- Graphic to depict level of effort, generic capability content, and specific capability content associated with each JCID document as an aid to scoping the ESOH effort