This publication does not apply to Air Force Reserve Command, Air National Guard and Civil Air Patrol units.

**SUMMARY OF CHANGES**

This publication is a reissue of Air Force Instruction (AFI) 65-508, dated 1 October 1997. It updates the policy, responsibilities, functions, and relationships associated with Air Force cost estimating. It incorporates major revisions resulting from the reissue of AFPD 65-5 Cost and Economics (5 August 2008) and DoDI 5000.02 (2 Dec 2008), and the issue of the Weapon Systems Acquisition Reform Act (WSARA) (Public Law 111-23). It also includes revisions to comply with OSD Director, Acquisition Resources and Analysis (ARA) and Chair, Office of the Secretary of Defense Cost Analysis Improvement Group (OSD CAIG) memorandum dated 12 March 2009, subject Required Signed and Documented Component-level Cost Position for Milestone Reviews.

This instruction implements a significant change in Air Force cost estimating requirements. The primary change moves the Air Force from focusing on developing cost estimates at acquisition milestones into a comprehensive structure requiring annual cost estimates for all Acquisition Category (ACAT) I, II, and III programs. This change ensures that credible and timely estimates are available to inform a broader spectrum of Air Force decision making, in particular, improving and integrating day to day program management decisions, Department of Defense (DoD) Acquisition processes for Major Defense Acquisition Programs (MDAPs), and the Planning, Programming, Budgeting, and Execution (PPBE) system. This instruction describes the different types of Air Force cost estimates, the process used to develop cost estimates, and the content and documentation requirements associated with cost estimates, emphasizing collaboration between program office, product/logistics center FMC, and Air Force Cost Analysis Agency (AFCAA) cost estimators. The overarching goal is the production of more realistic, objective cost estimates increasing the fidelity, realism, and credibility associated with Air Force budgets and program baselines, and ultimately reducing cost overruns on Air Force acquisition programs.

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Chapter 1

AIR FORCE COST ESTIMATES

1.1. Types.

1.1.1. The Air Force primarily develops four types of cost estimates: Program Office Estimates (POEs), Non Advocate Cost Assessments (NACAs), Service Cost Positions (SCPs) and Independent Cost Estimates (ICEs).

1.1.1.1. Program Office Estimates (POEs) [also referred to as Program Cost Estimates (PCEs) in AFDP 65-5].

1.1.1.1.1. POEs are either developed by the Program Office or are the result of a collaborative effort between the Program Office, the product/logistics center financial management cost organization (FMC) and/or the AFCAA.

1.1.1.1.2. POEs are updated annually for all ACAT I, II and III programs. Thresholds for ACATs are defined in Department of Defense Instruction (DoDI) 5000.02 Operation of the Defense Acquisition System.

1.1.1.1.3. The product/logistics center FMC must concur on all annual ACAT I, II and III POEs. This may be accomplished through collaborative development of the POE -- product/logistics center FMC and the Program Office -- or through a product/logistics center FMC review of the POE.

1.1.1.1.4. Program cost estimates are vital to providing leadership with critical information for program decisions, establishing executable budgets, and proactively addressing financial issues. POEs support all Milestone decisions [A, B, C, and Full Rate Production (FRP) or Full Deployment Decision Reviews (FDDRs)], PPBE formulation, source selections, and program breach and/or program change decisions.

1.1.1.2. Non Advocate Cost Assessments (NACAs)

1.1.1.2.1. NACAs are an analysis of program cost/price, schedule, and technical risk, prepared by an organization not directly responsible for the development, acquisition, or support of the program. NACAs are primarily designed to support both the Air Force Corporate Structure (AFCS) and acquisition milestone decision processes, and can range from a simple sufficiency review of an existing estimate to a complete ICE.

1.1.1.2.2. NACAs are developed by the AFCAA, unless delegated to another organization by the AFCAA Executive Director.

1.1.1.2.3. NACAs are updated annually for all ACAT I programs and select ACAT II/III programs. SAF/FM and/or SAF/AQ are responsible for selecting ACAT II and III programs that require a NACA.

1.1.1.2.4. NACAs support Milestone decisions (A, B, C and FRP or FDDRs), PPBE formulation, source selections, and program breach/program change decisions.

1.1.1.2.5. NACAs are approved by the responsible AFCAA Division Chief and, at a minimum, submitted to the AFCAA Executive Director, Program Manager, Program
Executive Officer (PEO), MAJCOM functional Point of Contact, SAF/AQ Program Element Monitor (PEM), and the Panel Chair.

1.1.1.3. Service Cost Position (SCP)

1.1.1.3.1. The SCP represents the Air Force’s official cost estimate. For ACAT I and select ACAT II/III programs, the Deputy Assistant Secretary (DAS) of the Air Force for Cost and Economics (SAF/FMC) approves and recommends an SCP for consideration by the Service Acquisition Executive (SAE). The SAE typically accepts the recommended SCP, but may designate an alternative position as the official SCP.

1.1.1.3.2. A memorandum from OSD Director, ARA and Chair, OSD CAIG dated 12 March 2009, “Required Signed and Documented Component-level Cost Position for Milestone Reviews,” requires:

1.1.1.3.2.1. A component cost position signed by the service cost director (SAF/FMC), and a full-funding memorandum signed by both the service comptroller (SAF/FM) and service acquisition executive (SAF/AQ).

Accordingly, for all MDAP and Major Automated Information Systems (MAIS) programs:

1.1.1.3.2.1.1. SAF/FMC must provide the Office of the Secretary of Defense Cost Assessment and Program Evaluation [OSD (CAPE)] a memorandum documenting the recommended SCP.

1.1.1.3.2.1.2. SAF/FM and SAF/AQ must provide a memorandum, with AF/A8 concurrence, certifying the program is fully funded to the SCP. This full-funding memorandum includes the SAF/FMC recommended SCP memorandum as an attachment. If the SAE chooses a cost position different from the SAF/FMC recommended SCP, this memorandum must also document the official SCP.

1.1.1.3.3. Typically, the recommended SCP is developed through the Air Force Cost Analysis Improvement Group (AFCAIG) process, as described in Chapter 2 of this instruction. This process is designed to be collaborative, combining the input of all stakeholder cost organizations and a broad range of functional input. A recommended SCP may also be developed through an alternative process, as described in Chapter 3 of this instruction.

1.1.1.3.4. Recommended SCPs shall be established for all Milestone (A, B, C and FRP or FDDR) decisions for ACAT IC, ID, IAM, and IAC programs (as well as pre-MDAPs expected to be designated ACAT Is). Recommended SCPs should also be established or updated whenever a program Acquisition Program Baseline (APB) is established or updated.

1.1.1.3.5. Joint programs typically develop Joint Cost Positions (JCPs) for milestone decisions using the processes employed by the lead service.

1.1.1.3.5.1. Joint programs where the Air Force is the lead service follow Air Force cost policy and processes for all elements of the program (Chapter 2 of this instruction). In these cases, Air Force cost organizations provide cost estimates for all common Program Elements (PEs) and Air Force unique elements. Other
services/components’ unique elements are typically estimated by their representative cost organizations and reviewed through the Air Force cost processes.

1.1.1.3.5.2. Joint programs where the Air Force is not the lead service follow the cost processes of the lead service for all common elements of the program. Air Force unique elements require cost estimates and cost reviews per Air Force policy and processes (see Chapter 2 of this instruction).

1.1.1.4. Independent Cost Estimates (ICEs)

1.1.1.4.1. The OSD (CAPE) has the responsibility to develop the ICE required by statute for ACAT ID and IAM programs. For ACAT IC programs, DoDI 5000.02 delegates responsibility for statutorily required ICEs to the respective service cost centers. Across the Air Force, the AFCAA is the responsible authority for delegated ICEs. The AFCAA also provides ICEs at the direction of the Under Secretary of Defense for Acquisition, Technology and Logistics [USD (AT&L)], OSD (CAPE), SAF/AQ, or SAF/FM.

1.1.1.4.2. Two statutes provide direction regarding when ICEs are required.

1.1.1.4.2.1. 10 United States Code (USC), Sec. 2434 requires an ICE for ACAT I programs prior to initiating development [Milestone (MS) B] and production (MS C).

1.1.1.4.2.2. Public Law 111-23, requires MDAP and MAIS ICEs be accomplished by OSD (CAPE) for all programs where USD (AT&L) is the milestone decision authority in advance of (1) 10 USC, Sec. 2366a and 2366b required certifications (MDAP MS A and MS B decision points), (2) Low Rate Initial Production (LRIP) and FRP decisions, and (3) other certifications and reports required under 10 USC, Sec. 2433a (i.e., MDAP unit cost breaches, also known as Nunn-McCurdy breaches) and 10 USC, Sec. 2445c(f) (i.e., significant/critical changes for MAIS programs).

1.2. Requirements.

1.2.1. Cost estimates (POEs, NACAs, SCPs, ICEs, etc.) should typically encompass total program life cycle costs. Total program life cycle costs include “sunk costs” incurred from program initiation (usually Milestone A program approval) through disposal, to include all costs associated with a decision to proceed with the program. Life Cycle Cost Estimates (LCCEs) should include:

1.2.1.1. All investment (development and production) and Operations and Support (O&S) costs.

1.2.1.1.1. Costs funded by all applicable appropriations including Research Development Test and Evaluation (RDT&E), procurement, Military Construction (MILCON), Operations and Maintenance (O&M), and Military Personnel (MILPERS), regardless of funding source or management control (ref. 10 USC, Sec 2434).

1.2.1.1.1. Include all sustainment and disposal costs.
1.2.1.1.2. Include all applicable Restoration and Modernization (R&M) costs associated with facility and infrastructure sustainment, MILCON and O&M appropriation funds.

1.2.1.1.3. Include all contractor and government costs.

1.2.1.2. Resources associated with all of the applicable work breakdown structure elements (reference MIL-STD 881C for the typical WBS elements).

1.2.1.3. All indirect elements, particularly those associated with sustainment, or O&S costs, in order to ensure the capture of all relevant total ownership costs. Indirect costs associated with sustainment must meet requirements outlined in the OSD CAIG [now OSD (CAPE)] O&S Cost Estimating Guide.

1.2.1.4. Costs displayed by program phase, consistent with acquisition program phases defined in DoDI 5000.02.

1.2.1.5. A comprehensive risk/uncertainty analysis. ACAT I and II program cost estimates should typically not be established at a Confidence Level (CL) lower than the mean of the program cost estimate distribution (typically 55-65% CL) or, where a distribution cannot be computed, the average, or expected value of the cost estimate. For more information on cost estimating confidence levels and cost risk/uncertainty analysis, reference the April 2007 Air Force Cost Risk and Uncertainty Handbook.

1.2.2. Cost estimates must be accurate, comprehensive, and address all relevant programmatic, technical, and financial issues. Insight into cost drivers and their effect on life cycle costs should be provided, and estimates should be structured to be responsive to program changes and associated requirements for cost estimate excursions. Cost estimates should be fully documented (source data, estimating methods, and results) to the level that a qualified cost estimator could recreate the estimate using only the written documentation. Chapter 5 of this instruction describes the minimum documentation requirements for cost estimates.

1.2.3. All cost estimates for ACAT I Programs (MDAP and MAIS) must be led by a properly qualified member of the Armed Forces or full time employee of the DoD.

1.2.3.1. A properly qualified lead cost estimator is defined as a professional cost estimator that is Defense Acquisition University (DAU) Level III certified in the field of Business-Cost Estimating (BUS-CE).

1.2.3.2. The lead cost estimator on MDAP and MAIS programs should be coded as a Key Leadership Position (KLP). This policy is consistent with a SAF/AQ memo Government Performance of Critical Acquisition Functions, 22 October 2010, designating lead cost estimators as KLPs. AFI 63-101 provides Air Force guidance on the definition of KLPs.

1.2.4. Air Force cost estimates support a wide range of activities. Program Office Estimates, NACAs, SCPs and ICEs provide key decision support for the PPBE process and daily program management activities – affordability, design and budget trades, contract negotiations, contract performance measurement, program management reviews, requirements trades, etc. They provide the cost, technical and programmatic decision support needed to manage programs on a day to day basis. They are used to support multiple forms
of comparative analysis and baseline reviews, including Analysis of Alternatives (AoAs), Economic Analysis (EA), Business Case Analysis (BCA), make buy decisions, source selections, proposal evaluations, and design/cost tradeoff analyses. These cost estimates also support key decision points like MDAP milestone reviews, PPBE reviews, AFCS decisions, APB development, program unit cost breaches (commonly known as Nunn-McCurdy breaches) and critical change notifications. This instruction focuses primarily on the requirements and processes associated with the preparation of POEs, NACAs, SCPs and ICEs used in support of acquisition program programming, budgeting, and execution (including Milestone) decisions. This instruction covers the roles, responsibilities, and processes for developing will-cost estimates, and does not provide direction on the development of should-cost estimates. In this instruction, will-cost estimates are defined as an estimate that aims to provide sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule, and programmatic risk (usually no less than mean confidence level, typically between 55-65%). This will-cost estimate supports the budget and ensures sufficient funding to provide confidence that: 1) the program can be completed without the need for significant adjustment to program budgets, and 2) the program can avoid Nunn-McCurdy or critical change breaches. Specific requirements and processes for developing cost estimates to support source selections, contract negotiation and contract performance measurement, AoAs, and other comparative studies can be found in other related instructions.

1.2.4.1. Annual Estimates

1.2.4.1.1. POEs for ACAT I, II and III programs and NACAs for ACAT I programs and selected ACAT II/III programs shall be updated annually. SAF/FM, with the concurrence of SAF/AQ (or their delegated PEO), is responsible for approving annual cost estimate waivers for ACAT I POEs and NACAs. The product/logistics center cost chief is responsible for approving ACAT II and III POE waivers. The Program Manager is responsible for requesting POE waivers and the AFCAA Division Chief is responsible for requesting NACA waivers.

1.2.4.1.1.1. A Program Manager or AFCAA Division Chief must request an annual cost estimate waiver if no annual estimate will be produced or updated during the calendar year.

1.2.4.1.1.2. POE waiver requests for ACAT I programs and all NACA waiver requests should be submitted to SAF/FMC for final approval, after SAF/AQ (or delegated PEO) concurrence.

1.2.4.1.1.3. POE waiver requests for ACAT II and III programs should be submitted to the product/logistics center FMC for final approval, with notification sent to SAF/FMC and the MAJCOM FMC.

1.2.4.1.1.4. Requests for waivers must be submitted by 30 January of the calendar year the estimate is due. Waiver requests provided after 30 January will be considered for circumstances that could not have been anticipated at the beginning of the calendar year. A waiver request template is included in Attachment 2 of this instruction. Alternative cover letter/staff summary sheet formats are acceptable as long as the information and signatures required in the attached template are included.
1.2.4.1.1.5. Waiver requests may ask for a permanent exemption from the annual estimate requirement using the same process as annual requests. However, permanent waivers are typically reserved for programs that have completed production and are years into the sustainment phase.

1.2.4.2. Milestone Estimates

1.2.4.2.1. The Air Force will develop POEs, NACAs, and SCPs for all ACAT I and selected ACAT II/III Milestone reviews [Milestone A, B, C, and Full Rate Production Decision (FRPD) or FDDRs].

1.2.4.2.2. The AFCAA must develop the 10 USC, Sec. 2434 required ICE for ACAT IC programs at all Milestone B and C (development and LRIP) decisions.

1.2.4.2.3. Chapter 2 of this instruction covers the AFCAIG process associated with the preparation of Air Force estimates supporting ACAT I program milestone decisions.

1.2.4.2.4. Per DoDI 5000.02, Contractor Cost Data Reports (CCDRs) and Software Resources and Data Reports (SRDRs) are required for most pre-MDAP, MDAP, pre-MAIS, and MAIS program contracts. CCDR and SRDR plans must be reviewed and approved by SAF/FMC prior to being submitted for final OSD CAPE approval. AFCAIG briefings performed in support of milestone decisions must include the status of CCDR and SRDR plan development, as well as the status for programs with CCDRs and SRDRs already on contract.

1.2.4.3. PPBE Estimates

1.2.4.3.1. In order to comply with Public Law 111-23 (WSARA), the USD (AT&L), OSD Director, ARA, Under Secretary of Defense, Comptroller [USD(C)], and OSD (CAPE) have instituted the MDAP issue team process. This process entails a review of the 10 USC, Sec. 2366a and 2366b certification status of MDAPs during the Program Budget Review (PBR) process. This review focuses on verifying MDAPs are fully funded to a realistic cost estimate [with OSD (CAPE) concurrence], cost estimates are documented and consistent with current program definition, per service Program Objective Memorandums (POMs), and programs are not in imminent danger of a baseline breach (Nunn-McCurdy unit cost, APB, MAIS program change, etc.). This review will usually be conducted every year at three points in the PPBE cycle – when the service POM is sent to OSD, after the Resource Management Decisions (RMDs) are issued, and immediately before delivering the President’s Budget (PB) to Congress. During these reviews, the MDAP issue team expects service cost directors to provide documentation on all MDAP cost estimates used to support development of the POM. In cases where the MDAP issue team cannot verify that a program is fully funded to a realistic cost estimate, the program risks de-certification of 2366a or 2366b status, and revocation of milestone approval (with possible loss of authority to obligate and expend funding).

1.2.4.3.2. In support of the MDAP Issue Team, SAF/AQ PEMs provide explicit information on Acquisition Decision Memorandum (ADM) direction, current budget position compared to 10 USC, Sec. 2366a and 2366b certification requirements, Sec. 2366a and 2366b certification status, and documentation supporting the current cost
1.2.4.3.3. As a member of the AFCS, SAF/FMC will work within the corporate process to ensure all funding disconnects, revealed by comparing the POE and NACA to the budget, are illustrated through a portfolio cost risk assessment provided to the AFCS Panels, Group, Board, and eventually, Council.

1.2.4.4. MDAP Program Breach (significant and critical) and MAIS Program Change (significant and critical) Estimates

1.2.4.4.1. When an SCP, POE, ICE or NACA indicates an MDAP unit cost breach (Nunn-McCurdy significant and critical breach) as defined in 10 USC, Sec. 2433, a MDAP post Milestone A breach (per Public Law 111-23 modifications to 10 USC, Sec. 2633a), or a MAIS program change (significant or critical change) as defined in 10 USC, Sec. 2445c, the Program Manager shall consider all current cost estimates and report the findings to the SAE. The SAE will then report these findings to the Secretary of the Air Force (SECAF) who will make the final breach or program change determination.

1.2.4.4.2. Before reporting findings to the SAE, the Program Manager determines which of the current estimates (e.g., POE, NACA, SCP) will be used as the basis of the breach or program change reporting. It is highly recommended that a SAF/FMC recommended SCP be used for breach reporting whenever possible. All MDAPs undergoing a critical breach [10 USC, Sec. 2433 and Public Law 111-23 (WSARA)] certification to Congress require OSD (CAPE) concurrence on the Program Acquisition Unit Cost (PAUC) and Acquisition Procurement Unit Cost (APUC) estimates. In most cases, OSD (CAPE) will request a SAF/FMC recommended SCP, documented through a SAF/FMC signed memorandum, to support their evaluation and recommendation to the Secretary of Defense (SECDEF). At a minimum, if a recommended SCP is unavailable, the PM should expect OSD to request a SAF/FMC assessment of the basis of estimate for the “re-baselined” PAUC and APUC estimates as part of its determination of reasonableness.

1.2.4.4.3. Program offices, product/logistic center cost organizations, and the AFCAA will normally have a role in fulfilling program analysis and root cause analysis requirements outlined in Public Law 111-23 (WSARA). The OSD Program Analysis and Root Cause Analysis (PARCA) organization is newly formed and has not yet issued guidance in this area. When implementation guidance is provided, SAF/FMC will issue necessary policy addendums to this instruction.
Chapter 2

AIR FORCE COST ANALYSIS IMPROVEMENT GROUP (AFCAIG)

2.1. Purpose.

2.1.1. This chapter provides guidance on the AFCAIG process used in Defense Acquisition Executive (DAE), SAE, and other milestone reviews, to include guidance for developing the SCP and obtaining AFCAIG approval of the SCP.

2.1.2. All ACAT I programs (including ACAT ID, IC, IAM and IAC programs) engaged in a milestone decision must follow this process. In addition, programs requiring an SCP to support the PPBE or other key decision points should also follow this process.

2.1.3. ACAT II, III, and non-ACAT programs may follow the AFCAIG process at the discretion of the SAE (typically SAF/AQ, or delegated to the PEO) or SAF/FM.

2.1.4. Additionally, Air Force product/logistic centers are highly encouraged to implement a modified version of this process, with center cost staff assuming AFCAA responsibilities.

2.2. AFCAIG Background.

2.2.1. The AFCAIG process was developed to meet the requirements of DoD 5000 regulations and Title 10, United States Code.

2.2.1.1. The AFCAIG was established by the SECAF and is chaired by the Deputy Assistant Secretary of the Air Force for Cost and Economics. AFCAIG membership includes key stakeholders from various Air Force Secretariat and Headquarters United States Air Force (HQ USAF) functional offices (see paragraph 2.3.2). The AFCAIG reviews cost estimates and advises the chair on the recommended SCP, which is in turn provided to the SAE who establishes the official SCP in support of the milestone or other acquisition decision.

2.2.1.2. For MDAP and MAIS programs entering MS A, B, C and FRPD or FDDR, SAF/FMC must also provide OSD (CAPE) a memorandum documenting the recommended SCP. SAF/FM and the SAE (typically the SAF/AQ), with AF/A8 concurrence, must provide a full-funding memorandum certifying the program is fully funded to the official SAE endorsed SCP. This full-funding memorandum includes the SAF/FMC recommended SCP memorandum as an attachment. If the SAE chooses an official SCP that is different than the recommended SCP, the full-funding memorandum should document this position.

2.3. AFCAIG Process.

2.3.1. The AFCAIG process consists of three phases, 1) Cost Integrated Product Team (CIPT) kick-off, 2) SCP development via the Cost Working Group (CWG), and 3) recommended SCP briefing and documentation.
Figure 2.1. ACAT ID & ACAT IAM.
2.3.1.1. For ACAT IC programs, an ICE must be developed independently by the AFCAA. While program office personnel do not directly participate in producing the ICE, collaborative interaction between the program office and ICE teams is required to maximize the exchange of accurate information.

2.3.2. CIPT Kick-Off Phase

2.3.2.1. An AFCAA representative serves as the CIPT lead, unless delegated by SAF/FMC. The CIPT membership typically includes senior leaders from the organizations listed in Table 2.1.
Table 2.1. Cost IPT Membership.

<table>
<thead>
<tr>
<th>ACAT ID</th>
<th>ACAT IC &amp; IAC</th>
<th>ACAT IAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFCAA Program</td>
<td>AFCAA Program Office</td>
<td>AFCAA Program Office</td>
</tr>
<tr>
<td>Office Center FM(s) Center FM(s)</td>
<td>Center FM(s) SAF/AQ (i.e., PEM SAF/AQ (i.e., PEM)</td>
<td></td>
</tr>
<tr>
<td>PEO</td>
<td>PEO</td>
<td>PEO</td>
</tr>
<tr>
<td>OSD (CAPE)</td>
<td>OSD (CAPE)</td>
<td>SAF/FMCE</td>
</tr>
</tbody>
</table>

2.3.2.2. This phase establishes the plan to produce a reliable SCP in support of the milestone or other acquisition decision. Decision forums include, but are not limited to, the Air Force Review Board (AFRB), the Overarching Integrated Product Team (OIPT), the Defense Acquisition Board (DAB), or other service/defense acquisition executive reviews.

2.3.2.3. The CIPT conducts a meeting as early as feasible, at least 30 – 50 days prior to the draft Cost Analysis Requirements Description (CARD) due date. The CARD provides a description of the salient features of the acquisition program. Chapter 4 provides a more in depth description of the CARD. A draft CARD is due 180 days prior to the OIPT.

2.3.2.3.1. This first meeting determines the extent of the effort required to support the AFCAIG review process, develops a preliminary schedule, and collects available program information (i.e., current CARD, preliminary POE, program schedule, identification of high cost and high risk areas, technical and programmatic information, etc.). Participation by Program Office and other technical subject matter experts is recommended to help identify program high cost and high risk areas, and key technical and schedule assumptions.

2.3.2.3.2. The kick-off meeting should emphasize efforts to develop the plan to integrate the efforts of the CWG and Program Support Review (PSR) or PSR-like teams.

2.3.2.3.2.1. Per DoDI 5000.02, PSRs are a means to inform a Milestone Decision Authority (MDA) and program office of the status of the technical planning and management processes by identifying cost, schedule, and performance risks along with recommendations to mitigate those risks. PSRs are conducted by cross-functional and cross-organizational teams appropriate to the program and situation. PSRs are led by the Director, Systems and Software Engineering (SSE) and required for all OIPTs.

2.3.2.3.2.2. Best practice reports routinely tout the value of significant interaction between cost estimating and PSR or PSR-like review teams. In particular, close interaction ensures program risks are appropriately captured in the cost estimates.
and clearly articulated in PSR reports presented to the AFRB and OIPT.

2.3.2.3.3. Tables 2.2 and 2.3 provide notional AFCAIG timelines for ACAT I programs. These timelines facilitate a successful AFCAIG review process through early identification and analysis of available data, and ensure that an acceptable, “costable” draft CARD is prepared in a timely manner.

Table 2.2. Document Timeline for ACAT ID & IAM Programs (Calendar Days).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Event</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick Off</td>
<td>Kick Off Meeting</td>
<td>210 – 240 days before OIPT</td>
</tr>
<tr>
<td>SCP</td>
<td>Draft CARD Delivered</td>
<td>180 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>POE / NACA / ICE Complete</td>
<td>73 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>AF CAIG Meeting</td>
<td>55 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>AF CAIG Memorandum Signed</td>
<td>52 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>SAF/FMC signed recommended SCP memorandums/reports along with AQ/FM signed full-funding memorandums to OSD*</td>
<td>45 days before OIPT</td>
</tr>
<tr>
<td>Briefing</td>
<td>* OSD (CAPE) Review</td>
<td>* 21 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>SAE Review [typically the Air Force Review Board (AFRB) meeting]</td>
<td>14 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>Detailed Documentation to OSD</td>
<td>10 days before OIPT</td>
</tr>
<tr>
<td></td>
<td>OIPT Review</td>
<td>14 Days before DAE Review</td>
</tr>
<tr>
<td></td>
<td>DAE Review</td>
<td>Day 0</td>
</tr>
</tbody>
</table>

* The WSARA requires OSD (CAPE) concurrence on cost estimates used for 10 USC, Sec. 2366a and 2366b certifications (MS A and B) for ACAT ID and IC programs, and the OSD Director, ARA and OSD CAIG letter dated 12 March 2009 requires a recommended SCP memorandum signed by SAF/FMC and a full-funding memorandum signed by SAF/FM and SAF/AQ prior to all MS A, B, C, and FRP or FDDR decisions. Each CIPT lead must work with the OSD (CAPE) to develop an AF and OSD agreed upon documented timeline and process to gain OSD (CAPE) concurrence on the final SCP, particularly prior to ACAT ID program Milestone A and B decisions. The signed SAF/FMC recommended SCP and signed AQ/FM full-funding memorandum are required to be provided to USD (AT&L) and OSD (CAPE) NLT 45 days prior to the OIPT.
Table 2.3. Document Timeline for ACAT IC & IAC Programs (Calendar Days).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Event</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
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<td>SCP</td>
<td>Draft CARD Delivered</td>
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<td>AF CAIG Meeting</td>
<td>55 days before AFRB</td>
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<td>AF CAIG Memorandum Signed</td>
<td>52 days before AFRB</td>
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<td>SAF/FMC signed recommended SCP memorandum/report along with AQ/FM signed full-funding memorandums to OSD*</td>
<td>45 days before AFRB</td>
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<td>* OSD (CAPE) Review</td>
<td>* 21 days before AFRB</td>
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<td>Detailed Documentation to OSD</td>
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*For ACAT IC and all programs where the Air Force is the MDA, use the AFRB as the date of reference vice the OIPT. With the exception of ACAT IC MS A and MS B decisions, there is no requirement for an official OSD (CAPE) review. For ACAT IC MS A and MS B decisions, Public Law 111-23 (WSARA) requires OSD (CAPE) concurrence on any cost estimates used for 10 USC Sec. 2366a or 2366b certifications, even when the service is the delegated MDA. OSD (CAPE) has not yet issued specific guidance on a process or timeline to achieve concurrence on for ACAT IC programs. Therefore, each CIPT lead must work with the OSD (CAPE) to develop an AF and OSD agreed-upon documented timeline and process to gain OSD (CAPE) concurrence on the final SCP, prior to Air Force Acquisition Executive Milestone A and B decisions. Without specific OSD (CAPE) guidance, at a minimum, plan to provide the signed SAF/FMC recommended SCP and signed AQ/FM full-funding memorandum to the OSD (CAPE) NLT 45 days prior the AFRB for MS A and B decisions on ACAT IC programs.

2.3.2.3.4. If the program has updated their POE and NACA annually, as required by AFPD 65-5, then the estimating phase may be condensed.

2.3.2.4. At the CIPT kick off meeting, the CWG is formed. The CWG is a subset of the CIPT and comprised of cost estimators from the organizations listed in Table 2.4.
2.3.2.5. A recommended SCP is developed collaboratively by the Program Office and AFCAA. Collaboration can take many forms, from separate ICE and program office teams to a single combined AFCAA and program office estimating team. Typically, a more balanced approach is taken where the AFCAA performs a tailored NACA focused on the high cost and high risk areas. The CIPT kick-off meeting should discuss plans and expectations for CWG collaboration, with the understanding that the degree of collaboration could change as the cost estimate process matures. For cases where the AFCAA is performing an ICE required by statute, no program office personnel or center cost estimators may participate directly on the ICE team.

2.3.3. Cost Working Group (CWG) SCP Development Phase

2.3.3.1. The CWG will begin working the cost estimates after the CIPT kick-off meeting. Typically, the CWG has two main components: the program office estimating team and the AFCAA estimating team. When practical, the OSD (CAPE) analyst should be invited to attend and participate in CWG meetings.

2.3.3.2. The CWG SCP development phase starts no later than when the draft CARD is delivered (NLT 180 days prior to the OIPT). At this time, outstanding CWG issues and concerns should be discussed (estimating plan and schedule, cost and technical requirements, subject matter expert support, independent schedule assessments, etc.). When possible, the Program Office should provide a program overview and status review, and POE briefings that include the program/system description, requirements list, proposed schedules, baseline program/technical overview, acquisition strategy, buy quantities, and a comparison between the current POE and approved program budget, by appropriation.

2.3.3.3. As elements of both the POE and NACA/ICE are finished, they should be shared with the CWG. The CWG should plan to have regular estimating methods reconciliation meetings. The CWG then decides what methods are most applicable for the draft, recommended SCP. The premise behind reconciliations is not compromise; it is a consensus-building exercise between professional counterparts.

2.3.3.4. The POE and NACA/ICE teams must ensure that technical, schedule and cost data and models are shared, that any issues are resolved in a timely manner, and that differences between the cost estimates are fully understood by all relevant parties. As needed, additional CWG and CIPT meetings are held to collect information, identify and resolve issues, modify schedules, and make incremental decisions about the recommended SCP. The CIPT leads prepare meeting agendas, minutes, and interfaces.
with other Air Force, OSD and other services offices. As issues are raised, every effort should be made to resolve them at the CWG or CIPT level. Issues not resolved at the CWG or CIPT level are communicated by the CIPT lead to the AFCAIG Chair for resolution. This can be done at any time during the SCP Development Phase.

2.3.4. Recommended SCP Briefing and Documentation Phase

2.3.4.1. The AFCAIG meeting is held 55 days prior to the OIPT (or AFRB if the Air Force is delegated MDA). Upon completion of the AFCAIG meeting, the AFCAA will brief the recommended SCP to the AFRB. Therefore, even in cases where there is an OIPT, the AFCAIG must be held in time to allow for presentation of the recommended SCP at the AFRB.

2.3.4.2. During the AFCAIG meeting, the Program Manager or his designee will brief a program overview. If a single estimate has been developed, the CIPT lead will brief this estimate as the draft recommended SCP. Where both a POE and a NACA have been accomplished, the CIPT lead briefs the AFCAIG on the pre-reconciliation methods and estimates for both the POE and NACA. The briefing should also include changes resulting from the reconciliation process and open discussion on any unresolved issues or special interest items. After the AFCAIG meeting and successful resolution of issues, SAF/FMC approves a recommended SCP. This recommended SCP is presented to the SAE (SAF/AQ) for approval through an AFCAA brief to the AFRB and/or a SAF/FMC signed memorandum to the SAE.

2.3.4.3. Upon completion of the AFCAIG meeting, and no later than 52 days prior to the OIPT, the AFCAIG chair (SAF/FMC) must sign a memorandum documenting the recommended Service Cost Position. This memorandum should be provided to SAF/AQ, SAF/FM, and the OSD (CAPE). Typically, the memorandum will include an attached AFCAIG report providing more detailed information on the cost estimate, including key assumptions, methods, phasing, and cost risks/uncertainty analysis. The detailed AFCAIG report attachment is mandatory for ACAT IC and ID programs requiring OSD (CAPE) concurrence for 10 USC, Sec. 2366a and 2366b certification at Milestones A and B.

2.3.4.4. Currently, OSD requires a full-funding memorandum signed by SAF/FM (as the Chief Financial Officer) and SAF/AQ (as the Acquisition Executive), coordinated through AF/A8, certifying the Future Years Defense Plan (FYDP) fully funds the program consistent with a SAF/FMC signed recommended SCP. Both the SCP and full-funding memorandums are required for all MDAPs seeking milestone A, B, C and FRP/FDDR approval. In addition, USD (AT&L) and OSD (CAPE) now require all ACAT IAT (MAIS) programs provide both an SCP and full-funding memorandums in support of major milestone reviews. [Currently, the only formal guidance on this topic is provided via a 12 March 2010 OSD Director, ARA and OSD Cost Analysis Improvement Group [now OSD (CAPE)] memorandum, subject “Required Signed and Documented Component-level Cost Position for Milestone Reviews.” However, this OSD memorandum directs that these new requirements to be incorporated in the next update of DOD 5000.4-M. Therefore, when establishing the plan of action, CIPT/CWG teams supporting MDAP and MAIS programs seeking milestone or FRP/FDDR approval
should review the latest release of DoD 5000.4-M, as well as any new USD (AT&L) and OSD (CAPE) guidance memorandums on this subject.]

2.3.4.5. After completing the AFCAIG briefing cycle and gaining SAF/AQ approval of the recommended SCP, the SCP is formally presented to the appropriate OSD organization. Ideally, prior to this formal presentation of the SCP, multiple meetings at the CWG level have taken place where information on the final SCP and the OSD (CAPE) estimates have been fully shared. Formal presentation of the SCP should occur no later than 21 days prior to the OIPT or component review meeting. This presentation should include a program office provided program overview and a CIPT led presentation of the recommended SCP.

2.3.4.6. The CWG should provide the final version of its cost estimate documentation in accordance with DoD 5000.4 and Chapter 5 of this instruction NLT 10 days prior to the OIPT (or Air Force Review Board).

2.3.4.7. The AFCAA will keep a repository with templates for use in preparing AFCAIG and OSD (CAPE) briefing charts, recommended SCP memorandums, AFCAIG reports, and full funding memorandums. This repository will also include best practice examples of the CARD, cost estimate documentation, etc., and be available to all government employees upon request.

2.3.5. AFCAIG Membership – The AFCAIG, at a minimum, includes members from the following organizations:

2.3.5.1. SAF/FMC – Deputy Assistant Secretary (Cost and Economics), Chairperson
2.3.5.2. SAF/AQX – Acquisition Program Integration
2.3.5.3. SAF/FMBI – Director of Budget Investment
2.3.5.4. AF/A7C – Civil Engineering
2.3.5.5. AF/A8P – Plans & Programs
2.3.5.6. AF/A4L – Directorate of Logistics
2.3.5.7. AF/TE – Test & Evaluation
2.3.5.8. AF/A1MR – Manpower Requirements
2.3.5.9. AF/A5R – Operational Capability Requirements
2.3.5.10. AF/A6P – CIO Policy & Resources
2.3.5.11. SAF/AQ – Mission Director (for program being reviewed)
2.3.5.12. PEO – (for program being reviewed)
2.3.5.13. Other Headquarters Air Force (Secretariat and Air Staff) offices as deemed necessary by the AFCAIG Chair.
Chapter 3

SERVICE COST POSITION (SCP) GENERATED OUTSIDE THE AFCAIG PROCESS

3.1. Purpose.

3.1.1. This chapter provides further guidance on the development of a recommended SCP outside the normal AFCAIG process.

3.1.1.1. The AFCAIG process, described in Chapter 2 of this instruction, is the primary process for developing the recommended SCP. This process is mandatory when preparing an SCP in support of a MDAP or MAIS milestone review.

3.1.1.2. At the discretion of SAF/FMC, SCPs may also be developed in support of other decisions outside the milestone decision environment (e.g. in support of unit cost breach reporting). A recommended SCP required outside the milestone decision environment may use the formal AFCAIG process described in Chapter 2, or the abbreviated process described here.

3.2. SCP Outside of an AFCAIG Review.

3.2.1. SAF/FMC is the decision authority on procedures to be followed when generating a recommended SCP outside of the formal AFCAIG process. An abbreviated SCP process does not require a formal AFCAIG, instead a smaller group referred to as the Service Cost Group (SCG) is convened. In addition, where approved by SAF/FMC, the CIPT and CWG phases can be tailored, as appropriate.

3.2.1.1. The SCG is headed by the SAF/FMC and comprised of the Program Manager, the Program Office cost estimating team, the AFCAA cost estimating team, AFCAA leadership and, where applicable, a representative from the organization requesting the SCP.

3.2.1.2. There are two scenarios that can be followed when implementing the abbreviated process. The preferred scenario, Figure 3.1 involves the program office and AFCAA establishing the SCP in collaboration. In this case, the draft recommended SCP is briefed to the SCG chair (SAF/FMC) who forwards the recommended SCP to the SAE. Even if the program office and the AFCAA are in full agreement on the draft SCP, the SCG may still make changes to the estimate before it becomes the official recommended SCP.

Figure 3.1. Preferred SCP Flow.

3.2.1.3. In the alternative scenario, Figure 3.2, both a POE and a NACA or ICE are prepared and differences are addressed during a cost estimate reconciliation process.
similar to that described in Chapter 2. The product of this reconciliation, a draft SCP, is briefed to the SCG with any unresolved differences highlighted for discussion and resolution/decision. The SCG makes the final determination on the recommended SCP that will be forwarded to the SAE.

Figure 3.2. Alternative SCP Flow.

3.2.1.4. Though not required, development of a CARD is highly encouraged to support development of an SCP outside of the AFCAIG milestone process.
Chapter 4

COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD)

4.1. Purpose. This chapter provides guidance on the Cost Analysis Requirements Description (CARD). A CARD is required for all MDAP and MAIS programs preparing for a Milestone decision (A, B, C, and FRP or FDDR), as well as any program subject to the AFCAIG process described in this document. DoDI 5000.02 also requires a CARD for MDAP MS B, C, and FRP decisions, and any time a MAIS EA is required by statute or per MDA direction. Note that Public Law 111-23 (WSARA), issued after the currently published version of DoDI 5000.02, places new and more stringent cost estimate requirements at Milestone A.

4.2. Background.

4.2.1. The CARD provides a description of the salient features of the acquisition program. It provides technical, schedule, and programmatic parameters facilitating a common, consistent, and accurate baseline for the program life cycle cost estimates. A well constructed CARD reduces the likelihood of misunderstanding program content and significantly reduces the time needed to reconcile cost estimates. Per DoDI 5000.02, the draft CARD must be provided at least 180 days prior to the planned OIPT or component review, unless a different due date is agreed to by the OIPT. The 180 day “clock” starts as soon as the responsible cost estimating team lead determines that the CARD is complete, accurate, and suitable for use as the technical and programmatic baseline for the cost estimate. For ACAT ID and IAM programs, this determination is made by the OSD (CAPE) analyst. For ACAT IC and IAC programs where the service is the milestone decision authority, this determination is made by the AFCAA lead cost analyst.

4.2.2. DoDI 5000.02, Enclosure 7, and DoD 5000.4-M (Cost Analysis Guidance and Procedures) provides detailed information on how and when CARDs should be prepared. It includes a detailed outline of the information required in a CARD. A final CARD must be provided no later than 65 days prior to the planned OIPT or component review unless a different due date is agreed to by the OIPT. However, the CARD should not be finalized before the SCP reconciliation is complete.

4.3. Guidance.

4.3.1. The CARD is a key component of the cost estimating process. It is the responsibility of the Program Manager, and is typically developed by the program’s engineering staff working in conjunction with the Program Manager. The cost estimating team is highly dependent on this document as it is the primary source of program technical and schedule information used to understand program scope and technology requirements.

4.3.2. The CARD should be flexible and make reference to information available in other documents available to the cost estimators. For programs simultaneously engaged in a source selection and milestone review process, proposal information is often an essential component of the program definition. Under these circumstances, the CARD should be updated to include information that most accurately represents the program (such as ranges that reflect the entire spectrum of capable bidders, or the system description of the selected contractor), or the CIPT should be given direct access to the proposal information.
4.3.2.1. The following paragraphs provide additional CARD guidance.

4.3.2.1.1. The draft CARD should be delivered to the CIPT as soon as possible, but not later than 180 days prior to the OIPT. This facilitates timely feedback and early issue resolution.

4.3.2.1.2. The program description in the CARD should be consistent with the approved program, as described in the APB, ADM (amendments included), requirements documents, etc.

4.3.2.1.3. The CARD should cover all effort associated with the program, regardless of fund source or management control. It should address the responsibility of each funding source, including the responsibility of other Air Force programs and components.

4.3.2.1.4. When a specific requirement is undefined or unknown at the time the CARD is prepared, an assumption should be provided. Assumptions provided should be consistent with those used to create the POE. A statement such as “the specifics for this element are unknown at this time… for estimating purposes assume…” should be included. “To Be Determined” (TBD) is not acceptable.

4.3.2.1.5. The final CARD should be coordinated by the MAJCOM A3/5, A4, A8, Product Center functional groups, and the CIPT before being submitted to the PEO for approval. The program office is responsible for ensuring the CARD is updated to reflect all program changes and the CIPT should be notified of all CARD updates.

4.3.2.1.6. The CARD should include a copy of the program Work Breakdown Structure (WBS) dictionary and, where appropriate, address the relationship of specific Contract WBSs to the Program WBS. The CARD should include a draft cost structure for all phases of the system life-cycle (including the program WBS breakout and other categories such as MILCON, flight test site costs, O&S, etc.; reference DoD 5000.4-M, Chapter 2, Tables 2-2, 2-3, and 2-4 for a typical summary level breakout). CARD issues that cannot be resolved within the CIPT should be raised to the AFCAIG for resolution.

4.3.2.1.7. Where applicable, contracted and projected reliability parameters at the Line Replaceable Unit/Shop Replaceable Unit (LRU/SRU) level, and support and training equipment lists should be provided.

4.3.2.1.8. Where applicable, LRU development and procurement quantities should be provided. Identify items as developed, refurbished, Commercial Off-The-Shelf (COTS), or Non Developmental Items (NDIs).

4.3.2.1.9. Where applicable, provide a list of prime contractors and subcontractors/ vendors developing and producing subsystems/LRUs, by specific plant and location.

4.3.2.1.10. Where applicable, MILCON, any identifiable R&M O&M facility requirements and estimates should be included and provided to the major command civil engineer for review.
Chapter 5

DOCUMENTATION

5.1. Purpose. This chapter provides guidance on the minimum documentation required for all ACAT I, II and III cost estimates. More detailed cost estimate documentation is highly encouraged.

5.2. Background. Chapter 1, DoD 5000.4-M requires cost estimate documentation be submitted to the OSD (CAPE) for all ACAT ID programs. Draft documentation is required no later than 45 calendar days prior to the scheduled OIPT or Component review. These requirements also apply to all other programs subject to the AFCAIG process (i.e., ACAT IC and IAM/C programs). Documentation for any other program cost estimate should be submitted to the milestone/other decision authority and their cost analysis support organizations. As required for cost and program reviews, all cost estimate documentation should be made available to higher headquarters comptroller organizations. As required for cost and program reviews, all cost estimate documentation should be submitted to the milestone/other decision authority and their cost analysis support organizations. Documentation should be sufficiently complete and well organized to enable a qualified cost professional to reconstruct the cost estimate given access to only the documentation. For programs subject to the AFCAIG process, interim documentation requirements should be established by the CIPT during the CIPT kick off meeting.

5.3. Guidance.

5.3.1. Cost estimate documentation provides a detailed record of the estimating methods, data, environment and events supporting the development or update of a cost estimate. It should be replicable and must be submitted electronically. Quality documentation makes an estimate more credible, aids in the analysis of changes in program cost, enables a reviewer to fully understand and replicate the cost estimate, contributes to the population of databases used to estimate the cost of future programs and facilitates continuous process improvement across the cost estimating community. Cost estimate documentation should:

5.3.1.1. Contain an outline. A checklist with minimum documentation requirements is provided in Attachment 3.

5.3.1.2. Include a summary of the cost estimate by program phase, by appropriation (APPN) and by Fiscal Year (FY). This summary should display both Then-Year (TY) and Base-Year (BY) dollars and delineate cost estimate confidence level(s).

5.3.1.3. Describe cost estimate Ground-Rules and Assumptions (GR&As) such as cost, schedule and technical . GR&As are unique to the program, but should cover all influential areas. They include cost estimate limitations and caveats, methods and constraints applied to “time phase” the estimate, estimate base year, inflation indices used, profit/fee assumptions, development and procurement quantities, participating agency support, government and contractor furnished equipment, and contractor rates and relationships.

5.3.1.4. Display a breakout of total cost, by program phase and major cost element, paired with a brief summary of the cost estimating methods used to estimate the cost of all major cost drivers. Smaller dollar value cost elements may be rolled into an “other” line.
5.3.1.5. Provide summary descriptions of the process used to address cost, technical, and schedule risks.

5.3.1.6. Include a detailed estimating methods description section. This should include a detailed description of the WBS element content and the method and data applied to estimate the cost of every WBS element. For published Cost Estimating Relationships (CERs), data, statistics, etc. should documented.

5.3.1.6.1. Estimated total and time phased costs, in BY$ and TY$, for each element and each roll-up element should be included in this section.

5.3.1.6.2. A detailed discussion on the method used to consider cost, technical, and schedule risk, including a discussion on the rationale for risk bounds and distributions (normal, triangular, etc.) selected should be included in this section.

5.3.1.7. Where produced, include a separate Cumulative Distribution Function (CDF) or “S-Curve” for each phase, in particular, for the development (Engineering and Manufacturing Development [EMD]) and production and deployment phases. Where practical, development and production and deployment CDFs can be provided by funding source. The point estimate, fifty percent confidence level, eighty percent confidence level and mean points should be identified. CDFs should display TY dollars and include only “cost to go,” sunk costs should be excluded. Sunk cost should be noted at the bottom of the page. Along with the CDF, a table showing the cost estimate in 10% confidence level increments should be included. Table 5.1 provides a notional example.

Table 5.1. Cumulative Distribution Function.

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Sunk Cost = $5M

5.3.1.8. Using a table, display cost by appropriation in TY dollars. Where available, compare estimated cost to program budget (either the President’s Budget or the POM), highlighting constraints, shortfalls, and excesses. This comparison should include all
sunk costs or “prior” year, FYDP, and “to complete” costs. Prior year costs should equal
program funds previously committed, obligated, and/or executed, and should therefore
not reveal any shortfalls or excesses.

5.3.1.9. Chronology of program cost estimates. Display the history of prior cost
estimates (POE, NACA, SCP, and ICE) at each milestone decision and major program
decision point, by program phase and by appropriation. Note that program phases may
contain more than one appropriation. Currently, DoDI 5000.02 has four post MS A
phases: Technology Development (TD); Engineering and Manufacturing Development
(EMD), Production and Deployment (P&D), and O&S. Discuss the evolution of the cost
estimates with particular emphasis on significant changes in estimated program cost,
scope, or schedule. Also discuss any significant changes in program cost drivers or cost,
technical, and schedule risk assessments. Initially display changes in TY dollars then
convert to BY dollars to present inflation adjusted comparisons.

5.3.1.10. Provide an assessment of the program technical and schedule baseline
highlighting any deviations from the established (CARD or other reference materials)
baseline.

5.3.1.11. Identify the cost estimating team composition including all noteworthy
contributors.

JAMIE M. MORIN
Assistant Secretary of the Air Force
(Financial Management and Comptroller)
Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References
10 USC §2366a, (MDAP: Milestone A certification requirement)
10 USC §2366b, (MDAP: Milestone B certification requirement)
10 USC §2433, (Unit Cost reports)
10 USC §2433a, (Critical Cost Growth in MDAPs)
10 USC §2434, (Independent Cost Estimates)
10 USC §2445c, (Report on Critical Program Changes for MAIS programs)
AFPD 65-5, Cost and Economics, 5 August 2008
AFI 63-101, Acquisition and Sustainment Life Cycle Management, 17 April 2009;
DoD Directive 5000.04, Cost Analysis Improvement Group (CAIG), 16 August 2006
DoD Instruction (DoDI) 5000.02, Operation of the Defense Acquisition System, 2 December 2008
DoD 5000.4-M, Cost Analysis Guidance and Procedures, 11 December 1992
Public Law 111-23, Weapon Systems Acquisition Reform Act (WSARA) of 2009, 22 May, 2009
SAF/AQ memo, Government Performance of Critical Acquisition Functions, 22 October 2010
OSD CAIG memo, Required Signed and Documented Component-level Cost Position for Milestone Reviews, 12 March 2009

Adopted Form
AF Form 847, Recommendation for Change of Publication

Abbreviations and Acronyms
ACAT—Acquisition Category
ADM—Acquisition Decision Memorandum
AFCS—Air Force Corporate Structure
AFCAA—Air Force Cost Analysis Agency
AFCAIG—Air Force Cost Analysis Improvement Group
AFI—Air Force Instruction
FDDR—Full Deployment Decision Review
FPRA—Forward Pricing Rate Agreement
FPRR—Forward Pricing Rate Recommendation
FRP—Full Rate Production
FRPD—Full Rate Production Decision
FY—Fiscal Year
FYDP—Future Years Defense Plan
GR&A—Ground Rules and Assumptions
HQ USAF—Head Quarters United States Air Force
IA&T—Integration Assembly and Test
ICE—Independent Cost Estimate
JCP—Joint Cost Position
KLP—Key Leadership Position
LCCE—Life Cycle Cost Estimate
LRIP—Low Rate Initial Production
LRU—Line Replaceable Unit
MAIS—Major Automated Information System
MER—Manpower Estimate Report
MILCON—Military Construction
MILPERS—Military Personnel
MDA—Milestone Decision Authority
MDAP—Major Defense Acquisition Program
MS—Milestone
NACA—Non Advocate Cost Assessment
NDI—Non Developmental Item
NII—Networks and Information Integration
NRE—Non-Recurring Engineering
O&M—Operations and Maintenance
O&S—Operations and Support
OIPT—Overarching Integrated Product Team
OSD—Office of the Secretary of Defense
P&D—Production and Deployment
PARCA—Program Analysis and Root Cause Analysis
PAUC—Program Acquisition Unit Cost
PB—President’s Budget
PBR—Program Budget Review
PCE—Program Cost Estimate
PE—Program Element
PEO—Program Executive Officer
PEM—Program Element Monitor
POE—Program Office Estimate
POM—Program Objective Memorandum
PPBE—Planning, Programming, Budgeting, and Execution
PSR—Program Support Review
R&M—Restoration and Modernization
RDT&E—Research, Development, Test and Evaluation
RMD—Resource Management Decision
SAE—Service Acquisition Executive
SAF/AQ—Assistant Secretary of the Air Force / Acquisition and Management
SAF/FM—Assistant Secretary of the Air Force / Financial Management and Comptroller
SAF/FMC—Deputy Assistant Secretary of the Air Force / Cost and Economics
SAR—Selected Acquisition Report
SCG—Service Cost Group
SCP—Service Cost Position
SE/PM—System Engineering / Program Management
SECAF—Secretary of the Air Force
SECDEF—Secretary of Defense
SRDR—Software Resources Data Report
SRU—Shop Replaceable Unit
SSE—Systems and Software Engineering
TBD—To Be Determined
TD—Technology Development
TY—Then-Year
USC—United States Code
USD (AT&L)—Under Secretary of Defense for Acquisition, Technology and Logistics
USD(C)—Under Secretary of Defense Comptroller
WSARA—Weapon Systems Acquisition Reform Act
WBS—Work Breakdown Structure
Attachment 2

ANNUAL COST ESTIMATE REQUIREMENT WAIVER REQUEST

Figure A2.1. ACAT 1 Program Office Estimate Waiver Template.

ACAT 1 Program
Program Office Estimate (POE) Waiver

Program Name: ______________________________

Air Force Policy Directive (AFPD) 65-5 “Cost and Economics” requires a Program Office Estimate (POE), be prepared and updated annually, on all Major Defense Acquisition Programs (MDAPs) and all Major Automated Information Systems (MAISs). For the reasons listed below, the _____________ program is unable to produce its annual POE and is requesting a waiver to AFPD 65-5. The last POE for the _____________ program was completed on _____________.

Rationale for waiver:

The _____________ program plans to complete a POE by ________________.

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<tr>
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Figure A2.2. ACAT 1 Non Advocate Assessment Waiver Template.

Non Advocate Cost Assessment (NACA) Waiver

Program Name: ________________________________

Air Force Policy Directive (AFPD) 65-5 “Cost and Economics” requires a NACA be prepared and updated annually for all Major Defense Acquisition Programs (MDAPs) and all Major Automated Information Systems (MAISs). For the reasons listed below, the responsible authority (__________) is unable to produce its annual NACA and is requesting a waiver to AFPD 65-5. The last NACA for the ______________ program was completed on _____________.

Rationale for waiver:

___________ plans to complete a NACA by _________________.

This waiver must be signed by the AFCAA Division Chief, SAF/AQ or the Program Executive Officer, and the Deputy Assistant Secretary of the Air Force (Cost and Economics).

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<tr>
<th>Name</th>
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<tr>
<td>AFCAA Division Chief</td>
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<td>SAF/AQ or delegated PEO</td>
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<td>Deputy Assistant Secretary (Cost and Economics)</td>
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Attachment 3

COST ESTIMATING DOCUMENTATION CHECKLIST FOR ACAT I, II AND III COST ESTIMATES

A3.1. Introduction.
   A3.1.1. Table of Contents.
   A3.1.2. Program title and Program Elements (PEs).
   A3.1.3. Reference to the current program decision, if applicable, and CARD.
   A3.1.4. Purpose and scope of the estimate.
   A3.1.5. Cost estimating team members listed by organization, phone number, and area or estimating responsibility.
   A3.1.6. Description of system or effort being estimated, with program phases estimated and excluded costs identified.
   A3.1.7. Program schedule; buy and delivery schedules.
   A3.1.8. Applicable contract information.
   A3.1.9. Cost estimate summary by fiscal year in Base-Year Dollars (BY$) and Then-Year Dollars (TY$).
   A3.1.10. Ground rules and assumptions.

A3.2. Body.
   A3.2.1. Basis of estimate, by phase and appropriation, by Work Breakdown Structure (WBS) or Cost Element Structure (CES).
   A3.2.2. Detailed methods, sources, and calculations provided by WBS or CES along with fiscal year phasing and rationale for phasing.
   A3.2.3. Rationale for selecting a specific cost estimating method, by WBS or CES.
   A3.2.4. Source of data used when referencing analogous systems. Examples of analogous source data include, but are not limited to the:
      A3.2.4.1. Selected Acquisition Report (SAR)
      A3.2.4.2. Defense Acquisition Executive Summary (DAES)
      A3.2.4.3. Contract Performance Report (CPR)
      A3.2.4.4. Contractor Cost Data Report (CCDR)
   A3.2.5. Cross checks, reasonableness and consistency checks addressed by WBS or CES. Specific references to studies, analogous systems or other appropriate documented references.
   A3.2.6. Track to prior estimate, and rationale for differences.
   A3.2.7. Reconciliation between the NACA/ICE and POE. Note: The body of the cost estimate documentation should provide information (source data, estimating methods, and
results) sufficient to make it possible for a qualified cost estimator to recreate the estimate using only the written documentation.

**A3.3. Additional checklist considerations identify whether:**

A3.3.1. All life cycle costs are included

A3.3.2. Estimates are organized consistently and logically

A3.3.3. Learning curve slopes and factors are reasonable, similar system slopes and factors are included as cross checks.

A3.3.4. Actual historical data at or near program completion was used, when available.

A3.3.5. Current inflation rates were used, documented and properly applied.

A3.3.6. Historical data used is presented in the documentation, with rationale given as to why that data/program is applicable for use as an analogy and, where applicable, extrapolation is applicable.

A3.3.7. Where systems have previously produced development or production units, unit or lot quantity and associated costs are provided.

A3.3.8. Briefing charts reference program funding provided in the most current budget (President’s Budget or POM). If shortfalls exist, a zero “shortfall” option is provided.

A3.3.9. Acronyms are defined.

A3.3.10. Personnel costs are consistent with the Manpower Estimate Report (MER), or deviations are properly explained.

A3.3.11. Sensitivity analysis and risk/uncertainty analysis is documented.

A3.3.12. Wrap rates and Forward Pricing Rate Agreement (FPRA) / Forward Pricing Rate Recommendation (FPRR) assumptions are included.