



**Systems Engineering
Updates for
Parts Management**

**PMSC Fall meeting
November 1-3, 2011**



Institute for Defense Analyses
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SECDEF Priorities

as stated in Oct 17 memo to DEPSECDEF

- **Relentless pressure on Al Qaeda and its affiliated groups to achieve their strategic defeat**
- **Success through transition in Afghanistan toward enduring strategic partnerships**
- **Adapting to address potential future threats**
- **Supporting warfighters and their families**
- **Managing the Department's budget process during a period of fiscal challenges**

- **... we must implement savings – in efficiencies, personnel costs, force structure, and modernization and procurement reforms – that are driven by strategy rather than expediency. ... take the lead for eliminating wasteful spending, consolidating duplicative functions, and driving ongoing and new efficiencies initiatives that can help us achieve the budgetary goals we have set. ...**

USD(AT&L) Priorities

As stated in Oct 7 memo to the acquisition workforce

- 1. Supporting forces engaged in Overseas Contingency Operations**
- 2. Achieving affordable programs**
- 3. Improving efficiency**
- 4. Strengthening the industrial base**
- 5. Strengthening our acquisition workforce**
- 6. Protect the future**

SE Conference Organization

- **ASD(R&E) keynote**
- **Plenary sessions on the theme of effective systems engineering to improve program performance and deliver capability**
 - **Panels of chief government system engineers, program managers, and senior industry system engineers**
- **Breakout sessions, topics include**
 - **Early SE**
 - **Affordability**
 - **Program management**
 - **Technology maturity**
 - **Architecture**
 - **Modeling and simulation**
 - **Workforce**
 - **HSI**
 - **Logistics**
 - **SE effectiveness**
 - **System of systems**
 - **Software intensive systems**

Approach for Identifying SE Conference Highlights for this Briefing

- **Didn't see everything**
- **Focused on plenary session (mostly)**
- **Reporting reflects a combination of high level messages you may be interested in plus a parts management filter on other prevalent themes**
 - **Interpretation of implications**
 - **Ideas for consideration as future initiatives**

SE Policy and Guidance Overview

- **Better Buying Power Initiatives**
 - Affordability like a KPP
 - SE needs to determine how to conduct multi-dimensional trades
- **Acquisition Document Streamlining**
 - Aimed at what is needed to manage a program
 - Remove redundancy
 - Identify what's required and what's unique
 - SEP, LCSP, PPP, ...
- **Improve Milestone Effectiveness**
 - MS A DAB review of TDS RFP prior to release
 - DAB review of Acquisition Strategy and EMD RFP prior to MS B
 - DAB review of Acquisition Strategy and production RFP prior to MS C

Systems Engineering Relationship to Program Management cont

- **Program lead system engineer designated as a key leadership position**
- **Post CDR reports and assessments done by OSD SE office**
- **Improve TRA effectiveness**
- **Instruction issued to implement WSARA**
- **DTM on reliability and maintainability**
- **DAG updates (manufacturing)**
- **Development planning**

Affordability Theme

- **Affordability is THE requirement**
- **Be careful of reactions to austere fiscal environment**
 - **Don't repeat acquisition reform mistakes**
 - **Taking money before savings realized reduces operational flexibility**
 - **There is no secret sauce, don't skimp on SE fundamentals**
 - **SE takes time**
 - **It is an important element of due diligence**
- **Parts management implications**
 - **Parts management is a systems engineering fundamental**
 - **DFX is a real requirement**
 - **Avoid arbitrary cuts**
 - **Shortest lead time is not the first parts selection criterion**

Systems Engineering Relationship to Program Management

- **Roles are different, but complementary**
 - PM sets context
 - SE organizes how to do it technically
 - PM may not always inform SE of political constraints
- **Implications for parts management**
 - **Parts management relationship to program management**
 - How does parts management assure that its concerns are heard
 - How does parts management interact with the other engineering disciplines

Considerations for Future Initiatives

- **Develop guidance on the relationship between parts management and SE and between parts management and other engineering disciplines**
- **Apply systems engineering principles to improving parts management**