Systems Engineering Plan Preparation Guide Update

Chet Bracuto
OSD Systems and Software Engineering/Enterprise Development
24 October 2007
NDIA SE Conference
An Updated Systems Engineering Plan Preparation Guide (Version 2.0) Has Been Released on the New SSE Website


Preface + 3 Distinct Sections-94 Pages
• Version 1.02 released in February 2006 (31 pages)
  • Describe application of SE in the various life cycle phases
  • Provide information to specific questions for each of the CR/TD, SDD/Production, and Sustainment phases
SEP Prep Guide

Reasons for Update

- SEP quality was inconsistent
- ‘Lessons Learned’ from PSRs
- Feedback from SEP Reviews
SEP Prep Guide

Update Process

• ED released a draft SEP Prep Guide on 27 April for review by the SE Forum members and other SE personnel.
  – 600 comments received and adjudicated

• ED released a second draft on 25 July
  – close to 100 additional comments received and adjudicated

• Released Version 2.0 of the SEP Prep Guide on 18 October 07 (Preface + 3 distinct sections-94 pages)
SEP Prep Guide

Goals

• Provide clear and unambiguous guidance on SEP preparation with lessons learned
• Assist the SEP Preparation Team by tailoring sections for Acquisition Milestones A, B and C
• Prompt the SEP Preparation Team to consider key planning factors in each focus area

It’s About Technical Planning…Not the Document
SEP Prep Guide

Update Details

• New guide includes sections by program phase:
  – Milestone A/Technology Development
  – Milestone B/System Development & Demonstration
  – Milestone C/ Production & Deployment and Operations & Support

• Each section is based on technical planning focus areas for that phase
  – Program Requirements
  – Technical Staffing
  – Technical Baseline Management
  – Technical Review Planning
  – Integration with Overall Management of the Program
SEP Prep Guide
Update Details

• Program Requirements
  – Describe:
    • Desired capabilities and traceability to requirements
    • Statutory and regulatory
    • Specified and derived
    • Certification
    • Design considerations
SEP Prep Guide  
*Update Details*

- **Technical Staffing**
  - Describe:
    - *Lead Systems Engineer/Functional roles*
    - *IPT Organization/Structure*
    - *IPT Staffing*
    - *IPT Coordination*
    - *Integration with the Contractor and External Organizations*
• Technical Baseline Management
  – Describe:
    • Who is responsible for technical baseline management
    • Approach to defining, approving and maintaining the baseline
    • Allocation and verification of program requirements
    • Alignment between the specification tree and the WBS
    • Assessment of technical maturity
• Technical Review Planning
  – Describe:
    • *Event-driven technical reviews*
    • *Technical review management*
    • *Chairing of technical reviews*
    • *Stakeholder participation in technical reviews*
    • *Peer participation in technical reviews*
SEP Prep Guide
Update Details

• Integration with Overall Management of the Program
  – Describe:
    • Linkage to other program management plans (Acquisition Strategy, IMP, IMS, EVM, Risk, etc)
    • PM’s approach to technical reviews
    • Risk management approach
    • Integration of T&E
    • Integration with Sustainment
    • Integration of SE considerations into the contract
The Way Ahead
Communicate/Implement

• Communicate the new SEP Prep guidance to Government and Industry

• Implement:
  – Initial SEPs submitted for MDA approval shall be IAW SEP Prep Guide Version 2.0 on 1 Jan 08
  – Updated SEPs submitted for MDA approval shall be IAW SEP Prep Guide Version 2.0 on 1 June 08
Incorporate new SE Policy in DoD 5000.2

- Enclosure 12. Includes new policy on CM, DM, and ESOH and previously approved SE and related policies.

- Enclosure 3. Table E3.T2. SEP is mandated at milestones A, B, and C.

- § 3.5.5. SE “shall be considered” during CR and TD.

- § 3.7.7. “System Design [phase of SDD] shall include the establishment of the functional, allocated, and product baselines for all configuration items.”

- § 3.7.8. Proceeding beyond the CDR. “The system-level CDR provides an opportunity for mid-phase assessment of design maturity as evidenced by measures such as successful completion of subsystem CDR; the percentage of hardware and software product build-to specifications and drawings completed and under configuration control.”

- § 3.7.9. System Demonstration. “The program shall enter System Demonstration when the program has successfully completed the system-level CDR and established an initial product baseline.”

- § 3.10.5. Program Support Reviews (PSRs) mandated for all MDAPs and “... shall be conducted prior to each milestone event, before approval of the SDD acquisition strategy, and at other times as directed by the USD(AT&L).”
The Way Ahead
SE Plan Unification

Unified SE Plan