



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

03A-001

JAN 06 2003

MEMORANDUM FOR. All PEOs/DACs/Single Managers

FROM: SAF/AQ

SUBJECT: Incentivizing Contractors for Better Systems Engineering

Ongoing Air Force transformation efforts strongly emphasize credible, agile acquisition processes. An immediate transformation imperative for all **our** programs is to focus more attention on the application of Systems Engineering (SE) principles and practices throughout the system life cycle. Programs must elevate these disciplines to a level commensurate with other programmatic considerations such **as** cost and schedule.

A more robust SE environment can only be achieved through joint cooperative efforts with our contractors. I **am** therefore directing all PEOs/DACs/Single Managers to accomplish the following actions within 90 days:

1. Assess your ability to incentivize your contractors to perform robust SE, and report this information to the appropriate Milestone Decision Authority (MDA).
2. As necessary, develop SE performance incentives appropriate to your program's life cycle phase, and insert into contractual Award Fee or Incentive Fee structures.
3. Include status of key SE processes/practices during all future program reviews.

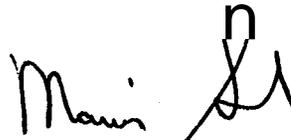
I am further directing Program Managers and the Acquisition Centers of Excellence (ACE) to ensure that disciplined SE practices receive adequate consideration in all future acquisitions, whether competitive or sole-source. **This** can be achieved by explicitly identifying key SE processes and practices in acquisition documentation, including Single Acquisition Management Plans (SAMP), Source Selection Plans (SSP), Requests for Proposal (RFP), Statements of Objectives (**SOO**) Integrated Master Plans/Schedules (IMP/IMS), etc. Further, Acquisition Strategy Panel (ASP) briefings must also address significant SE areas; **SAF/AQ and all other MDAs will not sign out any future ASPs that lack the necessary and sufficient attention to SE.**

Additionally, we are identifying ways to improve SE throughout the acquisition process, including workforce issues such **as** education and training; tools such **as** policies, instructions, and guidance; and institutions such **as** the proposed Center of Excellence for

SE under the Air Force Institute of Technology (AFIT). These efforts focusing on enhancing **SE** will mirror **our** approach to evolutionary acquisition. This memo represents "Spiral 1"; we will continue to review and enhance this process. As such, your initial assessments for the MDAs do not have to be 100% solutions, but should represent baselines from which to proceed toward our transformation objectives.

Do not hesitate to avail yourselves of expertise in SAF/AQC and the ACE organizations to assist in strengthening your efforts to incentivize contractor application of SE principles. For **your** consideration, Attachment 1 contains provisions **from** several current Award Fee and Incentive Fee Plans; Attachment 2 lists representative **SE** tools and documents, and identifies some Air Force and DoD resources.

I can assure you that Air Force leadership will take a strong and renewed interest in how **our** acquisition community addresses SE disciplines and practices. Point of contact for this subject is SAF/AQRE.

A handwritten signature in black ink, appearing to read "Marvin Sambur". The signature is written in a cursive style with a large, stylized "S" at the end.

MARVIN R. SAMBUR
Assistant Secretary of the Air Force
(Acquisition)

2 Attachments

- Examples of Award Fee and Incentive Fee Plan Provisions
- Sample Lists of **SE** Tools, Documents, and Resource Information

EXAMPLES OF INCENTIVE FEE / AWARD FEE PLAN PROVISIONS

- Government may recoup some fee / profit if the system does not meet performance goals.
- Shared System Performance Responsibility (SSPR): Contractor's responsibility to install and integrate subsystems and components, whether GFP or commercially-acquired, without resultant degradation of performance of any such item is in addition to **and** not in substitution of its responsibility to insure that the total system will meet all requirements of the system specification.
- Provision for contractor's Board to consider contract performance when setting top executives' salaries / bonuses.
- Contractor evidences a disciplined engineering process using integrated product development to smoothly tie together manufacturing and quality assurance, system engineering ... Contractor keeps the USAF advised of configuration changes and provides USAF insight into changes in product baseline that effect performance or supportability. Acceptance of broad OSS&E responsibility ... evidenced by near term planning activities, implementation of appropriate actions, and long range planning activities to ensure ... suitability and effectiveness. Provide clear, concise, efficient, supportable and fully integrated engineering solutions with focus on weapon system priorities and comprehensive risk assessments **as** related to total Systems Engineering responsibilities and tasks
- Effectiveness of contractor's system engineering effort and interface control and management; conduct and thoroughness of . . . reviews **and** configuration audits; ability to meet the technical requirements as specified in the system requirements document; ability to deliver a suitable (product) for DT&E .. Life cycle management perspective including production and retrofit strategic planning ... The evaluation will include the quality, completeness and timeliness of . . . sustainment products ...
- Criterion also assesses the integration of the various systems/subsystems into a weapon system, which meets its functional requirements. This includes the identification of all interfaces, development of and adherence to all interface control procedures, and identification and integration of any Government Furnished Equipment ...
- 40/20/40 split between three Performance Evaluation Areas (PEA):
 - > Technical Performance
 - > Management
 - > Cost Control and Reduction

Any PEA sub-element rated **as** unsatisfactory will result in **an** unsatisfactory rating for that PEA. However, if the technical performance area is rated as unsatisfactory, then the contractor will be awarded an unsatisfactory for all areas and will earn zero award fee for that period.

EXAMPLES OF SE TOOLS

Capability Maturity Model – Integrated (CMM-I)	www.sei.cmu.edu/cmmi/models
EIA 632, “Processes for Engineering a System” also see “Overview” presentation	www.geia.org/sstc/G47/page5.htm , www.geia.org/sstc/G47/632-web.pdf
Requirements Management	www.incose.org/tools/tooltax.html
System Architecture	www.incose.org/tools/tooltaxs.html
Measurement	www.incose.org/tools/meassurv.html

EXAMPLES OF SE AND SE-RELATED DOCUMENTS

Configuration Management Plan
Contractor Performance Assessment Rating System (CPARS)
Integrated Master Plan (IMP)
Integrated Master Schedule (IMS)
Logistics Management Plan
Risk Management Plan
Source Selection Plan
System Engineering Management Plan (SEMP)
System Maturity Matrix (SMM)
System Safety Plan
Test & Evaluation Master Plan (TEMP)

SYSTEM ENGINEERING RESOURCE INFORMATION (not all-inclusive)

Air Force Systems Engineering information in Defense Acquisition Deskbook;
multiple entries at

<http://deskbook.dau.mil/legacydeskbook.asv>

AFI 63-1201, Assurance of Operational Safety, Suitability, & Effectiveness

<http://www.e-publishing.af.mil/pubfiles/af/63/afi63-1201/afi63-1201.pdf>

Critical Process Assessment Tool for Systems Engineering, SMC/AX

http://ax.losangeles.af.mil/se_revitalization/aa_functions/sysengr/Attachment/CPAT3sysengr.doc

AFMC OSS&E Implementation Guidance

<https://www.afmc-mil.wpafb.af.mil/HQ-AFMC/EN/enp/enpd/oss&e/guidance/guidance.htm>

Guide to Incentive Strategies for Defense Acquisitions

<http://www.acq.osd.mil/ar/doc/incentivesguide-0201.doc>