Streamlining Acquisition Documents

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Office of the Deputy Assistant Secretary of Defense
for Systems Engineering

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Acquisition Documentation Streamlining: USD(AT&L) Direction of September 14, 2010

- **REDUCE NON-PRODUCTIVE PROCESSES AND BUREAUCRACY**
  - Review DAB documentation requirements to eliminate non-relevant content
  - Reduce by half, the volume and cost of internal and congressional reports
    - … conduct a bottom-up review of all internally-generated reporting requirements .. by 1 March 2011*… [required by DoD Instruction 5000.02] (Direction to Dir. ARA)
Key Attributes of Document Streamlining

Prior Document  ➔  Revised Document

• Prepared for senior management with little meaning for the preparers
• Insufficient planning detail
• Too many pages; too little or irrelevant content
• Too much duplication of common information
• Accretion of information requirements over time
• Streamlining efforts could be applicable at all levels of the Enterprise

• Prepared by the Program Office FOR USE by the Program Office team
• Planning detail is a key for success
• Reduce number of pages to what is needed; do not restate processes
• Reduce duplication: common information goes in one master location (repository?)
• Repository enables re-use and currency; connectivity is necessary
• Streamlining efforts flowed down to all levels of the Enterprise

**INTENT:** Change the focus to documents that the Program team actually needs and uses to manage their Program:

Concept  ➔  Design  ➔  Sustainment
Mr. Kendall’s Guidance to OSD Staff

- Achieving affordable and executable programs
- Sound investment decisions
- Focus on the substance, not the form
- Flexibility in helping programs succeed – but also insistence on sound planning
- Expertise in your area of responsibility – staff specialists, not action officers
- Product and substance – not process – guides our actions
# DoDI 5000.02 Document Disposition

<table>
<thead>
<tr>
<th>Document</th>
<th>SOURCE</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ <strong>Acquisition Strategy (AS) / Technology Development Strategy (TDS)</strong></td>
<td>Reg: DoDI 5000.02</td>
<td>Approved</td>
</tr>
<tr>
<td>Technical Data Rights Strategy</td>
<td>Stat: 10 USC 2320</td>
<td>Increased emphasis in AS</td>
</tr>
<tr>
<td>✓ <strong>Systems Engineering Plan (SEP)</strong></td>
<td>Reg: DoDI 5000.02</td>
<td>Approved</td>
</tr>
<tr>
<td>Corrosion Prevention and Control Plan</td>
<td>Reg: DoDI 5000.67</td>
<td>Addressed in SEP</td>
</tr>
<tr>
<td>Individual Unit Identification (IUID) Implementation Plan</td>
<td>Reg: DoDD 8320.03</td>
<td>Addressed in SEP</td>
</tr>
<tr>
<td>PESHE / NEPA Compliance Plan</td>
<td>Stat: 10 USC 4321</td>
<td>Addressed in SEP</td>
</tr>
<tr>
<td>✓ <strong>Program Protection Plan (PPP)</strong></td>
<td>Reg: DoDI 5200.39</td>
<td>Approved</td>
</tr>
<tr>
<td>Acquisition Information Assurance Strategy</td>
<td>Reg: DoDI 8580.1</td>
<td>Consolidated into PPP</td>
</tr>
<tr>
<td>✓ <strong>Life-Cycle Sustainment Plan (LCSP)</strong></td>
<td>Reg: DoDI 5000.02</td>
<td>Approved</td>
</tr>
</tbody>
</table>

* Office of Primary Responsibility
<table>
<thead>
<tr>
<th>Document</th>
<th>SOURCE</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life-Cycle Signature Support Plan</td>
<td>Reg: DoDD 5250.01</td>
<td>In work, renamed Life-Cycle Mission Data Plan to be more comprehensive</td>
</tr>
<tr>
<td>Information Support Plan (ISP)</td>
<td>Reg: DoDD 4630.05</td>
<td>In work</td>
</tr>
<tr>
<td>Net-Centric Data Strategy (NCDS)</td>
<td>Reg: DoDD 8320.02</td>
<td>To be consolidated into ISP</td>
</tr>
<tr>
<td>T&amp;E Master Plan (TEMP)</td>
<td>Reg: DoDI 5000.02</td>
<td>In work; renamed at MS A</td>
</tr>
<tr>
<td>T&amp;E Strategy (TES)</td>
<td>Reg: DoDI 5000.02</td>
<td>Replace TES w/TEMP at MS A</td>
</tr>
<tr>
<td>Operational Test Plan (OTP)</td>
<td>Stat: 10 USC 2399</td>
<td>In work</td>
</tr>
<tr>
<td>Economic Analysis (for MAIS programs)</td>
<td>Stat: P.L. 106-398</td>
<td>In work</td>
</tr>
<tr>
<td>Analysis of Alternatives (AoA)</td>
<td>Stat: Title 40 Subtitle III</td>
<td>In work</td>
</tr>
<tr>
<td>Cost Analysis Requirements Description (CARD)</td>
<td>Reg: DoDI 5000.02</td>
<td>In work</td>
</tr>
<tr>
<td>Manpower Estimate</td>
<td>Stat: 10 USC 2434</td>
<td>Expected to remain the same</td>
</tr>
</tbody>
</table>
Technology Development Strategy/Acquisition Strategy

- Increased emphasis on program business arrangements, risk and affordability
- Eliminated all information not central to management decision making (assigned to more logical functional locations)
- Content streamlined (data tables, lists, summaries)
Technology Development Strategy/Acquisition Strategy

**ORIGINAL**

- Technology Development Strategy Outline
- Acquisition Strategy Outline

**CHANGES**

<table>
<thead>
<tr>
<th>MOVE</th>
<th>REQUIREMENT</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MOSA Summary</td>
<td>SEP</td>
</tr>
<tr>
<td></td>
<td>Corrosion Prevention Plan</td>
<td>SEP</td>
</tr>
<tr>
<td></td>
<td>ESOH Summary</td>
<td>SEP</td>
</tr>
<tr>
<td></td>
<td>Human Systems Integration</td>
<td>SEP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REMOVE</th>
<th>(now Stand Alone Document)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCSP</td>
<td></td>
</tr>
<tr>
<td>PPP Summary</td>
<td>(now Stand Alone Document)</td>
</tr>
</tbody>
</table>

**REVISED OUTLINE PRINCIPAL TOPICS**

TECHNOLOGY DEVELOPMENT STRATEGY / ACQUISITION STRATEGY

- Executive Summary
- Capability Need
- Acquisition Approach
- Tailoring
- Integrated Schedule
- Risk & Risk Management
- Business Strategy
  - Competition Strategy
  - Contract Management
  - Data Management Strategy
- Cost and Funding
- Resource Management
- Other Considerations

**COORDINATION PROCESS**

- Incorporated Better Buying Power Initiatives into outline (e.g., Should Cost / Will Cost, Affordability, Schedule)
Purpose of the SEP  
(the OSD Perspective)

- Provides the catalyst for the development, documentation, and approval of a Program’s engineering approach
- Serves as the Program’s living technical planning and management document
- Mandated by the Weapon Systems Acquisition Reform Act (WSARA) of 2009 for all MDAPs with approval by the Deputy Assistant Secretary of Defense (Systems Engineering)
SEP Streamlining Methodology

• SEP should define minimum core content and set of data-driven products required for successful program execution and driven by SE policy

• Components may establish Component-level SEP contents inclusive of OSD core content

• SE-related contents from the Acquisition Strategy, including Modular Open Systems Approach (MOSA), Environmental Safety and Occupational Health (ESOH) Summary, Corrosion Prevention and Control Plan (CPCP), and Human Systems Integration (HSI) Summary, are replaced by table entries with links to affiliated plans

• The Item Unique Identification (IUID) Implementation Plan, previously a SEP annex, is approved at Component level and linked to the SEP
# New SEP Outline Content and Purpose

## Key Sections

<table>
<thead>
<tr>
<th>1. Introduction</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Tracks revision control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Program Technical Requirements</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1. Architectures and Interface Control</td>
<td>• Summarizes the expected architecture products, external interfaces, and links to common architectures</td>
</tr>
<tr>
<td>2.2. Technical Certifications</td>
<td>• Identifies required system-level certifications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Engineering Resources and Management</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. Technical Schedule and Schedule Risk Assessment</td>
<td>• Documents integrated, event-driven system development schedule including WBS and IMP/IMS</td>
</tr>
<tr>
<td>3.2. Engineering Resources and Cost/Schedule Reporting</td>
<td>• Describes risk management process and organization; identifies system-level technical risks and opportunities</td>
</tr>
<tr>
<td>3.3. Engineering and Integration and Risk Management</td>
<td>• Diagrams technical structure and staffing (e.g., IPTs, Working Groups, etc.)</td>
</tr>
<tr>
<td>3.4. Technical Organization</td>
<td>• Identifies management of outside organizational interfaces</td>
</tr>
<tr>
<td>3.5. Relationships with External Technical Organizations</td>
<td>• Describes program’s use of metrics to measure technical progress</td>
</tr>
<tr>
<td>3.6. Technical Performance Measures and Metrics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Technical Activities and Products</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1. Results of Previous Phase SE Activities</td>
<td>• Summarizes completed system-level technical reviews, independent reviews, and trade studies and analogous plans for the next phase</td>
</tr>
<tr>
<td>4.2. Planned SE Activities for Next Phase</td>
<td>• Describes processes for requirements analysis, decomposition, and change management</td>
</tr>
<tr>
<td>4.3. Requirements Development and Change Process</td>
<td>• Summarizes technical review planning details and responsibilities</td>
</tr>
<tr>
<td>4.4. Technical Reviews</td>
<td>• Lists technical baseline artifacts and describes their management</td>
</tr>
<tr>
<td>4.5. Configuration and Change Management Process</td>
<td>• Identifies relevant design considerations and linkage to contracts</td>
</tr>
<tr>
<td>4.6. Design Considerations</td>
<td>• Lists tools and required tool interfaces, if necessary</td>
</tr>
<tr>
<td>4.7. Engineering Tools</td>
<td></td>
</tr>
</tbody>
</table>
SEP: Mandated Tables and Figures

Tables
Table 1.1-1 SEP Update Record
Table 2.1-1 Required Memoranda of Agreement (NEW)
Table 2.2-1 Certification Requirements
Table 3.4.4-2 IPT Team Details
Table 3.6-2 Technical Performance Measures and Metrics (NEW)
Table 4.4-1-n Technical Review Details
Table 4.6-1 Design Considerations (NEW)
Table 4.6-2 R&M Activity Planning and Timing (NEW)
Table 4.7-1 Engineering Tools (NEW)

Figures
Figure 3.1-1 System Technical Schedule
Figure 3.3-1 Technical Risk Cube
Figure 3.4.1-1 Program Office Organization
Figure 3.4.2-1 Program Technical Staffing
Figure 3.4.3-1 Contractor Program Office Organization
Figure 3.4.3-2 Contractor Technical Staffing (NEW)
Figure 3.4.4-1 IPT/WG Team Hierarchy
Figure 3.6-1 Reliability Growth Curve (NEW)
Figure 4.3.1-1 Requirements Decomposition/Specification Tree/Baselines
Figure 4.5-1 Configuration Management Process
New Reliability Reporting

Document the Reliability Growth Curve beginning at MS A, updated at each successive milestone, …

Implementation of New Reliability Policy

<table>
<thead>
<tr>
<th>R&amp;M Engineering Activity</th>
<th>Planning and Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;M Allocations</td>
<td></td>
</tr>
<tr>
<td>R&amp;M Block Diagrams</td>
<td></td>
</tr>
<tr>
<td>R&amp;M Predictions</td>
<td></td>
</tr>
<tr>
<td>Failure Definitions and Scoring Criteria</td>
<td></td>
</tr>
<tr>
<td>Failure Mode, Effects, and Criticality Analysis (FMECA)</td>
<td></td>
</tr>
<tr>
<td>Maintainability and Built-in Test Demonstrations</td>
<td></td>
</tr>
<tr>
<td>Reliability Growth Testing at the System and Subsystem Level</td>
<td></td>
</tr>
<tr>
<td>Failure Reporting, Analysis, and Corrective Action System (FRACAS)</td>
<td></td>
</tr>
</tbody>
</table>

and report planning to generate R&M artifacts
## SEP: New Figures and Tables

### Report technical performance metrics tied to KPP/KSA achievement …

### and list the tools the PMO uses to manage data and artifacts
**SEP: New Tables and Figures**

Document the Program’s external dependencies …

### REQUIRED MEMORANDA OF AGREEMENT

<table>
<thead>
<tr>
<th>Interface</th>
<th>Cooperating Agency</th>
<th>Interface Control Authority</th>
<th>Required By Date</th>
<th>Impact if Not Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### Team Name | Chairperson | Team Membership (by Function or Organization) | Team Role, Responsibility, and Authority | Products and Metrics |
|-------------|-------------|-----------------------------------------------|------------------------------------------|----------------------|
| SE IPT      | Lead SE     | • Program Office  
|             |             | o Platform Lead  
|             |             | o Mission Equipment Lead  
|             |             | o Weapons Lead  
|             |             | o Test Manager  
|             |             | o Logistics Manager  
|             |             | o SW Lead  
|             |             | o Production/Quality Manager  
|             |             | o Safety Lead  
|             |             | o Interoperability Rep.  
|             |             | o R&M Lead  
|             |             | • PEO and PM  
|             |             | • Service Representative  
|             |             | • OSD SE  
|             |             | • Key Subcontractor or Suppliers  
|             |             | **Role:** IPT Purpose  
|             |             | **Responsibilities:** Integrate all technical efforts  
|             |             | • Team Member Responsibilities  
|             |             | • Cost, Performance, Schedule Goals  
|             |             | • Scope, Boundaries of IPT Responsibilities  
|             |             | Schedule and frequency of meetings  
|             |             | Date of signed IPT charter and signatory  
|             |             | **Products:**  
|             |             | SEP/SEP Updates  
|             |             | IMP/IMS Input  
|             |             | Specifications  
|             |             | **Metrics:**  
|             |             | -Cost  
|             |             | -Performance  
|             |             | -Schedule  

| XXX IPT | XXX Lead | Program Office  
|         |         | o Lead SE  
|         |         | o Mission Equipment Lead  
|         |         | o Weapons Lead  
|         |         | **Role:** IPT Purpose  
|         |         | **Responsibilities:** Integrate all technical efforts  
|         |         | • Team Member Responsibilities  
|         |         | **Products:**  
|         |         | Specification input  
|         |         | SEP input  
|         |         | TES/TEMP input  |

and IPT/WIPT/WG structures
### Mapping Key Design Considerations into Contracts

<table>
<thead>
<tr>
<th>Name (Reference)</th>
<th>Cognizant PMO Org</th>
<th>Certification</th>
<th>Documentation (hot link)</th>
<th>Contractual Requirements (CDRL #)</th>
<th>Description/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE Tradeoff Analysis for Affordability</td>
<td></td>
<td></td>
<td>(MS B)</td>
<td></td>
<td>Provide the systems engineering trade-off analysis showing how cost varies as the major design parameters and time to complete are traded off against one another. The analysis will reflect attention to capability upgrades. The analysis will support MDA approval of an Affordability Requirement to be treated as a Key Performance Parameter (KPP) in the Acquisition Decision Memorandum. The analytical summary will include a graphic illustrating cost tradeoff curves or trade space around major affordability drivers (including KPPs when they are major cost drivers) to show how the program has established a cost-effective design point for those affordability drivers.</td>
</tr>
<tr>
<td>Corrosion Prevention and Control (ACAT I only)</td>
<td></td>
<td>CPCP</td>
<td>(MS B &amp; C)</td>
<td></td>
<td>Describe how design will minimize impact of corrosion and material deterioration on system throughout system life cycle.</td>
</tr>
<tr>
<td>Environmental Safety and Occupational Health (ESOH)</td>
<td></td>
<td>PESHE NEPA Compliance Schedule (MS B &amp; C)</td>
<td></td>
<td></td>
<td>Describe how design will minimize ESOH by summarizing how program will integrate ESOH considerations into SE processes to include method for tracking hazards and ESOH risks and mitigation plans throughout the life cycle of system.</td>
</tr>
<tr>
<td>Human Systems Integration (HSI)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Summarize how HSI will be integrated within the SE processes, specifically addressing the human operator and maintainer requirement allocation approach that accounts for total system performance.</td>
</tr>
<tr>
<td>Item Unique Identification (UID)</td>
<td></td>
<td>IUID</td>
<td>Implementation Plan (MS B &amp; C)</td>
<td></td>
<td>Describe how the program will implement UID to identify and track applicable major end items, etc.</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Assess the manufacturing risk and readiness of all contributory processes and particularly those that are new or unproven in a full-rate production environment.</td>
</tr>
<tr>
<td>Open Systems Architectures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Describe how open systems architectures will be incorporated into the program's design to enable affordable change, evolutionary acquisition, and interoperability.</td>
</tr>
<tr>
<td>Program Protection and Information Assurance</td>
<td></td>
<td>FPP</td>
<td>(MS A, B &amp; C)</td>
<td></td>
<td>Describe how design will address safeguarding Critical Program Information (CPI) and provide countermeasures against hacking.</td>
</tr>
<tr>
<td>Reliability and Maintainability²</td>
<td></td>
<td>RAM contract language RAM-C Report² (MS A, B, &amp; C)</td>
<td></td>
<td></td>
<td>Describe how the program will implement and contract for a comprehensive R&amp;M engineering program to include the phased activities in Table 4.5-2 and how R&amp;M is integrated with SE processes.</td>
</tr>
</tbody>
</table>

Mandated design considerations, key artifacts, and contractual requirements
**SEP: Simplified Data Presentation**

**Planned Technical Review Details**

<table>
<thead>
<tr>
<th>XXX Details Area</th>
<th>XXX Review Details (For this acquisition phase, fill out tailored criteria, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td>Identify the Technical Review Chair (Normally the LSE)</td>
</tr>
<tr>
<td>PMO Participants</td>
<td>Identify Positions/functions/IPTs within the program offices which are anticipated to participate. (Engineering Leads; Risk, Logistics, and Configuration Managers, Defense Contracting Management Agency (DCMA) Rep., and Contracting Officer, etc.)</td>
</tr>
<tr>
<td>Anticipated Stakeholder Participant Organizations</td>
<td>Representatives (stakeholders) from Service SE and Test, OSD SE and Developmental Test and Evaluation (DT&amp;E), FoS/SoS, and the User</td>
</tr>
<tr>
<td>Anticipated Peer and Program-Independent SME Participant Orgs.</td>
<td>Identify Organizations which can provide a peer perspective and participants who will provide an independent assessment of how well the program is progressing but which have no stake in the program’s success.</td>
</tr>
<tr>
<td>Purpose (of the review)</td>
<td>Describe the main purpose of the review and any specific SE goals</td>
</tr>
<tr>
<td>Entrance Criteria</td>
<td>Identify tailored Entrance Criteria</td>
</tr>
<tr>
<td>Exit Criteria</td>
<td>Identify tailored Exit Criteria</td>
</tr>
<tr>
<td>Products/Artifacts (from the review)</td>
<td>List expected products from the technical Review (for example)</td>
</tr>
<tr>
<td></td>
<td>• Established system allocated baseline</td>
</tr>
<tr>
<td></td>
<td>• Updated risk assessment for EMD</td>
</tr>
<tr>
<td></td>
<td>• Updated Cost Analysis Requirements Document (CARD) or CARD-like document based on system allocated baseline</td>
</tr>
<tr>
<td></td>
<td>• Updated program schedule including system and SW critical path drivers</td>
</tr>
<tr>
<td></td>
<td>• Approved LCSP updating program sustainment development efforts and schedules</td>
</tr>
<tr>
<td></td>
<td>• Draft Post-PDR Report (MDAPS)</td>
</tr>
</tbody>
</table>
New PPP Outline and Guidance

• What’s in the Policy Memo?
  – “Every acquisition program shall submit a PPP for Milestone Decision Authority review and approval at Milestone A and shall update the PPP at each subsequent milestone and the Full-Rate Production decision.”
  – Existing acquisition Information Assurance Strategy
    – Annex to PPP: Subject to a page count limit
    – POC – Art King, DoD CIO, arthur.king.ctr@osd.mil, 703-602-9969
  – Expected business practice, effective immediately, and reflected in upcoming DoDI 5000.02 and DAG updates

• What’s in the Outline and Guidance?
  – Plans for identifying and managing risk to CPI and critical functions and components
  – Responsibilities for execution of comprehensive program protection
  – Tables of actionable data, not paragraphs of boilerplate
  – End-to-end system analysis and risk management
  – Similar approach as TDS/AS and SEP Outline and Guidance

The PPP is the Single Focal Point for all security activities on the Program
## Key Elements of the PPP

<table>
<thead>
<tr>
<th>Key Sections</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.0 CPI and Critical Components (CC)</strong></td>
<td>Focus protection on mission-critical technology, information, and components</td>
</tr>
<tr>
<td>– Documents output of Research &amp; Tech. Protect and Criticality Analysis</td>
<td></td>
</tr>
<tr>
<td>– Distinguishes between inherited and organic elements</td>
<td></td>
</tr>
<tr>
<td><strong>4.0 Horizontal Protection</strong></td>
<td>Protect advanced technologies across DoD</td>
</tr>
<tr>
<td>– Assessment of similar CPI on other DoD programs, ASDB status</td>
<td></td>
</tr>
<tr>
<td><strong>5.0 Threats, Vulnerabilities, and Countermeasures</strong></td>
<td>Acknowledge advanced, persistent threat</td>
</tr>
<tr>
<td>– Identifies foreign collection, supply chain, and battlefield threats</td>
<td>Assess system threats and use risk-based design and process mitigations</td>
</tr>
<tr>
<td>– Documents assessment of vulnerability to threats and mitigating actions</td>
<td></td>
</tr>
<tr>
<td><strong>6.0 Other System Security-Related Plans and Documents</strong></td>
<td>Reference, not duplicate, key documents</td>
</tr>
<tr>
<td>– Pointers to related documents (CI Support Plan, TEMP, etc.)</td>
<td></td>
</tr>
<tr>
<td><strong>7.0 Program Protection Risks</strong></td>
<td>Document risks program is assuming</td>
</tr>
<tr>
<td>– Document unmitigated risks to CPI and CC compromise</td>
<td></td>
</tr>
<tr>
<td><strong>8.0 Foreign Involvement</strong></td>
<td>Drive export realism and prepare for export-specific countermeasures early</td>
</tr>
<tr>
<td>– Identify known and potential co-development, foreign military sales, and direct commercial sales</td>
<td></td>
</tr>
<tr>
<td><strong>9.0 Processes for Management and Implementation of the PPP</strong></td>
<td>PM Resources and Integrating with Design Reviews</td>
</tr>
<tr>
<td><strong>10.0 Processes for Monitoring &amp; Reporting Compromises</strong></td>
<td>Assess effectiveness of implemented countermeasures</td>
</tr>
<tr>
<td>– Monitor open source and intelligence sources for loss</td>
<td></td>
</tr>
<tr>
<td><strong>11.0 Program Protection Costs</strong></td>
<td>Support cost/benefit assessment of risk mitigations</td>
</tr>
<tr>
<td>– Estimate of implementation costs for CPI and CC protection</td>
<td></td>
</tr>
</tbody>
</table>

The PPP contains the information a PM needs to effectively secure the system
Life-Cycle Sustainment Plan Outline and Guidance as “Expected Business Practice”

LCSP Executive Summary

- **LCSP Facts**
  - The Life-Cycle Sustainment Plan (LCSP) is the program’s primary management tool to satisfy the warfighter’s sustainment requirements through the delivery of a product support package*
  - Separated from Acquisition Strategy
  - Annotated outline released
    - Required for all programs
    - Approval for ACAT ID through ASD(L&MR)

- **Systems Engineering linkages**
  - Active partnership between product support and systems engineering communities is critical to ensure acquisitions are affordable
  - Sustainment planning depends on reliability, maintainability, and logistics footprint
    - These drive availability, which ultimately influences size of the acquisition
    - Actual operations and support cost heavily driven by the reliability growth

*The logistics elements and any sustainment process contracts/agreements to attain and sustain the maintenance and support needed for materiel availability…”sustainment” and “product support” are synonymous

In today’s tight budget climate, the LCSP facilitates alignment between systems engineering and product support to deliver affordable systems
## LCSP Expectations

<table>
<thead>
<tr>
<th>LCSP is…</th>
<th>LCSP is NOT…</th>
</tr>
</thead>
</table>
| • It is the program’s plan for fulfilling its product support strategy, which includes accomplishing policy and associated guidance  
• It focuses on **specifically how** the program will implement it  
  • Who will do what  
  • When  
  • How (specific tools/processes)  
  • How much it will cost | A rehash of policy or guidance |
| • It is the program’s management tool for delivering the product support package which includes communicating the plan at all levels | Assembled solely to satisfy a Milestone Decision Authority at a milestone review |
| • It is a living document describing the sustainment approach and resources necessary across the life cycle  
• The LCSP must document the **current** program plan relative to sustainment | Static, a document that lives separately from the management reality of the program |
Throughout the Acquisition Process the Development Focus of the LCSP Evolves

Within the Acquisition Process, the Development Focus of the LCSP Evolves through the following key milestones:

**Phase A: Materiel Solution Analysis**
- Establish notional maintenance concept and metrics
- Identify key technologies
- Analysis process & estimating LCC drivers

**Phase B: Technology Development**
- Establish sustainment concept & execution plan framework
- Set metrics goals/thresholds & test methods

**Phase C: Engineering and Manufacturing Development**
- Support structure & Product Support Package requirements defined
- PSP & metric verification methods established
- Detailed development & fielding plans established

**Production & Deployment**
- Product Support Package elements refined
- Detailed site fielding plans refined
- Sustaining Engineering
- Logistics assessments

**Operations & Support**
- Fielding plans adjusted
- Metrics tracked & adjustment plans established

Throughout the Acquisition Process, the Development Focus of the LCSP Evolves, aligning with key milestones such as Materiel Solution Analysis, Technology Development, and Engineering and Manufacturing Development, leading to the Operational and Support phases as the LCSP reaches its full deployment.
## LCSP Table of Contents

1. Introduction  
2. Product Support Performance  
3. Product Support Strategy  
4. Product Support Arrangements  
5. Product Support Package Status  
6. Regulatory/Statutory Requirements  
7. Integrated Schedule  
8. Funding  
9. Management  
10. Supportability Analysis  
11. Additional Sustainment Planning Factors  
12. LCSP Annexes

### 2. Sustainment Performance Requirements  
#### 2.1 Sustainment Performance Requirements  
#### 2.2 Testing and Demonstrating Sustainment Requirements

### 3. Strategy Considerations

#### 3.1 Strategy Considerations

### 10. Design Interface  
#### 10.1 Design Interface  
##### 10.1.1 Design Analysis  
##### 10.1.2 Technical Reviews  
#### 10.2 Product Support Element Determination  
#### 10.3 Sustaining Engineering
Annotated Outlines Released as “Expected Business Practice”

- Systems Engineering Plan
  Annotated Outline
  April 20, 2011

- Technology Development Strategy [or] Acquisition Strategy
  Annotated Outline

- TDS/AS, SEP, PPP, and LCSP outlines signed this year

- Program Protection Plan
  Annotated Outline
  FOR OFFICIAL USE ONLY

- Life-Cycle Sustainment Plan
  Annotated Outline
  September 14, 2011

http://www.acq.osd.mil/se/pg/index.html
What haven’t we touched yet?

**SPEED!**

• Streamlining the document generation processes is great, but if the process for approval is not changed to reflect putting responsibilities where they properly lie, we will take as long or longer to get documents approved

• Discussion questions:
  • Who should say YES??
  • Who can say NO?
Backup
# Current SEP Preparation Guide

## Table of Contents

1. **Introduction**
   - 1.1 Program Description and Applicable Docs
   - 1.2 Current Program Status
   - 1.3 Approach for SEP Updates

2. **Program Requirements**
   - 2.1 Capabilities and Key Performance Parameters
   - 2.2 Statutory and Regulatory Requirements
   - 2.3 Specified and Derived Requirements
   - 2.4 Certification Requirements
   - 2.5 Design Considerations

3. **Technical Staffing and Organizational Planning**
   - 3.1 Lead/Chief Systems Engineer and Functional Leads
   - 3.2 IPT Organization / Structure
   - 3.3 IPT Staffing / Functional Skills
   - 3.4 IPT Coordination
   - 3.5 Integration with Contractors and External Orgs

4. **Technical Baseline Management**
   - 4.1 Technical Baseline Management Responsibility
   - 4.2 Defining, Approving, and Maintaining the Technical Baseline

4.3 Requirements Traceability and Verification and Validation
4.4 Specification Tree and WBS Link
4.5 Technical Maturity

5. **Technical Review Planning**
   - 5.1 Event-Driven Technical Reviews
   - 5.2 Technical Review Management
   - 5.3 Chairing of Technical Reviews
   - 5.4 Stakeholder Participation in Technical Reviews
   - 5.5 Peer Participation in Technical Reviews

6. **Integration with Overall Program Management**
   - 6.1 Linkage to Other Program Management Plans
   - 6.2 Program Manager’s Approach to Using Technical Reviews
   - 6.3 Risk Management Integration
   - 6.4 Test and Evaluation
   - 6.5 Sustainment Integration
   - 6.6 Contracting Considerations

**Annexes**
- Annex A – Acronyms
- Annex D – IUID Implementation Plan
What are We Protecting?

Program Protection Planning
DODI 5000.02 Update

Technology

What: Leading-edge research and technology
Who Identifies: Technologists, System Engineers
ID Process: CPI Identification
Threat Assessment: Foreign collection threat informed by Intelligence and Counterintelligence assessments
Counter Measures: AT, Classification, Export Controls, Security, Foreign Disclosure, and CI activities
Focus: “Keep secret stuff in” by protecting any form of technology

Components

What: Mission-critical elements and components
Who Identifies: System Engineers, Logisticians
ID Process: Criticality Analysis
Threat Assessment: DIA SCRM TAC
Counter Measures: SCRM, SSE, Anti-counterfeits, software assurance, Trusted Foundry, etc.
Focus: “Keep malicious stuff out” by protecting key mission components

Information

What: Information about applications, processes, capabilities and end-items
Who Identifies: All
ID Process: CPI identification, criticality analysis, and classification guidance
Threat Assessment: Foreign collection threat informed by Intelligence and Counterintelligence assessments
Counter Measures*: Information Assurance, Classification, Export Controls, Security, etc.
Focus: “Keep critical information from getting out” by protecting data

* Program Protection Planning Includes DoDI 8500 series

Protecting Warfighting Capability Throughout the Lifecycle
Supportability Analysis Life Cycle Framework
Continuous Assessment and Improvement for Affordability

Supportability Analysis Graphic 07-05-11

User Needs’ Technology Opportunities & Resources

Requirements Analysis
- Analysis of Alternatives
- LCC Analysis / CARD

Sustainment Metrics
- A₀, Aᵣ, Rᵣ, OC, MDT
- Product Support Rqmts

Product Support Requirements Analysis
- Functional Analysis
- Trade Off Analysis
- Sustainment Rqmts Refinement & Allocation

Supportability Design Requirements
- Reliability
- Availability
- Maintainability
- Cost/Affordability
- Logistics Product Data

Reliability & Maintainability Modeling, Prediction, Analysis & Allocation

Fault Tree Analysis (FTA)

Failure Mode, Effects, and Criticality Analysis (FMECA)

Preventive & Corrective Maintenance Analysis
- RCM & CBM+
- LOR Analysis
- Servicing, Calibration

Maintenance Task Analysis (MTA)

Support Requirements Met
- Yes
- No

Requirements For The:
- Design Reviews / Test and Evaluation

Product Support Package
- Maintenance Plans
- Supply Support
- Support & Test Equipment
- Tech Data & IETMs
- Manpower/Personnel
- Training/CBT
- Facilities
- PHS&T
- Computer/Software Support

Product Support Arrangements
- (Performance Based Contracts & Agreements)

Logistics Product Data

Support Test M-Demo Evaluation
- Pass
- Fail

Sustaining System Support

User Feedback

Lifetime Support

System or its Support System Redesign/Improvement

Design to Affordability Analysis; Will-Cost/Should-Cost Management

Technology/Standards Evolution and COTS Products Market Surveillance and on-Going Technology Assessment, DMSMS
## Supportability Trades

### Completed Supportability Trades

**Jan 10, 2009**

<table>
<thead>
<tr>
<th>Trade (Completed since 11/12/07)</th>
<th>IPT</th>
<th>Options Analyzed</th>
<th>Results</th>
<th>Impact</th>
</tr>
</thead>
</table>
| Engine level of repair 5/20/08   | Engine IPT | **Alternatives:**  
  – 2 level or 3 levels of repair  
  – Centralized 2\(^{nd}\) level of repair or at every major site  
  – Commercial or organic at 2\(^{nd}\) or 3\(^{rd}\) level  

**Criteria:**  
– \(A_M\) and \(A_O\)  
– Program costs and O&S costs  |  
  – 3 levels of maintenance with 2\(^{nd}\) level being performed commercially at 3 central sites for hot sections  |  
  – 3\(^{rd}\) level performed by industry  |  
  – Competitive 2\(^{nd}\) and 3\(^{rd}\) level performance based contract in place by IOC to cover all sustainment functions, (e.g. design, maintenance, supply, transportation, etc.).  
  – Complete drawing set needed for competition  |
## Supportability Considerations

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Core Documents</th>
<th>Cost Driver</th>
<th>Product Support Element Impact/ Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONOPS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desert Operations</td>
<td>• System CARD: 1.2.1.x.s Environmental Conditions: 3.2; Basing &amp; Deployment Description CONOPS; OPLAN 5500, para 3.1 CDD (May 24, 2014): Para 3</td>
<td>• Increased scheduled maintenance cycle; filter demand and filter cost</td>
<td>Design Interface; Supply; Technical Data; Higher Incidence of Failure Include filter system to filter to 0.1µ</td>
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<td><strong>DESIGN FEATURE</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hydrazine</td>
<td>• System CARD: 1.2.1.x.2 Environmental Conditions: 3.4.3 Training: 5.0</td>
<td>• 6 additional personnel per operating wing; specialized /dedicated equipment, facilities and IPE</td>
<td>Manpower &amp; Personnel; Training; Support Equipment Facilities Specialized manning, training, &amp; facilities / alternative power sources addressed in ongoing trade study; ECD: Jun 2013</td>
</tr>
<tr>
<td>Nuclear Hardening</td>
<td>• System CARD CDD (May 24, 2014): Para 10</td>
<td>• Specialized test equipment at field and depot Training</td>
<td>Design Interface; Maintenance; Training; Support Equipment Flight controls and weapon control/delivery system shielded</td>
</tr>
</tbody>
</table>
Better Buying Power

**Will Costs**
- Teaming to define & document cost drivers
  - Within PMs & users control
  - Outside DoD’s control

**Should Costs**
- Ensuring SE process driving the weapon system & Product Support Package design
  - KPP/KSA decomposed down to “Design to” requirements
- Requiring “artifacts” relative to:
  - Design Reviews
  - Testing
  - Supportability Analysis

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### Consideration Core Documents Cost Driver Product Support Element Impact/Control

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