

2

# NAVAL POSTGRADUATE SCHOOL Monterey, California

AD-A237 999



DTIC  
S JUL 11 1991 C D

## THESIS

COMPONENT BREAKOUT POLICY AND GUIDANCE  
WITHIN THE DEPARTMENT OF DEFENSE

by

Joseph F. Manna

June 1990

Thesis Advisor:

Raymond W. Smith

Approved for public release; distribution is unlimited

91-04506



91 7 00 080

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

Form Approved  
OMB No 0704-0188

1a REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>		1b RESTRICTIVE MARKINGS	
2a SECURITY CLASSIFICATION AUTHORITY		3 DISTRIBUTION/AVAILABILITY OF REPORT <b>Approved for public release; distribution is unlimited</b>	
2b DECLASSIFICATION/DOWNGRADING SCHEDULE		4 PERFORMING ORGANIZATION REPORT NUMBER(S)	
5 MONITORING ORGANIZATION REPORT NUMBER(S)		6a NAME OF PERFORMING ORGANIZATION <b>Naval Postgraduate School</b>	
6b OFFICE SYMBOL (If applicable) <b>Code 36</b>		7a NAME OF MONITORING ORGANIZATION <b>Naval Postgraduate School</b>	
6c ADDRESS (City, State, and ZIP Code) <b>Monterey, California 93943-5000</b>		7b ADDRESS (City, State, and ZIP Code) <b>Monterey, California 93943-5000</b>	
8a NAME OF FUNDING/SPONSORING ORGANIZATION		8b OFFICE SYMBOL (If applicable)	
9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		8c ADDRESS (City, State, and ZIP Code)	
10 SOURCE OF FUNDING NUMBERS		11 TITLE (Include Security Classification) <b>COMPONENT BREAKOUT POLICY AND GUIDANCE WITHIN THE DEPARTMENT OF DEFENSE</b>	
PROGRAM ELEMENT NO	PROJECT NO	TASK NO	WORK UNIT ACCESSION NO
12 PERSONAL AUTHOR(S) <b>Manna, Joseph F.</b>			
13a TYPE OF REPORT <b>Master's Thesis</b>	13b TIME COVERED FROM _____ TO _____	14 DATE OF REPORT (Year, Month, Day) <b>1990, June</b>	15 PAGE COUNT <b>225</b>
16 SUPPLEMENTARY NOTATION <b>The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.</b>			
17 COSAT: CODES		18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	<b>Component Breakout; Component Breakin; Government Furnished Equipment; Government Furnished Material; Contractor Furnished Equipment</b>
19 ABSTRACT (Continue on reverse if necessary and identify by block number) <p>This study was undertaken to examine and analyze the current policy and guidance governing the component breakout program as it is currently structured within the Department of Defense (DOD). Issues related to the adequacy and standardization of component breakout policy and guidance were addressed, and an overview of the component breakout decision making process was provided. Emphasis was placed on the current priority being placed on component breakout by the audit community.</p> <p>The research methodology consisted of an extensive literature review, a comprehensive analysis of written DOD (and individual Service) policy and guidance, and personal interviews of senior DOD acquisition personnel.</p> <p>During the course of this study, it was found that: (1) there is adequate DOD level guidance on the component breakout program; (2)</p>			
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS PPT <input type="checkbox"/> DTIC USERS		21 ABSTRACT SECURITY CLASSIFICATION <b>Unclassified</b>	
22a NAME OF RESPONSIBLE INDIVIDUAL <b>LCDR Raymond W. Smith</b>		22b TELEPHONE (Include Area Code) <b>(408) 646-2052</b>	22c OFFICE SYMBOL <b>Code AS/Sx</b>

DD Form 1473, JUN 86

Previous editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

S/N 0102-LF-014-6603

UNCLASSIFIED

#19 - ABSTRACT - (CONTINUED)

qualitative factors are not adequately considered in the component breakout decision making process; (3) administrative requirements of the DFARS regulation on component breakout are generally disregarded by acquisition managers; (4) the audit community perceives the existence of a serious compliance problem with the component breakout program; and (5) Program Managers (and their chain of command), rather than the audit community, are the more appropriate authority to make judgments in favor of component breakout.

Approved for public release; distribution is unlimited

Component Breakout Policy and Guidance  
Within the Department of Defense

by

Joseph F. Manna  
Lieutenant, Supply Corps, United States Navy  
B.S., University of West Florida, 1980

Submitted in partial fulfillment of the  
requirements for the degree of

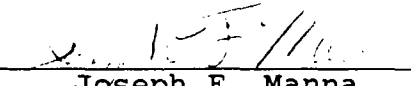
MASTER OF SCIENCE IN MANAGEMENT

from the


NAVAL POSTGRADUATE SCHOOL  
June 1990

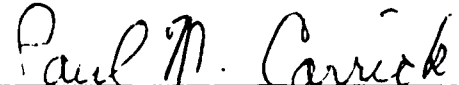
Accession for	
DTIC (RMB)	<input checked="" type="checkbox"/>
DTIC (S)	<input type="checkbox"/>
Unclassified	<input type="checkbox"/>
Justification	<input type="checkbox"/>
by	
Distribution	
Availability Codes	
Dist	Avail and/or Special
A-1	

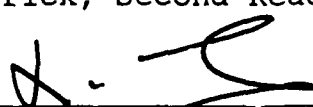
Author:

  
Joseph F. Manna

Approved by:

  
Raymond W. Smith, Thesis Advisor

  
Paul M. Carrick, Second Reader

  
David R. Whipple, Chairman  
Department of Administrative Sciences





## ABSTRACT

This study was undertaken to examine and analyze the current policy and guidance governing the component breakout program as it is currently structured within the Department of Defense (DOD). Issues related to the adequacy and standardization of component breakout policy and guidance were addressed, and an overview of the component breakout decision making process was provided. Emphasis was placed on the current priority being placed on component breakout by the audit community.

The research methodology consisted of an extensive literature review, a comprehensive analysis of written DOD (and individual Service) policy and guidance, and personal interviews of senior DOD acquisition personnel.

During the course of this study, it was found that: (1) there is adequate DOD level guidance on the component breakout program; (2) qualitative factors are not adequately considered in the component breakout decision making process; (3) administrative requirements of the DFARS regulation on component breakout are generally disregarded by acquisition managers; (4) the audit community perceives the existence of a serious compliance problem with the component breakout program; and (5) Program Managers (and their chain of command), rather than the audit community, are the more

appropriate authority to make judgments in favor of  
component breakout.

TABLE OF CONTENTS

I.	INTRODUCTION -----	1
	A. GENERAL -----	1
	B. OBJECTIVES OF RESEARCH -----	4
	C. RESEARCH QUESTIONS -----	5
	D. SCOPE, LIMITATIONS AND ASSUMPTIONS -----	6
	E. ORGANIZATION OF STUDY -----	7
II.	BACKGROUND -----	10
	A. INTRODUCTION -----	10
	B. THE HISTORY OF COMPONENT BREAKOUT -----	10
	C. CURRENT EMPHASIS ON COMPONENT BREAKOUT -----	15
	D. COMPONENT BREAKOUT STRATEGY IN THE FUTURE -----	16
	E. SUMMARY -----	19
III.	METHODOLOGY AND DATA PRESENTATION -----	21
	A. INTRODUCTION -----	21
	B. RESEARCH METHODOLOGY -----	21
	C. LITERATURE SUMMARY -----	24
	D. WRITTEN POLICY AND GUIDANCE -----	26
	E. ADVOCACY AND OVERSIGHT -----	31
	F. INTERVIEW SUMMARY -----	35
	G. SUMMARY -----	52

IV.	DATA ANALYSIS -----	53
A.	INTRODUCTION -----	53
B.	ADEQUACY AND STANDARDIZATION OF COMPONENT BREAKOUT POLICY AND GUIDANCE -----	53
C.	THE COMPONENT BREAKOUT DECISION MAKING PROCESS -----	55
D.	COSTS VERSUS BENEFITS -----	60
E.	ADHERENCE TO CURRENT POLICY AND GUIDANCE ----	64
F.	ADVOCACY, OVERSIGHT AND ENFORCEMENT -----	65
G.	COMPONENT BREAKOUT IN THE CURRENT ACQUISITION ENVIRONMENT -----	68
H.	SUMMARY -----	71
V.	CONCLUSIONS AND RECOMMENDATIONS -----	72
A.	INTRODUCTION -----	72
B.	CONCLUSIONS -----	72
C.	RECOMMENDATIONS -----	81
D.	SUMMARY -----	85
APPENDIX A:	DFARS PARAGRAPH 217.7202 "COMPONENT BREAKOUT" -----	87
APPENDIX B:	LIST OF PRIOR COMPONENT BREAKOUT AUDIT REPORTS -----	93
APPENDIX C:	LIST OF INTERVIEWEES -----	95
APPENDIX D:	INTERVIEW QUESTIONNAIRES -----	97
APPENDIX E:	LIST OF COMPONENT BREAKOUT OFFSETTING COSTS -----	106
APPENDIX F:	AFSC/AFLC REGULATION 800-31 "GOVERNMENT- FURNISHED EQUIPMENT/CONTRACTOR FURNISHED EQUIPMENT (GFE/CFE), GFE ACQUISITION AND GFE MANAGEMENT, 31 MAY 1985 -----	108

APPENDIX G: NAVAIR INSTRUCTION 4200.5C (DRAFT) "POLICY AND PROCEDURES GOVERNING THE COMPONENT BREAKOUT PROGRAM" -----	166
APPENDIX H: DODIG AUDIT RECOMMENDATIONS (DRAFT) AS OF 9 MAY 1990 "AUDIT OF THE COMPONENT BREAKOUT PROGRAM FOR MAJOR SYSTEMS" PROJECT NO. 9AP-0044 -----	207
LIST OF REFERENCES -----	212
INITIAL DISTRIBUTION LIST -----	214

## I. INTRODUCTION

### A. GENERAL

Component breakout is the process of identifying and acquiring weapons systems components directly from the component manufacturer, and providing those components as Government Furnished Equipment (GFE) to a prime contractor for integration into an end item. It is an acquisition strategy that is sometimes pursued within the Department of Defense (DOD) with a primary emphasis of reducing the cost of procuring major weapons systems. The idea is to cut out the prime contractor's role as a middleman, thus avoiding "mark-up" costs. Component breakout can also pertain to a component that is produced by a prime contractor, in which case the government must compete the component within the marketplace, and attempt to develop an alternate source. Component breakout should not be confused with spare parts breakout, which is explained in Supplement Six to the Department of Defense Federal Acquisition Regulation Supplement. In spare parts breakout the government acquires items for use as spare parts with no intention of providing them to the prime contractor as GFE.

Department of Defense guidance pertaining to component breakout is set forth in the Department of Defense Federal Acquisition Regulation Supplement (DFARS) as follows:

Whenever it is anticipated that the prime contract for a weapons system or other major end item will be awarded without adequate price competition, and the prime contractor is expected to acquire a component without such competition, it is the Department of Defense policy to breakout that component if:

- (a) substantial net cost savings will probably be achieved; and
  - (b) such action will not jeopardize the quality, reliability, performance or timely delivery.
- [Ref. 1]

Component breakout policy and guidance contained in the DFARS is limited to four pages of text, and is attached in its entirety as Appendix A.

This research effort examined the effectiveness of current DOD policy and guidance relating to component breakout. The central question DOD should address is whether the cost savings achieved by providing an item as GFE adequately compensates the government for assuming the management responsibility for providing that GFE.

Managers within DOD have long recognized the potential to save money by converting components used in the manufacture of a weapons system from CFE to GFE, thus saving the cost of material overhead, G + A, and profit. Once the conversion occurs, the government bears the burden of managing the GFE and ensuring that the GFE is provided to the prime contractor within specification and according to an agreed-upon schedule. Once received, the prime contractor will install the GFE into the major end item. When the government provides components as GFE to prime

acceptability of the GFE for incorporation into the end item.

There have traditionally been debates during the component breakout decision making process as to whether the cost savings projected for a particular breakout will exceed the costs associated with the government assuming the management risk associated with a particular component. Since the primary emphasis of component breakout is the reduction of cost, decisions in this area are normally considered within the context of a cost/benefit analysis (CBA). Effective component breakout policy and guidance should provide a framework whereby a responsible manager can evaluate the costs and benefits associated with converting a component from CFE to GFE, and then provide a manager the latitude to make a decision as to which course of action would be the most advantageous to the government.

The current body of component breakout literature indicates that many decision makers tend to focus on the (easier to quantify) benefits at the exclusion of (harder to quantify) offsetting costs. The literature also indicates that cost/benefit analyses tend to be extremely optimistic if performed by those in favor of component breakout, and extremely pessimistic if performed by those opposed to component breakout. Decision makers performing cost/benefit analyses have great latitude in structuring their studies, since there is no uniform policy and guidance within DOD, or



the individual Services, for performing cost/benefit analysis.

This study examined current DOD policy, guidance and practices pertaining to the component breakout decision making process, and suggests ways that DOD can more effectively use component breakout as an element of a viable and cohesive acquisition strategy.

#### B. OBJECTIVES OF RESEARCH

This study provided a thorough review of policy and guidance within DOD as it relates to component breakout. The review examined policy and guidance from the DOD secretariat level down to the organizations within each Service that are responsible for implementing component breakout decisions. Policy, guidance and implementation procedures within each Service were compared and contrasted, and improvements were suggested based on a review of each Service's policy and guidance, and the feedback from personnel involved in the component breakout decision making and policy making process. Furthermore, suggestions were made pertaining to standardization of component breakout policy and guidance among the Services.

The final product of this research was a document developed for use by policy makers within DOD as a tool for evaluating current policy and guidance on component breakout. It compared the thoughts of acquisition

personnel at virtually all levels of the component breakout policy and decision making process with official DOD policy published at the various levels. Furthermore, this research effort provided a ready reference to a vast body of literature and other pertinent information relevant to component breakout. Finally, realistic and viable recommendations were made aimed at improving the way that DOD policy and guidance addresses component breakout.

### C. RESEARCH QUESTIONS

#### 1. Primary Question

How does DOD make component breakout decisions, and how might DOD policy and guidance be improved to enhance the effectiveness of the component breakout decision making process?

#### 2. Subsidiary Questions

- 1) What is component breakout, and what are its goals?
- 2) How are component breakout decisions made within DOD?
- 3) What are the significant problems encountered in performing component breakout cost/benefit analysis?
- 4) What is current DOD policy and guidance regarding component breakout, and does current policy and guidance support DOD goals in this area?
- 5) How might DOD policy and guidance be improved to facilitate more effective use of component breakout strategy?

#### D. SCOPE, LIMITATIONS AND ASSUMPTIONS

This thesis examined component breakout policy, guidance and practice at the DOD secretariat, individual Service secretariat (Army, Navy and Air Force), Headquarters level (Air Force Systems Command and Army Materiel Command), and systems command levels. At the systems (hardware) command level, research was limited to those activities responsible for the acquisition of major aviation systems, with case research being limited to major systems being procured by those aviation systems commands. Further, interviews at the program manager level were limited to one joint defense program, and one major program per Service, where component breakout has either been contemplated or implemented. Within this framework, individuals involved in component breakout policy formulation and/or decision making process were interviewed. All interviews obtained were exclusively limited to discussions on component breakout policy, guidance and practice as it occurs within DOD.

The research also included an extensive review of component breakout literature, and a review and summary of written policy and guidance within DOD pertaining to component breakout.

The scope of this research was further limited to cases where the government breaks out components on a sole source basis, procures them directly from the original equipment manufacturer (OEM), and then provides them to the prime

contractor as GFE. This limitation was imposed because procuring components from OEM's on a sole source basis was discovered to be the standard approach to component breakout. The researcher also assumed that the components and end items discussed were technically sophisticated with a limited field of potential producers.

The reader of this report is assumed to be familiar with DOD systems acquisition terminology, and have significant understanding and/or work experience pertaining to program management and the acquisition of major weapons systems. Furthermore, the reader is assumed to be generally familiar with major initiatives that are currently occurring within DOD, such as Total Quality Management (TQM) and the Defense Management Review (DMR).

#### E. ORGANIZATION OF STUDY

This study provides a comprehensive analysis of component breakout policy and guidance as it is currently structured within the DOD.

Chapter II discusses the historical background and current status of the component breakout program. Also included in this chapter is a projection of component breakout strategy in the future, which is based on current environmental factors.

Chapter III presents the research methodology employed in this study, and separates the data gathered in the study

into four categories. First, pertinent data from the component breakout literature base are presented. Then, current policy and guidance on component breakout is listed, followed by a discussion of the advocacy and oversight functions for component breakout within DOD. The fourth category is a summary of interviews that were conducted with DOD and the individual Service acquisition personnel at various levels.

Chapter IV uses data presented in Chapter III to address the thesis research questions and other significant findings related to the component breakout program. This chapter also discusses the advocacy and standardization of component breakout policy and guidance within DOD, and analyzes various aspects of the component breakout decision making process. Also included is an analysis of costs versus benefits when performing a component breakout cost/benefit analysis, and a discussion of current policy and guidance in this area. Finally, the chapter concludes with a discussion of the functions of advocacy, oversight and enforcement as they relate to component breakout, followed by an analysis of the component breakout program in the current acquisition environment.

Chapter V is the product of this research, and presents eight conclusions and seven recommendations. The conclusions are drawn from the data analysis in Chapter IV,

while the recommendations are based on both the data analysis and the personal insights of the researcher.

## II. BACKGROUND

### A. INTRODUCTION

The sections that follow trace the history of component breakout and provide a current status of the component breakout program. The chapter concludes with a projection of the future course of component breakout policy and guidance by analyzing current acquisition thinking within DOD policy making and decision making circles.

### B. THE HISTORY OF COMPONENT BREAKOUT

The idea of the government providing Government Furnished Equipment (GFE) to contractors isn't new. Back in the 1930's it was commonplace for the government to produce many of the components in major weapons systems, and then provide those components to prime contractors for integration into a major system. However, as technology burgeoned, the government no longer possessed (or could retain) the technical expertise required to produce high technology components for weapon systems.

By the end of World War II, major defense contractors were playing a much more prominent role as weapons systems integrators, and by the 1950's, most major defense contractors had become total weapons systems integrators. This meant that the large majority of components going into weapons systems were either built by prime contractors, or

purchased by prime contractors from subcontractors. When components were procured from subcontractors, the prime contractor assumed the responsibility for successfully integrating these components into the weapon system, and meeting the delivery schedule for the end item. However, as a reward for assuming this risk, the prime contractor would "mark-up" the components he produced or procured from subcontractors by some percentage over cost.

By the late 1950's, and early 1960's, some prudent government business managers noticed that the government could realize savings if components that a prime contractor purchased from subcontractors were purchased directly by the government and then provided to a prime contractor as GFE. The government would then be responsible to the prime contractor for the technical performance and delivery schedule of the components, and the cost of the weapons system could be reduced by the profit and overhead that the prime contractor would have applied to those components.

In fact, the Army was perceived to have so much success with the component breakout program in the late 1950's that Congress insisted that the Navy and the Air Force establish a component breakout program. This Congressional insistence led then Secretary of Defense, Robert McNamara, to issue directives to each military department to set up long-range component breakout strategies. Finally, in 1965, the Armed Services Procurement Regulation (ASPR) was amended to



include detailed guidelines and documentation requirements for component break-out.

During the 1960's, component breakout became increasingly popular, especially for weapons systems that were in full production with relatively stable designs (i.e., CH-46 Helo, F-4 aircraft, etc.). Tens of millions of dollars in cost savings were attributed to various component breakout programs during the 1960's. However, there was little mention of the increased management burden incurred by the government resulting from component breakout. Additionally, there seemed to be no consideration given to how rapidly changing technology would effect management of GFE, and the government's component breakout policy.

As new, more sophisticated weapons systems (i.e., F-14 and F-15 aircraft, Blackhawk helicopters, etc.) began production in the 1970's, component breakout activity decreased. As systems became increasingly complex, it became more difficult for the government to manage the technical aspects associated with the breakout of components. Questions frequently arose regarding the quality and proprietary rights of technical data associated with high-technology components, and the government usually lacked the technical expertise necessary for proper technical evaluation. This was a serious roadblock to the component breakout program, since the government must

possess significant technical expertise to break out a component and provide it to a prime contractor as GFE.

A lull in the practice of component breakout in the 1970's drew considerable attention from various audit agencies within the government. Several audit agencies, both internal and external to DOD, were reporting that millions of dollars in cost savings were being lost due to the lack of component breakout in new production weapons systems. Based on several Air Force Audit Reports, the 1979 House of Appropriations Committee concluded that:

These audit reports demonstrate that too little attention is being devoted to the component breakout program. The same is probably true of the Army and Navy, although audits of this program in those departments have not come to the attention of this committee. The component breakout program should be applicable across every item of equipment built for the military departments, as well as for the spares support purchased for those equipments. Aircraft engines have been a high dollar Government Furnished Equipment item for many years and there is no reason why other engines, fire control systems, navigation systems, and other much smaller components cannot be purchased directly from manufacturers once the end item enters production. [Ref. 2]

Consequently, the Secretary of Defense received guidance from Congress to revitalize the component breakout program.

Although the Defense Acquisition Regulation (DAR) did include guidance on component breakout at the same time many of these audit reports were being published that cited DOD deficiencies in this area, interpretations of the DAR guidance varied widely. Program managers were reluctant to break out components and convert them from CFE to GFE,

because this directly transferred schedule and technical risk from the prime contractor to themselves. This created an impetus among Program Managers to avoid component breakout.

Then came the 1980's, which became very turbulent times for the military procurement system. During the 1982/1983 time frame, the media was frequently reporting waste in military spending which involved new production weapons systems and spare parts procurement. Abuses such as the \$10,000 refrigerator and the \$600 toilet seat installed in a P-3 aircraft were being reported as commonplace. Occurrences such as these put further momentum behind cost reduction strategies such as the component breakout program. Additionally, the negative media blitz led to Congress requiring the establishment of the Competition Advocate function within the DOD procurement system. [Ref. 3] Each command with significant procurement authority had to designate a Competition Advocate General, whose primary duty was to reduce cost and increase quality through the competitive procurement of goods and services. Along these lines, the Navy was the first service to create a Flag/General level Competition Advocate (i.e., Competition Advocate General of the Navy). By establishing the competition advocate function, the component breakout program found a new champion to fight the reluctance of program managers to break out components. However, the

problem with competition advocate involvement in this area is that component breakout does not usually involve competition, since components that are broken out are normally procured on a sole-source basis from the original equipment manufacturer.

#### C. CURRENT EMPHASIS ON COMPONENT BREAKOUT

As previously stated, component breakout is considered a cost reduction strategy in the procurement of major weapons systems. Because of the political focus in the mid and late 1980's on deficit reduction and reduction of military spending, component breakout has been the subject of a large number of major weapons systems audits. This is understandable, since one of an auditor's primary objectives is to discover and propose techniques for achieving cost savings. Component breakout represents a convenient vehicle for an auditor to calculate and report potential cost savings.

Within DOD, the DOD Inspector General has evolved as the primary component breakout oversight activity. In fact, since October 1984 there have been 30 major audit reports published pertaining to component breakout opportunities, citing foregone and potential savings, of which 23 were published by the DOD IG. Of the remaining seven audit reports, four were published by the Air Force Audit Agency, two were published by the Army Audit Agency, and one was

published by the General Accounting Office (GAO). [Ref. 4]  
A list of these audits is attached to this report as  
Appendix B.

As may be inferred from the high number of audit reports published, the DOD audit community is not satisfied that component breakout strategy is being properly employed by the DOD and the individual Services. Here, the auditors seem to be at odds with systems acquisition personnel responsible for implementing component breakout strategy. The audit reports cite DOD Program Managers as reluctant to convert items from CFE to GFE. This reluctance has been further exacerbated by the current initiative to freeze or reduce the number of government personnel within DOD. If a Program Manager breaks out a component, the additional government employees needed to manage the new GFE are not likely to be forthcoming. Therefore, it may be reasonable to assume that a Program Manager may be unwilling to increase his workload without assurance that he will receive additional personnel assets. Furthermore, in today's environment, a program manager is much more likely to receive personnel cuts than gains.

#### D. COMPONENT BREAKOUT STRATEGY IN THE FUTURE

There are two major policy initiatives that have the potential to affect the future course of component breakout policy. The first is the Defense Management Review (DMR),

which is being chaired by the Deputy Secretary of Defense. And the second is the Total Quality Management (TQM) initiative, which is in the process of DOD-wide implementation.

The DMR is primarily a vehicle to implement many of the recommendations made in a 1986 report by the President's Blue Ribbon Commission on Defense Management chaired by David Packard. [Ref. 5] Three recommendations that have the potential to affect component breakout policy are: 1) greater decision making authority vested in Program Managers; 2) a move towards significant regulatory reduction; and 3) less power and influence in the advocate and audit communities. If greater decision making authority is vested in program managers, the current emphasis on component breakout is likely to diminish. The regulatory reduction initiative has the potential to affect the future component breakout policy for two reasons. First, there is a possibility that component breakout policy may be eliminated from the DFARS. The Director of Defense Systems Procurement Policy in the Office of the Undersecretary of Defense (Acquisition) stated during an interview [Ref. 6] that the DOD regulatory reduction task force has proposed a fifty percent reduction in verbiage contained in the DFARS. However, it is currently unknown if the component breakout regulation in the DFARS was eliminated or modified. Assuming that component breakout policy remains in the DFARS, the DOD trend towards regulatory reduction will have

a marked effect on the oversight and enforcement of a component breakout program. It will be difficult for advocates and/or proponents of component breakout to oversee and enforce a component breakout program without further regulatory policy and guidance, particularly if their influence base is diminished. If DOD stands firm on regulatory reduction, auditors and other proponents may have a difficult time making a case in favor of component breakout.

TQM represents a new philosophy within industry and government pertaining to creating an organizational environment that facilitates production of quality goods and services. A basic precept of TQM is that a manufacturer should establish long-term relationships with a small group of high-quality suppliers. TQM also dictates that a manufacturer is responsible for the total quality of an end item of production. Component breakout is contrary to long-term relationships between suppliers and manufacturers, and dilutes a manufacturer's responsibility for the quality of an end item. It is currently unclear how the component breakout program will fare in a TQM environment.

Although the DMR and TQM initiatives have a significant potential to affect the component breakout program, advocates will continue to speculate on the potential cost savings that can be achieved through component breakout. In a continuing era of shrinking defense resources, claims of

cost savings are likely to place continuing emphasis and priority on the component breakout program. However, program management personnel are quick to point out that projected cost savings for converting CFE to GFE are highly speculative, and should not be accepted at face value.

#### E. SUMMARY

This chapter has illustrated an almost cyclical trend in component breakout. Subsequent to World War II, systems integration responsibilities for major weapons systems had transitioned almost entirely from the government to industry. As many post World War II weapon systems matured in the late 1950's and early 1960's, many DOD managers began to again assume systems integration responsibilities through component breakout. Then, as technology advanced, and the new weapons systems of the 1970's came into production, the systems integration role shifted back to industry, and emphasis on component breakout diminished. During the 1970's and throughout the 1980's, acquisition personnel have grown more reluctant to convert CFE to GFE, and this reluctance is predominant among program management personnel.

The current emphasis on component breakout originates primarily from the DOD audit community. However, given the reluctance of program managers to assume increased management responsibilities associated with GFE, the current



initiatives of the DMR and TQM, and the increasing complexity of weapons system technology, it will be difficult for the government to assume greater GFE management responsibilities in the future.

### III. METHODOLOGY AND DATA PRESENTATION

#### A. INTRODUCTION

This chapter begins with a detailed outline of the research design methodology employed to gather data for this research effort. The data are then broken down into four major sections. First, pertinent data from the literature review are presented. Second, an overview of written DOD policy and guidance on component breakout is provided. Third, the component breakout advocacy and oversight functions are examined. Finally, a summary of data gathered during formal interviews are provided. Within the interview section, some case data are provided based on interviewee comments and experience.

#### B. RESEARCH METHODOLOGY

The research methodology employed was three-fold. First, a comprehensive review of the component breakout literature base was conducted. Second, all guidance within DOD (within the scope of this study) pertaining to component breakout was analyzed. And third, interviews were conducted with DOD acquisition personnel who are involved in the component breakout decision making and/or policy making process.

The literature review was conducted using resources obtained through the Defense Logistics Studies Information Exchange (DLSIE), the Defense Technical Information Center (DTIC), the Naval Postgraduate School Library, and various private and public sources such as the General Accounting Office and the Department of Defense Inspector General. The literature review was restricted to material where component breakout was the primary topic.

The review of published policy and guidance pertaining to component breakout began at the Federal Acquisition Regulation level, and extended down to the aviation hardware systems commands within each Service. The review was conducted at the following levels: DOD, Service secretarial, headquarters (Air Force Systems Command and Army Material Command), and the individual Service aviation system commands. The search for policy and guidance was accomplished through examining the literature base for references made to specific policy and guidance, reviewing master lists of instructions and directives at the various levels, and questioning interviewees (and other acquisition personnel) regarding their knowledge of applicable published policy and guidance.

Interviews were restricted to acquisition personnel with both an understanding of and familiarity with the component breakout process. Additionally, interviews were aimed at high-level DOD acquisition personnel. In this regard, the

interview base included one Flag Officer, four Senior Executive Service (SES) civilians, five GM-15 level civilians, one Navy Captain, two Colonels, two Navy Commanders, one Lieutenant Colonel, and two GM-14 level civilians. All interviewees had significant experience and/or familiarity with the component breakout program. A list of those personnel interviewed is attached as Appendix C.

Interviews were conducted using a standard format. Within this framework, seven questions were posed to each interviewee, and interviewee comments were recorded on interview sheets as responses were given. Each question had several sub-elements which were used by the interviewer to solicit complete responses to the questions. Information that surfaced in discussions that was outside the scope of the specific questions, yet relevant to the research effort, was also recorded. The interview questionnaire is attached as Appendix D.

In cases where interviewees had direct experience participating in the component breakout decision or implementation phase, comments were recorded for use as case analysis. Throughout the interview process, the researcher sought to use the experience base of professional acquisition personnel to gather data essential to the policy making process.

### C. LITERATURE SUMMARY

The major recurring themes within the component breakout literature base are threefold. First, the component breakout regulation in the DFARS is generally not being followed. Second, there are no standards for preparing component breakout cost/benefit analyses. Finally, the risks associated with component breakout are very difficult to quantify.

Non-compliance with the component breakout program outlined in the DFARS is primarily attributed to a lack of guidance flowdown to the implementing management level, and an unwillingness of program management personnel to assume the risks associated with component breakout. These reasons have been cited consistently in the previous audit reports outlined in Appendix B. The audit community has consistently cited the individual Services for ignoring the DFARS requirements for the review and documentation required by the component breakout program.

The DFARS regulation on component breakout provides no information on how to prepare breakout reports or cost/benefit analyses necessary for making an appropriate decision. In fact, GAO recognized this in an audit as follows:

The breakout regulation does not contain adequate instructions on how to prepare breakout reports and how to compute reportable savings and costs. As a result, each service and DLA use their own methods, thus causing reported results to be inconsistent. [Ref. 7]

In a 1988 Air Force Institute of Technology (AFIT) thesis, Kelly V. Sherwin's primary recommendation was to standardize procedures for computing cost savings associated with component breakout reviews. [Ref. 8] The lack of a standardized or unified approach to the component breakout program has been routinely cited in the literature as a barrier to the effective DOD-wide implementation of the program.

Probably the most frequently cited problem associated with performing component breakout reviews is quantifying the risks associated with converting a component from CFE to GFE. Along these lines, two AFIT researchers compiled a list of 34 offsetting costs that should be considered when contemplating a component breakout decision. [Ref. 9] Although these researchers did not present a methodology whereby these 34 offsetting costs could be quantified, the list represented the best summary of offsetting costs found by this researcher. A table containing the 34 offsetting costs is attached as Appendix E. Another Air Force researcher concluded that: "Overall, the difficulty with breakout lies in balancing quantifiable cost savings in the present against less quantifiable risks to program, cost, schedule, or reliability in the future." [Ref. 10]

The above-cited deficiency is frequently illustrated in audit reports on component breakout published by DOD IG and other audit agencies. Audit agency reports routinely cite

cases where offsetting costs claimed by program managers are not supportable, and therefore invalid. The standard cost estimating model used by auditors to compute cost savings is to multiply the prime contractor "mark-up" on a component by the total number of components that are projected for purchase over the life of the program. As a general rule, any offsetting costs (outside of the standard cost model presented) are likely to be disputed by the audit community.

#### D. WRITTEN POLICY AND GUIDANCE

##### 1. Introduction

The following sections will present the source of written policy and guidance from the DOD level down to the individual Service aviation systems command level.

##### 2. DOD Policy and Guidance

Written policy and guidance on component breakout at this level is contained exclusively in the DFARS. However, this policy does not flow down from the FAR. The only reference in the FAR to component breakout is a brief statement that component breakout must be addressed in DOD acquisition plans. [Ref. 11]

A review of DOD instructions and directives uncovered no written policy and guidance aimed at the component breakout program. Furthermore, major DOD acquisition instructions were reviewed, such as DODINST 5000.1, and no reference to component breakout was found.

All inquiries made within DOD in search of additional guidance on component breakout beyond the DFARS yielded no positive results.

The DFAR regulation on component breakout is attached (Appendix A), therefore it will not be restated here. However, the major thrust of the regulation is summarized below:

- 1) It presents general guidelines for consideration of component breakout.
- 2) It sets forth a series of questions that should be addressed when considering a component breakout.
- 3) It sets forth a required review and documentation process for the component breakout program, and provides a broad definition on who is responsible for administering the program.

The DFARS regulation on component breakout is four pages of text that defines the program in general terms, and assigns specific responsibilities to "the program manager, project manager, project officer, program director, or other official responsible for the material program concerned, supported by a project team." [Ref. 1]

### 3. Individual Service Secretariat Policy and Guidance

After a thorough search of the policy and guidance base within each Service secretariat, the researcher has found no written policy and guidance pertaining to component breakout at this level.



4. Individual Services Headquarters Levels Policy and Guidance

The headquarters activities examined were the Army Materiel Command (AMC), and Air Force Systems Command (AFSC). Because of the disestablishment of the Naval Material Command (NAVMAT) in 1985, no headquarters level review was conducted within the Navy. However, the policy and guidance review at the Navy Secretariat level included a significant amount of policy and guidance that had converted from NAVMAT to SECNAV guidance. Therefore, review within the Navy Secretariat was, in effect, a combined secretariat and headquarters review.

After a thorough search of policy and guidance within AMC, the researcher found that no written policy and guidance pertaining to component breakout exists at this level. According to AMC personnel interviewed, the most likely location for policy and guidance on component breakout would be Army Regulation 70-1, "Systems Acquisition Policy and Procedures." However, there was no mention of the component breakout program within this publication. Additionally, Army Regulation 70-1 included an appendix that listed every system's acquisition regulation pertaining to the Army (both internal and external), and there was no reference to component breakout.

A thorough search of policy and guidance within AFSC uncovered a joint AFSC and AFLC Regulation 800-31 titled

"Government Furnished Equipment/Contractor Furnished Equipment (GFE/CFE) Selection Process, GFE Acquisition, and GFE Management." However, this instruction does not exclusively address the component breakout program. Within the context of AFSC/AFLC 800-31, GFE is considered any item of government owned material, property or other asset provided to a contractor for a specific purpose.

Component breakout is specifically referred to in several places within AFSC/AFLC 800-31. Upon thorough review, the researcher determined that AFSC/AFLC 800-31 basically restates the DFARS policy on component breakout. However, significant assertions beyond the DFARS were:

- 1) An attached checklist for weighted scoring of the GFE/CFE decision making process. Also included were scoring instructions and scoring summary sheets.
- 2) Reporting responsibilities within the chain of command. Each program office is required to provide an annual component breakout report to their product division (e.g., . Program Office to Aeronautical Systems Division), and each product division is required to submit an annual component breakout report to AFSC. This reporting requirement is aimed at ensuring that the component breakout reviews have been performed in accordance with the DFARS requirement. A standard format for the required report was also provided.

Although AFSC/AFLC 800-31 is lengthy, it is provided as Appendix F for the reader's review and evaluation.

##### 5. Individual Service Aviation Systems Command Level

After a thorough search of the policy and guidance within the Air Forces' Aeronautical Systems Division (ASD), the researcher found no written policy and guidance

pertaining to component breakout at that level. However, most of the ASD personnel contacted were aware that component breakout policy was contained in AFSC/AFLC 800-31.

After a thorough search of policy and guidance within the Army's Aviation Systems Command (AVSCOM), the researcher found no written policy and guidance pertaining to component breakout at that level. The majority of AVSCOM personnel contacted were familiar with the program, however, were not familiar with the sources of component breakout policy and guidance.

The Naval Air Systems Command, on the other hand, has a comprehensive instruction, NAVAIRINST 4200.5C, titled "Policy and Procedures Governing the Component Breakout Program" that is in the final approval process.

NAVAIRINST 4200.5C will be a major revision to NAVAIRINST 4200.5B (same title) dated 18 July 1985. NAVAIRINST 4200.5C restates general component breakout guidance contained in the DFARS, and expands the guidance significantly, as follows:

- 1) Appoints the Assistant Commander for Engineering as the component breakout advocate.
- 2) Adds an additional element to the general policy guidelines in the DFARS which states NAVAIR must have the resources to efficiently manage resultant GFE before a component can be broken out.
- 3) Establishes the Director of Production Management Division within the Systems and Engineering Directorate as the functional manager and focal point for the component breakout program.

- 4) Assigns specific responsibilities for the purpose of review and analysis of component breakout candidates.
- 5) Establishes procedures whereby component breakout candidates must be reviewed and approved/disapproved by the Flag-level Acquisition Operations Council (AOC) chaired by the Deputy Commander for Acquisition and Operations. The AOC is the command level staff entity responsible for final component breakout decisions, and the AOC bases these decisions on feasibility studies and the recommendations of the acquisition manager (i.e., program manager).
- 6) Provides a component breakout sequence of event (milestone) chart that sets forth specific responsibilities and time lines for component breakout from inception to execution.
- 7) Provides a cost model.
- 8) Provides six feasibility assessment questionnaires for gathering information necessary to conduct a component breakout study. These questionnaires assess the following areas: prime contractor's production; prime contractor engineering; cost analysis; NAVAIR engineering; NAVAIR logistics; and component drawing status.

NAVAIRINST 4200.5C is structured to provide command level visibility and priority to the component breakout program. This (draft) instruction is provided in its entirety as Appendix G.

#### E. ADVOCACY AND OVERSIGHT

During the course of conducting interviews, the researcher observed that the advocacy and oversight base for the component breakout program was fragmented. Advocacy and oversight was observed occurring in three areas: the Service Competition Advocate Generals (CAG), the Department

of Defense Inspector General and Individual Service Audit Agencies, and the Systems Commands.

Service CAG's provide general advocacy to the concept of component breakout. However, none had assumed a proactive advocacy or oversight role in this area. When questioned about this, the Air Force CAG observed that components that are broken out from major systems are almost exclusively procured from the original equipment manufacturer (OEM) on a sole source basis. However, he did observe that competition can become an issue subsequent to component breakout if an adequate data package exists and there is also an adequate supplier base. The only direct Service CAG involvement in the component breakout program was within the Navy. The Navy CAG was recently involved in a case where DOD IG cited the Navy in a September 1989 audit report for disregarding previous audit recommendations in a February 1987 report to perform an extensive component breakout on the Harpoon Missile system. In this case, DOD IG asserted that the Navy CAG should play a more active advocacy and oversight role in the component breakout program. As a result, in late 1989 the Navy CAG commissioned a management consultant to analyze the DOD IG and NAVAIR component breakout cost/benefit analyses (CBA) pertaining to the Harpoon Missile program. NAVAIR's CBA indicated that the proposed breakout would incur a net financial loss, while the DOD IG's CBA showed a net financial gain. The consultant performed a CBA as an

independent third party (or "honest broker") to judge the merits of the opposing CBA's. The result was a CBA that showed a cost savings that was approximately midway between the DOD IG and the NAVAIR positions. As a result of the Navy CAG's involvement in the Harpoon case, that activity has initiated a revision to SECNAVINST 4210.10 titled "Competition in Acquisition" that will outline review and oversight responsibility for the component breakout program within the Navy.

Of those acquisition personnel interviewed, this researcher found the strongest advocacy and oversight for the component breakout program was within the DOD IG. There is currently a major DOD IG audit effort underway that, as of this writing, is in the draft stage (project no. 9AP-0044), and summarizes DOD mismanagement of the component breakout program and provides recommendations for corrective action. According to DOD IG audit personnel, the final report should be published in August of 1990. However, the researcher has obtained a draft copy of this report for use as research data. The general thrust of the DOD IG (draft) audit recommendations is that policy and guidance pertaining to component breakout should be clarified and augmented, and advocacy and oversight within the DOD and the individual Services should be increased significantly. A draft copy of the DOD IG's recommendations for corrective action

(excluding recommendations that cite specific programs) is attached as Appendix H.

The final area of advocacy and oversight was within the individual systems command. However, each systems command had a different functional area that was responsible for this function.

As cited previously, NAVAIR had assigned the Director of Production Management within the Systems Engineering Directorate as the component breakout focal point. Furthermore, NAVAIR assigned specific responsibilities pertaining to the component breakout program throughout the entire organization. As a result of the NAVAIR advocacy, review, and oversight structure, the component breakout program was afforded significant command level visibility.

At the Army's Aviation Systems Command (AVSCOM), the initial inquiry regarding component breakout was to that activity's CAG. The CAG stated that the focal point for component breakout at AVSCOM was the Competition Engineering Division within the CAG function. When contacted and interviewed, the Director of the Competition Engineering Division stated that his organization dealt mainly with spare parts breakout. However, component breakout was occasionally examined.

At the Air Forces' Aeronautical Systems Division (ASD), the initial inquiry regarding component breakout was to that activity's CAG. The CAG stated that the focal point

for component breakout at ASD was the resident Small Business Administration (SBA) representative. When contacted and interviewed, the SBA representative stated that he was the sole advocate for the component breakout program at ASD. In this capacity, the SBA representative used an Air University research paper on component breakout as his primary desktop reference on the program.

Within the scope of this research, this researcher observed that the individuals and functional organizations described above comprise the primary advocacy and oversight base for component breakout program within DOD, with the DOD IG fulfilling the primary oversight role.

#### F. INTERVIEW SUMMARY

##### 1. Introduction

In this section the researcher classified the interviewees into three groups, and then summarized each group's views on component breakout policy and guidance within the framework of the interview format.

The first group was designated the advocate/oversight group. This group included DOD IG, the individual SYSCOM focal points and the DOD Program Manager for the Spares Breakout Program. Although the Spares Breakout PM is not involved directly in component breakout decisions, he had provided advisory services to DOD IG pertaining to component breakout audits. Additionally, this researcher



wanted to get an advocacy perspective from the manager of (what is considered by many to be) a successful advocacy program.

The second group was designated the policy-making group. This group includes interviewees from the USD(A) organization, the Service CAG's, the Army Materiel Command (AMC) and Air Force Systems Command (AFSC). The Service CAG's were included in this group because no individual Service policy and guidance exists on the component breakout program, and the Service CAG's are the likely candidates to formulate such policy and guidance should it be forthcoming. DOD IG focus on the Navy CAG as the focal point for the Harpoon audit supports this finding. Furthermore, the Service CAG's were not included in the advocacy/oversight group because they are not currently fulfilling that function.

The third group was designated the program management group. This group of interviewees included program managers of the following major weapons systems: Joint Cruise Missile Program, A-6 Program (Navy), F-15 Program (Air Force) and Blackhawk Helicopter Program (Army). The Business/Financial Manager (BFM) of the Harpoon Missile Program was also included in this group due to his recent experience with the DOD IG regarding a component breakout audit. Additionally, a Senior Executive Service (SES) Program Analyst working in the USD(A) organization was also

included in this group because of significant prior experience with component breakout.

This section will conclude with a summary that will compare and contrast the various views on component breakout, and discuss areas where a consensus of opinion exists.

2. The Advocacy/Oversight Group Perspective

All interviewees within this group stated that current policy and guidance on component breakout was inadequate. However, only DOD IG was in favor of additional guidance and increased reporting requirements. The other respondents cited the DMR regulatory reduction effort as a barrier to increasing administrative and reporting requirements associated with component breakout. Some respondents cited current policy and guidance as inadequate because they believed that the DFARS guidance has poor visibility at the program management level.

The issue of standardization was discussed and there was a general consensus that component breakout policy within DOD should be standardized. However, many respondents pointed out that the DFARS is standard defense guidance. After further discussion, most respondents questioned whether the DFARS was the appropriate standard regulatory vehicle for component breakout policy and guidance. This led to further discussions that another policy vehicle such as DODINST 5000.1 (or some other DOD

instruction or notice) may be more appropriate in lieu of the DFARS. With the exception of NAVAIR, personnel contacted and interviewed at the SYSCOM level were not thoroughly familiar with the DFARS regulation.

All respondents agreed that the Program Manager (PM) should make the component breakout decision, however, DOD IG personnel stated that the PM should be provided with much greater oversight and forced to approve component breakout if the situation warrants this action. The interviewer interpreted this to mean that the PM should be forced to comply with the component breakout recommendations of DOD IG audit reports. The data gathered in DOD IG draft audit report (discussed earlier) supports the position that DOD IG is unhappy with DOD compliance with audit recommendations.

All respondents in this group agreed that an independent cost/benefit analysis (CBA) to resolve differences between DOD IG calculations and Program Office calculations should only be performed in extreme cases (e.g., Harpoon case). The general consensus was that these types of disagreements should be handled between DOD IG and the Program Manager's chain of command. Furthermore, most respondents stated that the Program Executive Officer (PEO), Service Acquisition Executive (SAE) or Defense Acquisition Executive (SAE) should have the power to override the PM's component breakout decision. DOD IG added the individual Service CAG's to the above list to hold override authority.

At NAVAIR, the Acquisition Operations Council (described earlier) must approve all component breakout decisions by the PM. However, this structure was set up to ensure NAVAIR has adequate resources to manage the CFE being considered for conversion to GFE, not to force a PM decision.

The Spares breakout PM added a different perspective to the component breakout program. He attributed much of the success of the spares breakout program to the advocacy functions of communication and marketing, and he stated that these functions could be applied to the component breakout program. He defined the advocacy role as that of a marketer. Information advocating the program should reach all personnel involved in the component breakout process and be presented in a non-threatening manner. He claimed that there is a big difference between selling a program and forcing a program. This interviewee concluded that an audit report is not the appropriate media to sell a program.

### 3. The Policy Maker's Perspective

The respondents within this group included the: 1) Director of Defense Systems Procurement Policy within the office of USD(A), 2) the individual Service CAG's, and 3) policy chiefs at AFSC and AMC. These interviews will be summarized below within these three sub-groups.

The senior defense acquisition policy official interviewed was the Director of Defense Systems Procurement Strategy. He stated that current policy and guidance on

component breakout is adequate, and that Program Managers know what the policy is. Furthermore, he cited that current efforts within his office and DOD to reduce written policy and guidance would act as a barrier to increased guidance in this area. In fact, there is a considerable base of policy and guidance competing to remain in or be added to the DOD regulatory body, and this respondent postulated that current initiatives within the DOD (TQM and DMR) do not serve to place the component breakout program as a high priority in the regulatory process.

The researcher posed the issue of standardization of component breakout, and the respondent stated that the DFARS regulation is a standard DOD regulation. When the researcher suggested that another standard regulatory vehicle might be used, such as DODINST 5000.1 or the DAB review, the respondent replied that component breakout is just one of a multitude of programs and special interest items competing for inclusion in such vehicles as DODINST 5000.1 or a DAB review. He further stated that inclusion of component breakout policy in these vehicles was unlikely.

The respondent stated that component breakout should be considered as part of a PM's acquisition strategy and only performed when it makes good sense. He stated that his experience is that DOD does not adequately consider problems associated with the management of GFE, and that there are

far too many cases where the government experiences serious problems in GFE management.

The respondent agreed that the PM should make the component breakout decision. However, guidance from the PM's chain of command is appropriate (PEO-SAE-DAE). Furthermore, once a component breakout decision is made, the organization that is responsible for managing the ensuing GFE should either staff-up to appropriately manage the GFE, or abandon the decision. The respondent stressed that managing GFE for a complex weapons system is a difficult task.

When the researcher presented the problems experienced in the CBA process for component breakout, the respondent replied that DOD IG should resolve these differences with the PM, and the PM's chain of command. The respondent did not advocate an independent cost estimate, or a standard CBA format or model for component breakout. He further stated that component breakout cases are generally unique and situational, and involve the non-quantifiable exercise of judgment. The interview was concluded with the respondent stating that DOD should keep the current policy and let the system work.

The next sub-group interviewed within this category was the individual Service CAG's.

All of the respondents within this sub-group agreed that there should be no additional guidance. On the issue

of adequacy, there was general agreement that the guidance was adequate, although it may be inappropriately positioned. The Air Force CAG observed that the DFAR is perceived as a contracting regulation and component breakout is a program management issue, and that there are other regulatory vehicles, such as DODINST 5000.1 or a DAB review, that PM's are much more familiar with.

All respondents agreed that component breakout policy was standardized in regulation (DFARS), but not in implementation within the individual Services. All CAG's cited component breakout as a required entry in a program's acquisition plan (required by FAR), and cited it as a legitimate consideration in a PM's acquisition strategy. There was no general agreement on an alternate standard DOD regulatory vehicle for component breakout policy. The Army's CAG stated the visibility of the component breakout program could be increased tremendously by including it as an agenda item in the DAB review process. The Air Force CAG added that the DAB does examine component breakout in some cases, although it is not an official agenda item in a DAB review.

All Service CAG's agreed that the PM should make component breakout decisions, with oversight and intervention provided by the PM's chain of command, and less authority in the hands of advocacy and oversight groups.

All respondents agreed that independent cost estimates should not be required in conflicts between the DOD IG and Program Managers regarding cost estimating procedures, and that these types of conflicts should be handled by the normal chain of command. The Navy's CAG (acting) stated that current acquisition initiatives (TQM, DMR) are shifting buyer emphasis away from cost and towards "best value," where cost may not be the most important factor to consider in a weapon's system or component procurement.

The interviews within this sub-group concluded with all respondents agreeing that component breakout guidance should remain in the DFARS. However, further examination to find a more appropriate regulatory vehicle is warranted.

The next sub-group interviewed within this category was the policy Chiefs at the Army and Air Force Headquarters level (AMC and AFSC, respectively). Within AMC, the heads of both the Acquisition Policy Division and Contract Policy Division were interviewed. At AFSC, the chief of the Acquisition Policy Division was interviewed. Both of the acquisition policy chiefs were engineers, and the contract policy chief had a contracting background. All respondents were familiar with the component breakout program. However, none of them considered it a priority program at their activity or within their functional area. Furthermore, the Army respondents claimed that component breakout



policy and guidance had shifted from the cognizance of AMC to the individual product division some years ago.

All respondents agreed that there should be no additional guidance on component breakout. Additionally, they agreed that if the current guidance is modified, it should not be made more binding or restrictive to program management personnel. If incorporated into headquarters level guidance, the Army respondents stated that the proper place for component breakout policy and guidance would be in Army Regulation 70-1 titled "Systems Acquisition Policy and Procedures." The joint review of this regulation by the researcher and AMC's Acquisition Policy Chief revealed that there was no mention of component breakout within Army Regulation 70-1 with the Acquisition Policy Chief concluding that it should be listed as an element of acquisition strategy. Another point made by one of the respondents was that the current policy and guidance on component breakout is flexible and not stringently enforced, and that the policy should continue to retain this characteristic to provide PM's with maximum flexibility.

All interviewees concluded that although the DFARS is a standard DOD regulatory vehicle, there may be a more appropriate standard regulatory vehicle for this guidance, since component breakout is a program management issue, not a contracting issue. Both Acquisition Policy Chiefs had primary responsibility at their activities for proposing

changes to a major revision to DODINST 5000.1 (in process as of this writing), and both stated that it may be a better place for component breakout policy than the DFARS. However, they cited competing policy and guidance as a barrier to inclusion in this medium. With the rewrite of 5000.1 well underway, the respondents concluded that it was unlikely that component breakout will represent a high enough priority for incorporation into DODINST 5000.1.

All respondents agreed that the Program Manager should make component breakout decisions with oversight provided by the chain of command (PEO-SAE-DAE). All also agreed that conflicts between the auditors and PM's should be resolved within the chain of command, without the intervention of independent third parties. The Air Force respondent noted that the government must be wary when making component breakout decisions, because a contractor can use the program for shedding the risk and responsibility associated with a particular component. The respondent stated that the potential for a contractor to use component breakout to its advantage should be examined as part of the component breakout review process.

The interviews within this sub-group concluded with a general consensus that component breakout policy, guidance, oversight and enforcement should remain the same.

#### 4. The Program Manager's Perspective

This group includes one joint program manager, and one program manager from each of the three Services. Within this sub-group, the Business Financial Manager (BFM) of the Harpoon Missile was included because of that system's recent experience with component breakout. Additionally, a Senior Executive Service (SES) Program Analyst within the USD(A) organization was also interviewed because of significant prior experience regarding component breakout. When PM perspectives are discussed below, the opinions of the Harpoon BFM and SES program analyst will be included as part of the PM perspective.

PM's responded unanimously that there should be no additional guidance on component breakout. All respondents were thoroughly familiar with the requirements of the program, and felt additional guidance was not needed. One PM stated that further guidance, particularly if restrictive or binding in nature, would be detrimental. All respondents stressed that additional policy and guidance on component breakout would be contrary to the current DOD initiative to provide regulatory relief to Program Managers. Furthermore, all respondents claimed to have had negative experiences with GFE and were generally opposed to component breakout as an acquisition strategy.

On the opposite side of the spectrum, the Joint Cruise Missile PM had positive experience with break-in on

that program. Back in the mid-1980's a significant percentage of the Cruise Missile was provided to the two prime contractors (General Dynamics and McDonnell-Douglas) as GFE. Then Secretary of Defense (Casper Weinberger) became aware of significant quality, reliability and schedule problems resulting from too much GFE and directed that the responsibility for the end item be consolidated. Subsequently, all GFE was converted to CFE, and the cost of the end item began to decrease dramatically, and the quality, reliability and schedule problems subsided. Since the break-in, the PM claimed that the unit cost of the missile has declined at a rate commensurate with a learning curve below the 70th percentile. When asked what factors would preclude the prime contractors from applying an uncontrolled mark-up to the CFE, the PM replied that competition between the two prime contractors serves to keep the mark-up rate at a fair and reasonable level.

The respondents all agreed that standard DOD guidance on component breakout is desirable, but several noted that the DFARS is standard DOD guidance. All agreed that if the regulatory vehicle was changed from the DFARS to DODINST 5000.1 or the DAB review, that the ensuing policy and guidance should not be restrictive or binding. However, the general consensus was to leave things as they are.

All agreed that component breakout is a Program Manager's decision, however, conceded that it was within the

purview of their chain of command to provide guidance regarding component breakout. The respondents all stated that the audit community should never be the driving force behind component breakout decisions for two reasons. First, cost savings projected by an auditor are highly speculative and cannot be validated until well after the decision point; and second, the auditors have no responsibility or accountability for the outcome of the decision. The view was that if PM's are going to be held accountable for a component breakout decision, then the PM's judgment must override the judgement of an auditor, or any other individual who will hold no accountability for the decision.

None of the PM's felt that an independent cost estimate was necessary for conflicts between audit CBA's and PM CBA's, since the chain of command should solve these types of issues. PM's were quick to point out that many of the risks associated with component breakout are impossible to quantify, and significant non-quantifiable professional judgment is necessary when making component breakout decisions. All PM's interviewed felt that they were competent to make these types of professional judgments.

All PM's agreed that component breakout can make sense in certain circumstances, and did not advocate elimination of the program. When questioned on what motivation a Program Manager would have to make a breakout decision without oversight, one PM replied that declining

budgets provide increased incentive for PM's to implement cost reduction strategies such as component breakout.

#### 5. Common Threads

Certain questions (refer to Appendix D) asked during the interviews received common answers across all respondents, therefore, they were not discussed in the above sections. These questions were:

- 1) At what stages of a weapon systems life cycle should component breakout be considered.
- 2) Once a component is broken out, should there be a review process during breakout execution to monitor/validate actual savings (or loss) against originally projected savings.
- 3) Are you familiar with any cases where breakout has yielded significant validated savings (i.e., validated beyond initial CBA)?

In regard to the first question, the consensus was that component breakout should be considered as an element of Acquisition Strategy early in a weapons system's life cycle. However, the actual breakout should not occur until the design is considered stable, and the system is in production. The most common answer for how long a system should be in production before performing breakout was three years.

On the second question, all respondents agreed that component breakout decisions should be monitored to ensure they yield an actual benefit to government. However, respondents were quick to note that follow-up is unlikely due to personnel shortfalls, and other more immediate

priorities. In this regard, one respondent stated the need for an independent study to examine a statistically significant number of previous component breakout cases, and determine if the program is beneficial. The general conclusion was that follow-up was important. However, this is an area that is unlikely to improve.

On the third question, none of the respondents, except NAVAIR, had ever heard of an attempt to validate savings subsequent to a breakout decision. However, NAVAIR (Production Management Division) did keep records on how much a component actually cost as compared with how much the prime contractor was charging. This researcher reviewed a summary sheet that tracked CFE which had transitioned to GFE (over an unspecified period of time), and calculated either a savings or loss resulting from the decision. Although there were many components that incurred losses, the overall savings were significant. However, the researcher did observe a potential flaw in the NAVAIR methodology for calculating savings. The NAVAIR calculation subtracted the actual cost of the GFE component from the projected cost of that component from the prime (inflation adjusted and based on the latest CFE cost) if that component was retained as CFE, to determine the savings or loss. This methodology did not examine the post-breakout prime contract to determine if the reduction in the end item contract is commensurate with the deletion of the CFE. The methodology assumes that the

prime contract price will be reduced by exactly the cost plus mark-up of the CFE.

Of the major issues examined in the preceding sections, there was a general consensus (or common thread) on many issues. With the exception of DOD IG, none of the respondents advocated additional guidance or increased administrative requirements. On the issue of standardization, most respondents cited the DFARS as the standardized guidance. However, many cited a need to examine the guidance for possible realignment onto another standard regulatory vehicle, such as DODINST 5000.1 or the DAB review. All agreed that the PM should make the breakout decision, subject to oversight within his chain of command. However, the DOD IG stated that the Service CAG's should have an overriding authority, while NAVAIR requires approval or disapproval of component breakout candidates by a command level board. All but the DOD IG advocated that differences in cost estimates between DOD IG and Program Offices should be settled by the normal chain of command. The DOD IG stated that the Service CAG's should act as the "honest broker" in disagreements between auditors and Program Managers, and, in this capacity, have the ability to override Program Managers' decisions. Finally, all respondents agreed that the component breakout program should continue, and that it is a legitimate element to be considered as part of an overall acquisition strategy.



## G. SUMMARY

This chapter provided a detailed description of the methodology employed by the researcher. Then pertinent data from the component breakout literature base were presented. Next, DOD guidance pertaining to the component breakout program was presented and discussed, followed by a review of the applicable advocacy and oversight functions within DOD. Finally, interviews conducted by the researcher were summarized.

#### IV. DATA ANALYSIS

##### A. INTRODUCTION

The following sections will examine the data gathered through the various media (i.e., literature, written policy and guidance, and interviews), and relate these data to specific areas of concern in the DOD component breakout program. First, the adequacy and standardization of component breakout policy and guidance and the component breakout decision making process will be examined. Next, the process of evaluating the costs and benefits of component breakout will be discussed. Finally, adherence to current policy and guidance, advocacy and enforcement functions and the current acquisition environment will be analyzed. The chapter will close with a brief summary of the analysis.

##### B. ADEQUACY AND STANDARDIZATION OF COMPONENT BREAKOUT POLICY AND GUIDANCE

The literature base generally pointed to an inadequacy in component breakout policy and guidance in areas such as providing criteria for performing cost/benefit analyses, lack of uniformity among the Services, and ineffective oversight. Many audit and research reports concluded that there was a critical need for uniformity among the Services regarding the component breakout program, which should

include detailed implementation and execution instructions. Therefore, the literature base indicated that DOD policy and guidance should be expanded and/or increased to provide better details on how to evaluate, decide and implement component breakout.

The written policy and guidance at the various DOD levels was fragmented. It did not flow down from the DFAR to the System's command in a uniform manner. Here, adequacy is subject to the opinion of the reader. The DFARS does contain an explanation of the component breakout program, including a definition of the program, criteria for consideration and specific requirements for acquisition managers to perform reviews and document the program. If adequacy is interpreted to mean that the DFARS guidance should be restated and/or expanded (in writing) at each level of the chain of command, then the reader may consider the policy and guidance to be inadequate. The only written policy and guidance that was found below the DFARS level (AFSC and NAVAIR) did restate and expand on DFARS guidance. In this regard, component breakout policy and guidance may be considered as standard within DOD. The DFARS is a regulatory vehicle that all DOD acquisition managers are required to comply with.

All interview respondents, with the exception of the DOD IG, considered current component breakout policy and guidance to be adequate. However, adequacy was viewed in

two ways. First, adequacy was discussed from the viewpoint of whether there should be additional guidance with an associated increase in administrative requirements. The overwhelming response from this perspective was no (except the DOD IG). The second view was whether the current policy and guidance was adequate from the standpoint of visibility to acquisition personnel. Although many respondents claimed adequate visibility existed, there was a substantial number of respondents that agreed that there may be a more appropriate regulatory vehicle for the component breakout program than the DFARS, such as DODINST 5000.1 or the DAB review. Many program management personnel perceived the DFARS to be a contracting regulation rather than a system's acquisition management regulation, and, in this regard, some were not very familiar with the specific component breakout guidance in the DFARS. When formulation of more specific, standard guidance for component breakout was discussed, most respondents claimed that component breakout cases are highly situational, and not conducive to standard implementation procedures across all cases.

#### C. THE COMPONENT BREAKOUT DECISION MAKING PROCESS

Much of the component breakout literature examined factors that affect the component breakout decision making process. In a major 1980 research effort [Ref. 12], a Navy researcher presented a comprehensive model for use in the

component breakout decision making process. This model was composed of certain quantitative and qualitative judgments that must be made prior to the decision point. Although other motives are cited in the literature base (Ex. increased quality, mobilization, etc.), there is a general agreement that cost savings are the primary reason to make a decision in favor of component breakout. Much literature addresses the quantification of financial data necessary to judge the merits of component breakout; other literature addresses the qualitative judgements that must be made to support a component breakout decision; while some literature, such as the aforementioned research producing the decision model, postulates that component breakout decisions are contingent upon both quantitative and qualitative judgment. A considerable amount of literature discusses the need to financially quantify the qualitative factors, however, no methods to do so were found in the literature base.

The DFARS regulation mandates a review and documentation process for the component breakout program within DOD. It provides no insight on how to perform a financial analysis to determine whether component breakout is appropriate. The only quantitative considerations discussed in the DFARS regulation are that the potential for substantial cost savings must be present, and that component breakout candidates should have an annual procurement cost of at

least one million dollars. The DFARS guidance leaves it up to the acquisition managers to formulate the financial justification leading to claims of substantial cost savings. The major portion of the DFARS guidance addresses 12 questions that should be answered prior to making a decision. Of these 12 questions, only one is related to cost savings, and all 12 involve qualitative judgment by an acquisition manager, thus stressing the importance of qualitative analysis in the component breakout decision making process. Therefore, the DFAR guidance clearly provides a specific framework, or model, for use by acquisition managers in the component breakout decision making process that requires both qualitative and quantitative judgment.

The Air Force guidance on component breakout (AFSC/AFLC 800-31) does not expand significantly on the DFARS guidance.

However, the proposed NAVAIR guidance (NAVAIRINST 4200.5C) expands significantly on the DFARS guidance. NAVAIRINST 4200.5C contains multiple questionnaires that stress qualitative judgments that must be made. Furthermore, the NAVAIR guidance provides a cost model for estimating savings. Because of the significant expansion over the DFARS guidance, the NAVAIR component breakout review program is much more complex, and requires significantly greater administrative effort than the program outlined in the DFARS. Whether the NAVAIR expansion of DFARS guidance

provides a better framework for an acquisition decision is a qualitative judgment.

During the interview phase of this research, it became evident that acquisition managers felt that they were knowledgeable on the subject of component breakout, and fully qualified to make breakout decisions. They claimed that a large part of their job involved evaluating advantages and disadvantages in given circumstances where decisions must be made, and that component breakout fits this generic decision model. Program Managers were generally opposed to component breakout due to bad past experience with government management of GFE. Many of the other respondents also had previous unfavorable experience with GFE, and advocated the use of caution when considering the conversion of CFE to GFE. Although acquisition personnel agreed that there were circumstances in which component breakout makes sense, the researcher could find no evidence of program management personnel independently determining a component should be broken out. Most of the component breakout cases discussed were related to audits and audit reports.

The DOD IG is the most active audit agency on matters relating to component breakout. It focuses attention on component breakout in an attempt to force Program Managers to actively consider the program. The data suggest that the DOD IG is a driving force in the component breakout decision

making process. Their audit reports focus on easily quantifiable costs, such as total mark-up eliminated if breakout occurs, and downplays qualitative judgments, such as anticipated problems with the management of GFE. A typical component breakout case is where the DOD IG performs an analysis in favor of component breakout and a Program Manager performs an analysis that opposes component breakout. Subsequently, a conflict between the DOD IG and the Program Manager (and PM's chain of command) ensues, and (as a general rule) the Program Manager's judgment ultimately takes precedence over the DOD IG audit recommendations. This outcome was generally supported by those interviewed, primarily because most respondents agreed that final decision authority should rest with acquisition personnel who are accountable for the results of the decision.

The component breakout decision making process involves a mix of quantitative and qualitative judgments. Written policy and guidance indicates that cost savings are just one factor, among many, to consider when making a component breakout decision, and are not necessarily the most important factor. The literature base and interviews also confirmed the importance of qualitative analysis and judgement in the decision process. This emphasis on qualitative analysis is where problems arise when performing component breakout cost benefit analyses.



#### D. COSTS VERSUS BENEFITS

The gross benefits accruing from a component breakout decision are generally quantified in relatively simplistic terms. The standard procedure is to multiply the prime contractor "mark-up" on a component by the number of components that will be required for production to yield a (non-inflation adjusted) cost savings figure. This equation assumes that the prime contractor will reduce the contract by exactly the value of the component plus "mark-up." This assumption was made in every component breakout case examined during this research. However, this is an extremely simplistic view of a contractor's cost accounting system.

Although it is beyond the scope of this research effort to analyze the various contractor cost accounting systems, the reader should recognize the complexities involved when a contractor no longer receives "mark-up" on a component. Often, a contractor applies "mark-up" to an overhead pool, which is intended to cover fixed and variable overhead expenses. The simplistic model presented in the preceding paragraph assumes that the contractor will no longer have a need for the dollars associated with the "mark-up" on a component once a component is broken out. Furthermore (in this scenario), the model asserts that all overhead expenses are variable and will decrease by exactly the amount of the "mark-up." However, if overhead does not decrease

proportionally with the lost "mark-up," a contractor will likely modify its overhead scheme to make up the difference (i.e., apply a higher overhead rate to a lesser base), hence the government may save only a portion (if any) of the "mark-up." The way a contractor treats overhead and "mark-up" will vary depending on the cost accounting system employed. The major point here is that a component breakout cost/benefit analysis should consider where "mark-up" goes in relation to a contractor's cost accounting system. Only then can the benefits be properly computed.

NAVAIR's production management personnel computed component breakout savings and losses by comparing the cost of a component (with "mark-up") from a prime contractor as compared with the cost of the component from the component manufacturer once breakout occurs. However, NAVAIR did agree that prime contractors may attempt to make up the lost "mark-up" in other areas of the contract during negotiations, although this was not factored into their cost/benefit analysis process.

Costs resulting from converting CFE to GFE are very difficult to quantify, particularly when responding to an audit report. Audit reports routinely refer to government management costs, and other offsetting costs (see Appendix E) cited by program management personnel as invalid, with no basis for support. Certain offsetting costs, such as late and/or defective GFE, were not considered in either program

management or DOD IG cost/benefit analyses. Furthermore, all audit reports reviewed focused on quantifiable costs and benefits, and gave little or no priority to the qualitative characteristics of the component breakout regulation in the DFARS. For instance, a Program Manager may make a qualitative judgment that component breakout would jeopardize an end-item's delivery schedule because of excessive procurement administrative lead-time (PALT). If the delivery schedule was considered critical to program success, then the Program Manager may consider this a significant enough risk to disapprove a component breakout. This scenario would be in compliance with the guidance in the DFARS regulation. However, it has no quantitative basis. The problem with qualitative judgments of this type are that they are difficult (or impossible) to quantify, and difficult to support when responding to an audit. Estimating the value of the 34 offsetting costs (Appendix E) discussed earlier involves significant speculation and qualitative judgment. However, these offsetting costs all have the potential to affect actual cost, and should receive some type of consideration in the component breakout decision making process.

Another significant factor in the cost/benefit equation is the value, or worth, of component management. In discussions with the DOD IG, the researcher posed the concept that if a component is retained as CFE, there is

some level of mark-up that is appropriate for the government to pay the prime contractor to continue managing a component as CFE. A recent DOD IG audit of the Harpoon Missile stated that the prime contractor was using 15% as the "mark-up" rate for several components. Therefore, the auditors used this 15% rate to calculate cost savings that could be achieved if these components were broken out. When asked if some level of mark-up by the prime contractor could preclude breakout in this case, the senior audit personnel being interviewed made a qualitative judgment that an 8% mark-up may be acceptable. If this methodology was applied to their Harpoon missile audit report [Ref. 13], the potential cost savings reported by the DOD IG would have been reduced from \$32,490,604 to \$17,103,628. A large number of the respondents agreed that there is some level of prime contractor mark-up that is reasonable, and that a reasonable mark-up can probably be negotiated with the prime contractor.

To the extent that component breakout decisions attempt to predict the future, they represent a gamble, or calculated risk. There is significant debate between the DOD IG and the Services regarding who is most qualified to calculate the value of this risk.

#### E. ADHERENCE TO CURRENT POLICY AND GUIDANCE

Audits published by the DOD IG have routinely cited the Services for non-compliance with the component breakout regulation. This is perceived as such a significant problem by the DOD IG that they are currently preparing an audit report (discussed earlier) that summarizes serious deficiencies within the DOD component breakout program, and criticizes all the Services for cost savings that have been lost due to non-compliance with audit recommendations. Although the DOD IG agrees that component breakout decisions should be made by Program Managers, they are not satisfied that Program Managers are making these decisions in the best interest of the taxpayers.

Written policy and guidance sets forth specific administrative requirements associated with the component breakout program. This guidance calls for formal reviews, sets a dollar threshold and establishes decision criteria and requires acquisition managers to document reviews and maintain records. With the exception of NAVAIR, this researcher could find no evidence that these administrative requirements were being complied with. In fact, some acquisition personnel cited the lack of enforcement of these administrative requirements as a desirable characteristic of current policy and guidance. The general consensus among acquisition managers was that component breakout policy and guidance should not be binding, or represent undue

administrative burden. They viewed the component breakout program as a tool available for their use should they choose to use it. DOD IG had a considerably different view on this subject.

DOD IG audit findings that cite non-compliance with DFARS guidance on the component breakout program appear to be legitimate. However, their audit reports tend to focus solely on an unrealistically limited cost benefit analysis process, and do not address compliance issues relating to the qualitative judgments called for in the DFARS guidance. The DOD IG attempts to financially quantify the entire component breakout decision making process, which is beyond the scope of the DFARS regulation. Many acquisition managers agreed that decisions against component breakout were largely qualitative in nature. However, none of those interviewed considered these qualitative judgments within the specific framework provided by the DFARS. This is unfortunate because the DFARS provides significant flexibility for acquisition managers to base component breakout decisions on qualitative analysis.

#### F. ADVOCACY, OVERSIGHT AND ENFORCEMENT

The data suggest that the advocacy base for the component breakout program is weak and fragmented. Each aviation systems command studied had a different functional area designated to perform the advocacy function. In the

case of the Air Forces' Aeronautical Systems Division, the designated component breakout advocate was a member of a different government agency (SBA). Competition advocates at the Systems commands were involved extensively in spare parts breakout. However, component breakout was normally considered a programmatic issue.

The Service level CAG's had little involvement in the component breakout program, largely because when breakout decisions are made components are generally procured (at least initially) from the original equipment manufacturer (OEM) on a sole source basis. However, the Deputy CAG of the Navy did state that there have been cases where components have been competed "up-front." Furthermore, if a component is procured from an OEM on a sole source basis, competition may be achieved downstream if the government possesses or obtains an adequate data package. However, competitive procurement of GFE components that must meet a production schedule drew strong criticism from Program Managers since they perceive this action as significantly increasing quality, reliability, technical and schedule risk.

Of the three Service CAG's, only the Navy CAG had recent experience with the component breakout program. This involvement resulted from negotiations with the DOD IG regarding the Harpoon missile breakout case. The Navy CAG served as the focal point between the DOD IG and the

Assistant Secretary of the Navy, Shipbuilding and Logistics (ASN S&L) regarding the Harpoon audit recommendations. As a result of the Navy CAG and DOD IG liaison on the Harpoon case, the DOD IG is recommending in their current audit report that the Service CAG's serve as the advocate and focal point for the component breakout program within their respective Services. In this regard, the Navy CAG is outlining component breakout oversight responsibilities in a revision to Navy competition regulations. The Army and Air Force CAG's were not aware of any involvement within their organizations regarding the component breakout program. However, current DOD IG initiatives have the potential to change this. The DOD IG's goal in this area is to establish high level advocacy for the component breakout program within the individual Services because the only significant advocacy that currently exists is limited to the DOD IG and NAVAIR.

The only cohesive oversight and enforcement pertaining to the component breakout program comes from the DOD IG. The data suggest that the component breakout decision making process is reactive rather than proactive. The researcher could find no evidence that acquisition managers (other than the NAVAIR production management group) were actively seeking component breakout opportunities. Program emphasis on component breakout normally resulted from DOD IG audit reports and recommendations. In the Harpoon case (still



pending), the DOD IG is attempting to enforce audit recommendations calling for the breakout of several components. The DOD IG has expended considerable resources on component breakout audits, and these audits represent the bulk of oversight and enforcement activity within the DOD for the component breakout program. The DOD IG's strong emphasis on the component breakout program is the primary impetus behind the current draft audit report being prepared that cites DOD and the Services for ineffective management of the component breakout program. Among the interview respondents, DOD IG personnel were the only respondents that perceived a major problem with the component breakout program, and, with the exception of the DOD IG, and NAVAIR to some extent, the data indicate that there is a general absence of advocacy, oversight and enforcement for the component breakout program.

G. COMPONENT BREAKOUT IN THE CURRENT ACQUISITION ENVIRONMENT

Initiatives within the DOD IG to enhance oversight and enforcement in the component breakout program are contrary to the Defense Management Review (DMR) initiative to reduce regulatory guidance within DOD. The DOD IG is advocating increased oversight action which will involve expanding regulatory guidance, thus increasing the administrative requirements associated with the component breakout program. Furthermore, another DMR recommendation is to place greater

acquisition authority in the hands of the Program Managers, and the program management chain of command (PEO-SAE-DAE). An increase in control over the component breakout decision making process would serve to diminish the decision authority of Program Managers. A fundamental precept of increasing a Program Manager's decision authority is to make Program Managers more accountable for their decisions. Increased guidance and more controls in the component breakout program would dilute a Program Manager's accountability, particularly if breakout decisions were made because of pressure from the audit community. Another recommendation of the DMR that may impact the component breakout program is the reduction of power and influence within advocacy and audit functions--again, a concept that is contrary to the DOD IG position on component breakout. A major finding of the DMR was that excessive policy and guidance within DOD, and the associated administrative requirements, unduly bind Program Managers and preclude them from effectively doing their jobs. The above recommendations were aimed at providing relief to Program Managers, and current DOD IG efforts are contrary to these recommendations. Once the draft audit report that the DOD IG is working on is published, the policy and guidance inconsistencies discussed above are likely to be the subject of considerable debate between the USD(A) organization and the DOD IG.

Total Quality Management (TQM) is another major initiative within the DOD that is likely to have a significant effect on the component breakout program. If DOD is to hold prime contractors responsible for the total quality of end items produced, then consideration should be given to making contractors responsible for the quality of all material incorporated into the end item. GFE serves to dilute a prime contractor's responsibility for the total quality of an end item. Furthermore, TQM calls for contractors to develop long-term relationships with a limited number of very reliable suppliers. Component breakout can result in the severance of long-term relationships between prime contractors and subcontractors. Although component breakout appears to be inconsistent with the concept of TQM, the researcher can find no evidence that the relationship between component breakout and TQM has been addressed by acquisition personnel involved in the TQM initiative.

There seems to be widespread agreement within DOD that acquisition managers face an undue amount of regulatory guidance in the performance of their jobs. Prior to expansion of component breakout guidance, considerable thought must be given to this issue, and to whether Program Managers possess the resources to perform the additional administrative workload associated with more restrictive or binding guidance.

## H. SUMMARY

The preceding sections of this chapter examined component breakout from a number of different perspectives. First, adequacy and standardization issues relating to component breakout policy and guidance were analyzed. Next, the component breakout decision making process was examined, followed by a discussion of how costs and benefits are weighed in the decision process. Then subsequent sections dealt with adherence to current guidance, and the functions of advocacy, oversight and enforcement. The chapter concluded by relating the component breakout program to current initiatives within the DOD that are aimed at improving acquisition management.

## V. CONCLUSIONS AND RECOMMENDATIONS

### A. INTRODUCTION

The following sections will provide the conclusions and recommendations resulting from this research effort. First, eight significant conclusions were drawn from the analysis of component breakout data. Finally, seven recommendations were provided to suggest improvements to the component breakout program within DOD.

### B. CONCLUSIONS

#### 1. Current Component Breakout Policy and Guidance within DOD is Adequate

This is not to say that the policy and guidance cannot improve. However, it is adequate from the standpoint of intensity and volume. It has long been recognized within (and outside) DOD that the sheer volume of regulatory guidance is excessive. With this in mind, it is difficult to justify issuance of additional guidance, or modification of current guidance making it more restrictive or binding on acquisition managers.

Adequacy of guidance can also be viewed from the various organizational levels examined in this study. With the exception of NAVAIR, adequate guidance was lacking at each level below the DOD level. However, this researcher considered the guidance at the DOD level (DFARS) adequate.

Therefore, the adequacy of the DFARS guidance extends to each level within each Service. Although it is common practice, it should be unnecessary to restate, or amplify, guidance as it is promulgated down the chain of command.

A major goal of policy and guidance is to provide a manager with a framework within which judgment can be exercised to achieve organizational objectives. The DFARS regulation clearly states the goals of the component breakout program, provides evaluatory factors and required procedures to follow, and provides an acquisition manager with the latitude to exercise a certain degree of discretionary judgment. The literature base points to a need to provide acquisition managers with detailed, step-by-step instructions on how to perform a component breakout review and analysis, thus further restricting the discretionary judgment of the acquisition manager. Because of the intense screening process to become a Program Manager, and consequently, the high caliber of personnel selected to be Program Managers within DOD, this researcher considers that further restriction of a Program Manager's discretionary judgment is neither necessary nor desirable.

2. Current Component Breakout Policy and Guidance is Standardized at the DOD Level

Much of the literature base points to the need for a standard component breakout decision making process across all Services. However, the literature has failed to

consider that the DFARS regulation can serve as the inter-service regulatory vehicle without the issuance of individual Service policy and guidance. Generally, the need for standardized guidance is examined hand-in-hand with the need for more detailed (adequate) guidance. The current DFARS regulation sets forth DOD policy and guidance on the component breakout program. Therefore, that regulation is appropriate for use by all Services as a standard regulatory vehicle to achieve DOD goals in this area.

Although the research supported the idea that component breakout policy and guidance was fragmented and/or non-existent at various Service levels, this does not necessarily dictate the need for standard Service level guidance between the Services. If standard DOD level guidance achieves its goal, the reissuance of this standard guidance of the various levels within each Service is unnecessary because each Service can use the DOD level guidance as the organizational standard.

3. Current Policy and Guidance on Component Breakout Lacks Adequate Visibility Among DOD Program Managers

Program Managers were familiar with the concept of component breakout. However, they were generally unfamiliar with the specific contents of the DFARS regulation on component breakout. Although the DFARS is an acquisition regulation, it was perceived by program management personnel to be a contracting regulation which lacks visibility in

program management circles. In all cases, acquisition managers acknowledged that component breakout is a program management issue, not a contracting issue. However, this perceptual disconnect has no basis in fact since the DFARS contains considerable guidance that is specifically related to program management.

4. There is an Inadequate Advocacy and Oversight Base for Component Breakout within DOD and Among the Services

The DOD IG serves as the primary (and almost exclusive) advocate, overseer and enforcer of the component breakout program within DOD, and among the Services. Besides the DOD IG, NAVAIR also has effective advocacy and oversight mechanisms in place, and the Navy's CAG is beginning to assume a greater advocacy and oversight role. However, there is no firm advocacy for the component breakout program at the DOD level outside of the audit community.

The most significant current emphasis in the component breakout program has resulted from two events. First, the 1989 follow-up audit of the Navy's Harpoon Missile system has stirred interest in the component breakout program at the Navy Secretariat and DOD levels. Second, a major DOD-wide audit by the DOD IG (that is currently in draft form) highlights the need for additional high level attention in this area.



The major thrust of the DOD IG effort is to establish tighter controls for the oversight and enforcement of the component breakout program within DOD. The data in this study support the DOD IG's contention that the Services generally disregard audit recommendations to break out components that meet the DFARS threshold for breakout consideration. When questioned on this, program management personnel claimed that the auditor's cost benefit analyses are unrealistically optimistic, while the auditors claimed that program management personnel's cost benefit analyses are unrealistically pessimistic. The truth is probably somewhere in the middle.

In the cases where acquisition managers did not follow audit recommendations, they elected to rely on their own cost/benefit analysis rather than the auditor's. Furthermore, in each case acquisition managers had to solicit the support of their chain of command to avoid adopting audit recommendations. Because of this, current DOD IG efforts are aimed at gaining support for the enforcement of audit recommendations at the individual Service and DOD assistant and undersecretary levels. The fundamental issue at hand is whether the audit community should have more influence over the decisions of acquisition managers.

5. Component Breakout is Not Considered a High Priority Issue Among Senior DOD Policy Makers and Program Management Personnel

The audit community is virtually alone in its assertion that component breakout is a high priority issue requiring increased oversight and enforcement. Other interview respondents did not perceive a significant problem with the component breakout program.

Program management personnel are generally opposed to component breakout. However, this opposition does not seem to be based on the poor visibility or unfamiliarity with component breakout policy and guidance. Their adversity to component breakout seems to be rooted in bad past experiences with the management of GFE. None of the Program Managers felt that they had adequate personnel resources to effectively manage additional GFE.

Many senior DOD managers stated that there is an extremely large population of acquisition issues competing for attention at the major policy level. Therefore, senior policy makers must assign relative importance and priorities to the various acquisition issues needing attention, and then channel available resources towards working the higher priority issues. Because the component breakout program is not perceived to be a problem within the acquisition community, it is unable to meet the priority threshold for consideration by the senior DOD and individual Service policy makers. However, the DOD IG is working to raise the

relative priority of component breakout as an acquisition issue.

6. Qualitative Analysis is a Prominent and Important Factor in the Component Breakout Decision Making Process

The product of a component breakout cost/benefit analysis is a prediction of the future. As with any analysis of this type, it is not possible to quantify all potential outcomes. Therefore, qualitative analysis and the exercise of discretionary judgment based on qualitative analysis, is a legitimate consideration in the component breakout decision making process. The traditional audit approach to component breakout is to quantify all factors within the framework of a cost/benefit analysis, then base audit recommendations exclusively on quantitative factors. However, the literature base and written policy and guidance recognizes the difficulty in quantitative analysis in the component breakout decision making process.

The DFARS regulation specifically outlines 12 guidelines for considering a component for breakout. Of these 12 guidelines, only one is clearly quantitative in nature. Therefore, a compliance audit at the DOD level should direct significant effort and attention towards analyzing the qualitative factors set forth in DFARS regulation. This researcher's interpretation of the component breakout regulation in the DFAR is that it places a stronger emphasis on qualitative analysis and judgment

than on quantitative analysis. If this is in fact the case, component breakout audits should place more emphasis on qualitative vice quantitative analysis.

7. There is a General Disregard for the Administrative Requirements Set Forth in the DFAR Pertaining to the Component Breakout Program

With the exception of NAVAIR, this researcher could find no evidence of individual Service compliance with the review and documentation requirements set forth in the DFARS. In fact, many respondents cited the lack of enforcement of the review and documentation requirements in the DFARS as a desirable aspect of the current policy and guidance. This lack of compliance is routinely cited in the literature base and audit reports. Individual Service failure to comply with the DFARS regulation is exactly the type of activity that opens the door for auditors to closely scrutinize the component breakout program.

The primary purpose of a DOD IG audit on component breakout is to ensure individual service compliance with the DFARS regulation. If acquisition managers would read the DFARS regulation and comply with its intent, many conflicts with the audit community may be precluded. If an acquisition manager complies with the DFARS regulation, and properly documents the results, then any disputes arising will be differences in judgment. The fundamental issue then is who is better qualified to exercise discretionary judgment in the component breakout decision making process.

8. An Increase in Component Breakout Policy and Guidance Would be Contrary to Current Initiatives within DOD, Specifically within the Office of the USD(A), Relating to the Defense Management Review

Three key DOD initiatives resulting from the DMR that conflict with increasing component breakout guidance are:

- 1) provide regulatory relief to acquisition managers by significantly reducing and/or consolidating regulatory guidance.
- 2) reduce advocacy and audit functions within DOD acquisition management.
- 3) increase the program manager's responsibility, and decision making authority.

The audit communities' current approach to component breakout has the potential to increase policy and guidance, increase advocacy and auditor prominence in the decision making process and decrease a Program Manager's decision making authority. Therefore, this is an issue that must be resolved between the DOD IG and the office of the USD(A). Since additional policy and guidance on component breakout must originate within the USD(A) organization, the DOD IG must convince USD(A) that the component breakout program should be exempted from the aforementioned DMR initiatives. This debate is taking place as of this writing.

C. RECOMMENDATIONS

1. Consider Repositioning the Component Breakout Regulation in the DFARS to Some Other Regulatory Vehicle

Senior DOD policy makers should consider positioning the component breakout guidance in a medium that program management personnel are more familiar with, such as DODINST 5000.1 or the DAB review. The majority of acquisition personnel interviewed for this study agreed that the component breakout program would be more visible to Program Managers if the guidance was contained in a medium that Program Managers perceived to be program management guidance vice contracting guidance. However, this action assumes that senior DOD policy makers consider component breakout a high enough priority for inclusion in DODINST 5000.1 or a DAB review, or to create of a stand-alone instruction. If this is not the case, then the guidance should remain in the DFARS.

2. Establish a DOD Level Advocate for Component Breakout Program Similar to the Program Management Position for the Spares Breakout Program

This was also a primary recommendation in the draft of the current DOD IG audit of the component breakout program. Increased communication and marketing of the component breakout program is likely to yield more favorable participation in the program than adverse audit reports. The spares breakout Program Manager attributed much of the success of that program to his ability to communicate the

goals and benefits of the program to acquisition managers at various levels within DOD and the individual Services. Particularly impressive was his ability to use desktop publishing to create "advertisements" and desktop guides. These type of skills applied to the component breakout program can go a long ways toward increasing program awareness and utilization.

3. Either Require Acquisition Managers to Comply with the Administrative Requirements of the DFARS, or Delete the Administrative Requirements from the Regulation

The attitude expressed by some acquisition personnel that component breakout policy and guidance is adequate because it is not enforced is inappropriate. The administrative requirements set forth in the DFARS are not very complicated, and the DFARS gives acquisition managers significant latitude in how to conduct reviews and document the files. By not complying with the guidance in the DFARS, acquisition managers are providing the audit community with impetus and justification to increase oversight and enforcement for component breakout.

Senior DOD policy makers should review the DFARS regulation to determine whether the administrative requirements for component breakout contained in the DFARS are necessary and/or desirable. If they are not, these requirements should be deleted from the regulation. However, if the administrative requirements are deemed

necessary and/or desirable, a message must be sent down the acquisition chain of command that compliance with the administrative requirements in the DFARS is mandatory.

- 4) Perform a Broad Base Statistical Analysis of Previous DOD Component Breakout Decisions to Determine its Overall Success as an Acquisition Strategy

Among the DOD activities reviewed, NAVAIR was the only activity that kept savings/loss statistics on component breakout decisions. This researcher found no quantitative evidence (other than opinions) that the overall benefits of the component breakout program exceed the costs. This was primarily due to a total lack of follow-up (except at NAVAIR) on component breakout decisions. In this regard, the standard interview response received was that component breakout decisions should be monitored and validated, but they are not.

An unbiased statistical analysis of past component breakout decisions may go a long way towards gaining support for the program if the results are favorable. Furthermore, a study of this type may point to certain types of CFE that have a higher probability of achieving cost savings through breakout than other types of CFE. However, the key to success of a study of this type is that it must be performed by an independent organization that has no bias for or against component breakout. Unless parochialism is excluded



from the studies' formulation and execution, there can be no chance of a useful result.

5. Modify the Wording of the Component Breakout Regulation in the DFARS to Require the Review of Components for Breakin as Well as Breakout

The Joint Cruise Missile Program experience with component breakin highlights the potential of breakin as a viable and cost saving acquisition strategy. A common deficiency cited in the component breakout program by interviewed respondents was the lack of follow-up on component breakout decisions. Considering component breakin during the review process directs management attention to components that have been previously broken out to ensure that the original breakout decision has resulted in a net benefit to the government. In cases where there has been significant problems with GFE management, breakin may be the most advantageous course of action for the government.

6. If Senior DOD Managers Determine that Component Breakout is a High Enough Priority, Some Type of Incentive(s) Should be Provided to Program Managers to Facilitate More Decisions in Favor of Component Breakout

Any incentive should be provided by the Program Manager's chain of command (DAE-SAE-PEO), and these incentives can take the form of official (ceremonial) awards, performance appraisals or budgetary incentives. This point was made by the Army CAG when asked if she believed that a program manager will ever make a decision to breakout without some type of oversight. If incentives are

structured properly, Program Managers may begin to make more independent decisions in favor of component breakout. Furthermore, the Program Manager's chain of command should not only provide incentive, they should also provide oversight and enforcement commensurate with the priority assigned to the component breakout program.

7. Do Not Consider Component Breakout in Programs Where Dual Sources and/or Adequate Price Competition Exists

The reasons for this are two-fold. First, the complexity of the GFE management process increases significantly when there are two or more contractors that must depend on the government for GFE. Second, if adequate price competition exists between two or more sources, the competition should drive the mark-up rate on components down to an efficient and economical level. Lowering CFE component mark-up rates is certain to be considered and/or implemented when contractors are trying to underbid their competitors.

D. SUMMARY

This chapter outlined eight conclusions and provided seven recommendations pertaining to the component breakout program as it is currently structured within DOD. These conclusions and recommendations were the product of the structured analysis of historical and current data related to the component breakout program. The conclusions and

recommendations are intended for use by informed acquisition personnel who are contemplating changes or improvements to the DOD component breakout program.

APPENDIX A

DFARS PARAGRAPH 217,7202 "COMPONENT BREAKOUT"

Appendix A is an excerpt from the Department of Defense Federal Acquisition Regulation Supplement (DFARS). It constitutes the sole guidance in the DFARS on the component breakout program.

**217.7202 Component Breakout.**

**217.7202-1 Scope of Paragraph.**

(a) This section sets forth guidance for making decisions on whether or not components should be acquired by the Government directly and furnished to an end item contractor as Government-furnished material, for incorporation in the end item. This paragraph, however, does not pertain to all such decisions, but only to those which deal with whether components that have been included as contractor-furnished material in a previous acquisition of the end item should be "broken out" from a forthcoming end item acquisition for direct Government acquisition. Thus, except as set forth in Part 207, this paragraph does not pertain to the initial Government-furnished equipment/contractor-furnished equipment decisions that must be made at the inception of an acquisition program.

(b) Parts acquired for replenishment are not covered by this paragraph, but are governed by 217.7203 and Supplement 6, Replenishment Parts Breakout Program.

(c) This section applies to acquisitions of weapons systems or other items of major equipment involving components whose direct acquisition by the Government may result in substantial net cost savings over the life of the acquisition program. The term "component", as used in this paragraph, includes subsystems,

**DOD FAR SUPPLEMENT**

assemblies, subassemblies, and other major elements of an end item, but does not include elements of relatively small annual acquisition value.

**217.7202-2 Policy.** Whenever it is anticipated that the prime contract for a weapons system or other major end item will be awarded without adequate price competition, and the prime contractor is expected to acquire a component without such competition, it is Department of Defense policy to break out that component if:

- (a) substantial net cost savings will probably be achieved; and
- (b) such action will not jeopardize the quality, reliability, performance or timely delivery of the end item.

The desirability of breakout should also be considered (regardless of whether the prime contract or the component being acquired by the prime contractor is on the basis of price competition) whenever substantial net cost savings will result (1) from greater quantity acquisitions or (2) from such factors as improved logistics support through reduction in varieties of spare parts and economies in operations and training through standardization of design. Primary breakout consideration shall be given to those components of the end item representing the highest annual acquisition costs and offering the largest potential net savings through breakout.

**217.7202-3 Responsibility for Component Breakout Selection, Review and Decision.** The program manager, project manager, project officer, program director, or other official responsible for the material program concerned, supported by a project team (to include the Small Business Specialist, cognizant engineering, production, logistics, maintenance and other appropriate personnel, and the contracting officer or designee), shall be responsible for:

- (i) earmarking as susceptible to breakout those components potentially conforming to the criteria and policy set forth herein;
- (ii) conducting the breakout review and evaluation described in 217.7202-4;
- (iii) making the decision whether or not to break out the component; and
- (iv) preparing records explaining such decisions in compliance with 217.7202-5.

**217.7202-4 Breakout Guidelines.**

- (a) Each decision on whether or not to break out a component must embrace (1) assessment of the potential risks of degrading the end item through such contingencies as delayed delivery and reduced reliability of the component, (2) calculation of estimated net cost savings (i.e., estimated acquisition savings less any offsetting costs), and (3) analysis of the technical, operational, logistic and

administrative factors involved. As to each of these, the decision must be supported by adequate explanatory information, including an assessment by, and consultation with, the end item contractor when feasible.

(b) In deciding whether a component should be broken out, the guidelines set forth below (in the form of questions) should be considered. Answers will rarely be "positively yes" or "positively no" but usually "probably yes" or "probably no", with the degree of probability governed by the facts of the particular case. The decisions will depend largely upon the degree and significance of the risks to quality performance, reliability and timely delivery of the end item which would be involved in breakout and upon the estimated net cost savings. Where the risks, if any, are acceptable and breakout is expected to result in substantial net cost savings, the component should be broken out. On the other hand, if such risks are unacceptable, the components should not be broken out. Breakout will normally not be justified for a component whose cost is not expected to exceed \$1 million for the current year's requirement.

(1) Are the design of the component (and the design of the end item insofar as it will affect the component) sufficiently stable that further design or engineering effort by the end item contractor in respect to the component is unlikely to be required?

(2) Is a suitable data package available with rights to use it for Government acquisition? (Note that breakout may be warranted even though competitive acquisition is not possible.)

(3) Can any problems of quality control and reliability of the component be resolved without requiring effort by the end item contractor?

(4) Is it anticipated that requirements for technical support (i.e., functions such as development of proposed detailed specifications; development of test requirements to prove design adequacy or compliance with design; monitoring tests to assure compliance with established requirements; definition of quality assurance requirements for production of articles; and analysis and correction of service-revealed deficiencies) heretofore performed by the end item contractor will be negligible? If not, does the Government have the resources (manpower, technical competence, facilities, etc.) to provide such support, or can such support be obtained from the end item contractor (even though the component is broken out) or other source?

(5) Can breakout be accomplished without causing unacceptable difficulties in logistics support (e.g., by jeopardizing requisite standardization of components)?

(6) Can breakout be accomplished without causing over fragmentation of the end item that might materially impede administration, management, and performance of the end item contract (e.g., by unduly complicating production scheduling or identifying (and fixing responsibility for) end item failure that may be caused by a defective component)?

#### DOD FAR SUPPLEMENT

(7) Can breakout be accomplished without jeopardizing delivery requirements of the end item?

(8) If a decision is made to break out a component and to acquire it from a new source, can advance acquisition funds be made available to provide that source any necessary additional lead time?

(9) Is there a source other than the present manufacturer capable of supplying the component?

(10) Has the component been (or is it known that it is going to be) acquired directly by the Government as a support item in the supply system or as GFE in other end items?

(11) Would the financial risks and other responsibilities being assumed by the prime contractor that will have to be assumed by the Government if the item is broken out be acceptable?

(12) Will breakout result in substantial net cost savings? Estimates of probable savings in cost, should be developed for each case on its own facts, with consideration given to any estimated offsetting costs such as increases in the cost of requirements determination and control, contracting, contract administration, data package purchase, material inspection, qualification or preproduction testing, ground support and test equipment, transportation, security, storage, distribution, and technical support.

(c) If application of the guidelines in (b) above reveals conditions currently unfavorable to breakout, the feasibility of eliminating such conditions should be considered. For example, where adequate technical support is not available from Government resources, or similar assistance must be obtained in order to successfully accomplish breakout, consideration should be given to the contracting for the necessary services, such as product assurance suitability services, from the end item contractor or other qualified source.

**217.7202-5 Records and Review Procedure.** The records of the contracting activity shall contain documentation of:

(a) those components which have been reviewed and determined to have no potential for breakout;

(b) those components which have been reviewed and earmarked as being susceptible to breakout pursuant to 217.7202-3; and

(c) those components for which a decision to breakout has been made.

Documentation of these three categories, and for those components once earmarked but no longer considered susceptible to breakout, shall be signed by the cognizant project manager or other designated official and reflect the facts and conditions of the case, including any assessment by the contractor, and the basis for the decision.

Components that have been earmarked for potential breakout shall be reviewed well in advance of each successive acquisition, with a decision made as to whether the component will be broken out for the



ensuing acquisition. Such reviews, made preferably in the course of requirements determination, but in any event before acquisition of the requirement is initiated, shall be repeated until a final decision on whether or not to breakout is reached, and shall be documented. When breakout is delayed or postponed, the documentation shall include a description of the actions required to accomplish breakout, identify the activities responsible for such actions, and indicate the fiscal year when breakout should be effected.

---

APPENDIX B

LIST OF PRIOR COMPONENT BREAKOUT AUDIT REPORTS

Appendix B is a list of prior component breakout audit reports that was extracted from a DOD IG draft audit report.

[Ref. 4]



APPENDIX C

LIST OF FORMAL INTERVIEWEES

1. Mr. Jerry Stevenson, Program Director (GM-15), Procurement Programs, DOD IG
2. Mr. Gordon Neilson, Program Director (GM-15), Aerospace Programs, DOD IG
3. Mr. Joe Doyle, Program Manager (GM-14), Procurement Programs, DOD IG
4. RADM W.C. Bowes, Program Manager, Joint Cruise Missile Project
5. Mr. Tony Kausal, Competition Advocate General of the Air Force (SES)
6. Ms. Joann Langston, Competition Advocate General of the Army (SES)
7. Mr. Fred Reinhard, Director, Defense Systems Procurement Strategy (SES), Office of the USD(A)
8. Mr. Ed Zuludankiewicz, ASW/Mine Warfare Specialist in Tactical Warfare Programs (SES), Office of the USD(A)
9. Mr. Jim Obrien, Director, Engineering and Acquisition Policy Division (GM-15), Army Materiel Command
10. Mr. Vern Mc Camey, Director, Contract Policy Division (GM-15), Army Materiel Command
11. LCOL W.J. Colmer, Director, Acquisition Policy Division, Air Force Systems Command
12. Mr. Gerald Cecala, Deputy Director, Production Management Division (GM-15), Naval Air Systems Command
13. CDR Steve Kellam, Business/Financial Manager, Harpoon Missile Program, Naval Air Systems Command
14. CAPT Mike Kearney, Program Manager, A-6 Aircraft Program, Naval Air Systems Command

15. CDR Rodney Matsushima, Director, Plans and Policy Division, Office of Competition Advocate General of the Navy
16. COL W.E. Turner, Program Manager, Blackhawk Helicopter Program, Aviation Systems Command, U.S. Army
17. COL M. Hayashi, Program Manager, F-15 Aircraft Program, Aeronautical Systems Division, U.S. Air Force
18. Mr. Henry Johnson (deceased), Small Business Representative (GS-13), Aeronautical Systems Division, U.S. Air Force
19. Mr Jerry Johnson, Director, Competition Engineering Division (GM-14), Aviation Systems Command, U.S. Army

APPENDIX D

INTERVIEW QUESTIONNAIRES

Appendix D contains the questionnaire that was used during the formal interview phase of this study. It was comprised of eight questions, each of which included several subelements to ensure the questions were fully answered. All questions were designed to obtain evaluatory information on component breakout policy and guidance.

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Do you feel that there is adequate policy guidance within DOD regarding component breakout?**

### MAJOR POINTS:

- o Define component breakout (different from spares breakout).
- o Where does component breakout policy originate? (DFAR)
- o Review existing policy within DOD infrastructure.
- o For, against, or neutral regarding additional guidance in this area?

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Should component breakout policy be standardized within DOD?**

### MAJOR POINTS:

- o How would you set up such a standardized policy?
- o What would be the vehicles/instruments of implementation?  
(EX. piggyback on existing instruction, part of DAB review, etc.)
- o Should there be an standardized enforcement mechanism? If so, what type? (EX. directive, instruction, DOD IG review, etc.)
- o How can the administrative impact of such a policy be minimized?
- o What about training?

### RESPONSE SUMMARY:



## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**At what stage(s) of a weapons system life cycle should component breakout be considered?**

### MAJOR POINTS:

- o Decide up front (MENS,SCP,DCP), otherwise never revisit the issue?
- o Which milestone(s)?
- o Does it make sense to break out components after milestone III?
- o Should acquisition strategy drive the component breakout decision making process.

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Who should make the component breakout decision?**

### MAJOR POINTS:

- o Should a PM ever be forced to break out a component?
- o If an organization external to the PM can force a component breakout decision, what organization(s) should perform this function?
- o Discuss current cases (EX. DOD IG/Harpoon, DOD IG/F-15).
- o Risk to PM (and govt) vs. cost of mark-up.
- o Will PM ever make decision to break out on his own?

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Currently, component breakout decisions are usually contingent on an optimistic cost/benefit analysis (CBA) prepared by an advocate (DOD IG), and a pessimistic CBA prepared by an opponent (PM). Given that CBA's are forecasts (and thereby uncertain), and often subjective, how can this advocate/opponent conflict be resolved?**

### MAJOR POINTS:

- o Should there be an honest broker involved?
- o If so, who should the honest broker be? (EX. CAIG)
- o Should the recommendations of the honest broker be sufficient to override the PM?

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Once a component has been broken out, should there be a review process during breakout execution to monitor/validate actual savings (or loss) against originally projected savings?**

### MAJOR POINTS:

- o If so, how should this review be accomplished?
- o Should break-in be considered with the same priority as breakout?
- o Can break-in be less expensive than breakout?

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Are you familiar with any cases where breakout has yielded significant validated savings (i.e. validated beyond initial CBA)?**

### MAJOR POINTS:

- o Breakout assumes that contractor has unreasonable mark-up
- o Mark-ups are negotiable
- o Risk associated with govt management must be considered/quantified.

### RESPONSE SUMMARY:

## INTERVIEW QUESTIONNAIRE

NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

### QUESTION:

**Since component breakout policy originates in the DFARS (not the FAR), SECDEF has the power to eliminate this policy. Should this policy be eliminated? Why or why not?**

### MAJOR POINTS:

- o In view of TQM: less suppliers, more responsibility in the hands of the decision makers that must implement decisions, etc.
  
- o In view of: paperwork reduction, acquisition streamlining, and reduction of administrative requirements.
  
- o In view of the shrinking defense dollar, should component breakout be more aggressively pursued.

### RESPONSE SUMMARY:

APPENDIX E

OFFSETTING COST ELEMENTS CURRENTLY IDENTIFIED  
IN COMPONENT BREAKOUT DECISIONS

1. acquisition management
2. configuration management
3. Government Furnished Property (GFP) management
4. interface management
5. production management
6. manpower
7. Defense Contract Administration Management Area (DCASMA) support
8. contract administration support
9. Defense Contract Audit Agency (DCAA) review
10. logistics support
11. technical support
12. reviews
13. Temporary Duty (TDY) for reviews
14. reprourement costs (Request for Proposals (RFP), pricing, clerical, source selection, committee reviews, legal review of management briefings)
15. integration data
16. reprourement data (acquisition data)
17. support equipment
18. special test equipment
19. special tooling
20. inspection

21. additional Critical Design Reviews (CDRs)
22. defective Contractor Furnished Property (CFP)
23. warranties
24. deliveries
25. late deliveries
26. storage
27. Government facilities
28. out-of-state costs
29. part of termination of prime contractor
30. socio-economic clause requirement
31. Engineering Change Control (ECC) clearance
32. continued prime-subcontractor interface
33. associate contractor relationship
34. security

Source: [Ref. 9]



APPENDIX F

AFSC/AFLC REGULATION 800-31 "GOVERNMENT-FURNISHED  
EQUIPMENT/CONTRACTOR FURNISHED EQUIPMENT (GFE/CFE),  
GFE ACQUISITION AND GFE MANAGEMENT," 31 MAY 1985

Appendix F is Air Force Systems Command/Air Force Logistics Command Joint Regulation 800-31 titled "Government-Furnished Equipment/Contractor Furnished Equipment (GFE/CFE), GFE Acquisition and GFE Management," dated 31 May 1985. This regulation was the only regulation discovered within the Air Force that pertained to the component breakout program.

31 May 1985

**Acquisition Management**

**GOVERNMENT-FURNISHED EQUIPMENT/CONTRACTOR-FURNISHED EQUIPMENT  
 (GFE/CFE) SELECTION PROCESS, GFE ACQUISITION AND GFE MANAGEMENT**

This regulation sets up policies and procedures and assigns responsibilities for the GFE/CFE and loan/lease selection processes and the acquisition management of GFE. This regulation is primarily concerned with system and subsystem programs in demonstration and validation, full-scale engineering development, and production phases. It applies to AFSC and AFLC organizations that plan, identify, select, develop, test, acquire, or modify equipment to support AFRs 57-4, 400-3, and 800-2. It does not apply to laboratory or test organizations that support nonacquisition programs. AFR 67-19 gives procedures for identifying equipment needs for nonacquisition programs. This regulation implements AFR 800-22.

The use of a name of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

	Paragraph	Page
Purpose of This Regulation . . . . .	1	2
Terms Explained . . . . .	2	2
Policy Procedures . . . . .	3	4
HQ AFSC Responsibilities . . . . .	4	5
AFSC Product Divisions and Joint Program Offices Responsibilities . . . . .	5	5
AFSC Program Offices and AFLC System Offices Responsibilities . . . . .	6	6
Equipment-Buying Activities Responsibilities . . . . .	7	8
HQ AFLC Responsibilities . . . . .	8	8
ALCs Responsibilities . . . . .	9	8
AFALC Responsibilities . . . . .	10	10
AFPROs/Cognizant Contract Administration Offices Responsibilities . . . . .	11	11
<b>Attachments</b>		
1. GFE/CFE Life-Cycle Cost (LCC) Model . . . . .		11
2. GFE/CFE Selection Process . . . . .		17
3. Policy, Procedures, and Preparation Instructions for AFLC/AFSC Form 8, GFE Availability Request/Acquisition Assessment . . . . .		27
4. Mission Equipment (ME)—Acquisition and Management Guidance . . . . .		35
5. Support Equipment (SE)—Acquisition and Management Guidance . . . . .		39
6. Policy, Procedures, and Preparation Instructions for AFLC/AFSC Form 7, Government Furnished Configuration Item Technical Requirements . . . . .		42
7. Procedures for Processing DD Form 610, DOD GFAE Requirement Schedule . . . . .		49
8. Standard/Preferred Item List Strategy . . . . .		50
9. Component Breakout Process . . . . .		54
10. Policy and Procedures for Loan or Lease of Military Property . . . . .		55

Supersedes AFSCR/AFLCR 800-31, 13 Jul 79. (See signature page for summary of changes.)

No. of Printed Pages: 57

OPR: AFSC/SDX (Maj J. Kopala)  
 AFLC/MML (Ms S. Black)

Approved by: AFSC (Col W. L. Steininger, Jr.)  
 AFLC (R. M. Darnell)

Editor: AFSC (Scott Filderman)  
 AFLC (R. Carper)

Distribution: F; X:

HQ AFSC/DAP, Norton AFB CA 92409-6468 . . . . .	1
AUL/LSE, Maxwell AFB AL 36112 . . . . .	1
PDO 4000, 2750th ABW/DAPD, Wright-Patterson AFB OH 45433 . . . . .	1

	Paragraph	Page
<b>Forms Prescribed</b>		
AFLC/AFSC 6, Air Force Standard/Preferred Item List . . . . .	5c	6
AFLC/AFSC 7, Government Furnished Configuration Item Technical Requirements . . . . .	6b(18)	7
AFLC/AFSC 8, GFE Availability Request/Acquisition Assessment . . . . .	3n	5

**1. Purpose of This Regulation.** The policy and guidance provided in this regulation are intended to—

- a. Emphasize the use of standard equipment.
- b. Reduce costs of acquisition and support of systems by promoting standardization.
- c. Provide methods and models for equipment selection and acquisition method (GFE v. CFE) decisions.
- d. Provide a method to determine whether GFE is available or procurable to meet program requirements.
- e. Preserve a written rationale for equipment selection and GFE versus CFE decisions.
- f. Provide procedures for control of military property loaned or leased to contractors from Air Force stock or acquired for or by contractors for loan or lease of property that has title vested in the government.
- g. Integrate military facility requirements with the equipment selection process.

**2. Terms Explained:**

a. **Government-Furnished Property (GFP).** (Defense Acquisition Regulation (DAR) 13-101.2; Federal Acquisition Regulation (FAR) 45.101). Property in the possession of or acquired directly by the government, and subsequently delivered or otherwise made available to the contractor. There are five categories of GFP: material, special tooling, special test equipment, military property, and facilities.

b. **Government-Furnished Material (GFM).** (DAR 13-101.4 and H-101.5; FAR 45.301 and FAR DOD Supplement H-101.5). Property furnished by the government that may be incorporated into or attached to an end item to be delivered under a contract or that may be consumed or expended in performing a contract. Includes but is not limited to new, raw, and processed material; parts; components; assemblies; and small tools and supplies. In this regulation, GFM also includes stock-fund consumable-type items.

c. **Equipment.** A major subdivision of a weapon system or subsystem. Equipment performs functions affecting a weapon system or subsystem's operational capability and readiness. In this regulation, equipment is a subset of GFP: a major functional unit, assembly, module, or end item, but not piece parts or components that make up equipment. Equipment includes mission equipment (D041-type items) and support equipment (D039-type items). In this regulation, the terms "equipment," "item," and "unit" are equivalent.

d. **Mission Equipment (ME).** Any equipment that is a functional part of a system or subsystem and that

is required to perform mission operations. ME includes such items as aircraft radios, missile-launching mechanisms, engines, constant-speed drives, munition pylons, command-and-control displays, and radar sets. (ME may include nonconsumable or investment items with expendability-recoverability-repairability codes (ERRC) of C, T, and L.)

e. **Support Equipment (SE).** (AFR 800-12). Any equipment required to make or keep a system, command-and-control system, support system, subsystem, end item of equipment, or component operational in its intended environment. This includes all equipment needed to install, launch, arrest, guide, control, direct, inspect, test, adjust, calibrate, appraise, gauge, measure, assemble, disassemble, handle, transport, safeguard, store, actuate, service, repair, overhaul, maintain, or operate the system, subsystem, end item, component, or support equipment for support equipment.

f. **Government-Furnished Equipment (GFE).** (AFR 800-22). Items in the possession of or acquired directly by the government, and subsequently delivered or otherwise made available to the contractor for integration into the system or equipment. Equipment designated as GFE may be delivered directly to the using organization. GFE includes ME and SE. The definition of GFE narrows the definition of GFP by adding "for integration into the system or equipment." As a result, all GFE is GFP, but some GFP is not GFE.

(1) Material (DAR 13-101.4 and FAR 45.301) and GFM are not GFE unless they are ME or SE as defined in this regulation. Consumable GFM is not GFE.

(2) Special Tooling (DAR 13-101.5 and FAR 45.101) and Special Test Equipment (DAR 13-101.6 and FAR 45.101) are not GFE unless they are delivered as end items, systems, or equipment. When delivered, the item becomes either SE or ME.

(3) Facilities (DAR 13-101.8 and FAR 45.301) are industrial property that can be classified only as GFP, not GFE.

(4) Military Property (DAR 13-101.7 and FAR 45.301) is property designed for military operations or for support of Air Force weapons or systems when comparable property is not readily available commercially. Military property is not common plant equipment such as drill presses or test equipment. All military property will have ERRCs of XD1(C), XD2(T), XD3(L), NF2(U) or ND2(S). Military property may be used to support GFE/GFM loan or lease requirements.

g. **Contractor-Furnished Equipment (CFE).** Equipment acquired, modified, or manufactured directly

by the contractor for use in the system under contract. CFE includes ME and SE.

**h. Air Force Designated Standard Item.** An item specifically developed or acquired to fill multiple Air Force requirements and that has been formally designated a standard item by HQ USAF. This category includes both inventory items and items under development (atch 8).

**i. Preferred Item.** An item not specifically developed or acquired to fill multiple Air Force requirements but that has been subsequently identified by the cognizant equipment development or buying activity as having that potential. This category also includes both inventory items and items under development.

**j. Common GFE.** GFE used in more than one system or equipment program.

**k. Peculiar GFE.** GFE used in only one system or equipment program.

**l. Equipment-Buying Activity.** The designated government office responsible for managing, engineering, and acquiring a specified piece of equipment for the using activity.

**m. GFE Manager.** The individual or office tasked by the program/system manager to manage and coordinate the equipment selection and acquisition method decision process.

**n. Preliminary Equipment List (PEL).** The first list of screened equipment the program/system office recommends for use after the Pre-Request for Proposal (Pre-RFP) preliminary equipment selection decision.

**o. Preliminary Master GFE List (PMGFEL).** The part of the PEL that the preliminary acquisition approach decision recommends providing to the contractor as GFE. The PMGFEL is incorporated into the RFP and sent to industry for review and comment.

**p. Preliminary Master CFE List (PMCFEL).** The part of the PEL that the preliminary acquisition approach decision indicates the contractor should furnish as CFE. The PMCFEL is incorporated into the RFP and sent to industry for review and comment.

**q. Master GFE List (MGFEL).** The contractually binding list of all approved GFE for the system. (This list may include items that are ME or SE.)

**r. Master CFE List (MCFEL).** The contractually binding list of all approved CFE for the system.

**s. Life Cycle Cost (LCC).** (AFR 800-11). An item or system's total cost over its full life. This includes the cost of developing it, acquiring it, owning it (operation, maintenance, support, etc.) and, when applicable, disposing of it. LCC must be given in terms of cost elements included, the period of time covered, the assumptions and conditions imposed, and whether LCC is meant as a relative comparison or absolute expression of expected cost.

**t. Material Utilization Control Office (MUCO).** The activity at each Air Logistics Center (ALC) that is the point of contact for managing and controlling

GFE and GFM items accepted for use on Air Force EY contracts.

**u. EY.** The letters "EY" and four digits are a stock record account number (SRAN) that identifies each contractor. The contractors use these numbers on requisitions when they order material. These EY designators are used on contracts for production, R&D, and tests. For example, EY9269-Northrop Corporation; EY5768-Sperry Rand.

**v. Loan.** Military property delivered to a contractor for a specific purpose directly related to a prime contract and that is returned to or accountable to the government when the special purpose is accomplished. Loan does not include assets for—

- (1) Sale.
- (2) Donation.
- (3) Lease.
- (4) A facilities contract.

(5) Consumption or use in such a manner as to lose identity in an end product delivered to or for the Air Force.

**w. Lease.** A temporary transfer of the right of possession and use of a nonexcess item of military property to a contractor, with the contractor agreeing to pay rent to the government for use of the property. Lease assets are returned to or accountable to the government on expiration of the lease agreement. Lease does not include assets for—

- (1) Sale.
- (2) Donation.
- (3) Loan or bailment.
- (4) A facilities contract.

(5) Consumption or use in such a manner as to lose identity in an end product delivered to or for the Air Force.

**x. Bailment.** In this regulation, "bailment" means the same as "loan."

**y. Loan or Lease Agreement.** A bilateral contractual instrument that accomplishes the actual delivery of military property and contains all information concerning the individual terms of the loan or lease. The loan or lease agreement includes—

- (1) Adequate description of the military property (national stock number (NSN) or noncataloged (NC) number and government nomenclature).
- (2) Purpose of the loan or lease.
- (3) Use of the property.
- (4) The period of time of the loan or lease (beginning and end dates of the agreement).
- (5) Applicable monetary terms.
- (6) The place from which the property is to be delivered.

(7) The place to which the property will be returned unless amended shipping instructions are provided by the prime ALC.

(8) Authorizations for modifications that may be incorporated in the property.

(9) Any special provisions considered necessary by the Air Force, such as agreements to maintain, repair, and restore the property.

(10) Military standard requisitioning and issue procedures (MILSTRIP).

### 3. Policy Procedures:

a. Program/system managers will maximize integration of designated standard and preferred items into new system developments.

b. Designated standard and preferred items will be provided to the contractor as GFE. The product division commander or a designated representative must approve any exceptions to this policy.

c. The organization (AFSC or AFLC) responsible for managing selected equipment will acquire designated standard and preferred equipment to support AFSC program offices' and AFLC system offices' GFE requirements.

d. AFLC and AFSC will develop the Standard/Preferred Item List (S/PIL) and keep it current.

e. AFSC Form 56, AFSC Program Direction (PD), or AFLC Form 1208, Program Action Directive (PAD), will specify that the program/system manager will screen the AF S/PIL and identify items on the list that functionally satisfy program requirements. These items will be called out in the RFP and statement of work (SOW). The contractor(s) will be required to include these items as GFE in their proposals unless the items are technically unsuitable or a more cost-effective alternative can be identified based on an Air Force LCC analysis. If the program/system manager deviates from the use of standard nonavionics or nonsupport equipment items on the AF S/PIL that are functionally suitable, the program/system manager must get coordination and approval from HQ AFSC/SDX or HQ AFLC/MML, respectively, and approval from HQ USAF/RDX. Deviation from use of AF-designated standard avionics items requires ASD-AFALC/AX, HQ AFLC/MML, and HQ AFSC/SDX coordination, and approval by HQ USAF/RDX (AFR 800-28). Deviation from use of preferred avionics items requires ASD-AFALC/AX coordination and approval from HQ AFSC or HQ AFLC as applicable. These coordination and approval procedures for avionics items apply to avionics SE with the addition that ASD/AEGS and AFALC/SDE also coordinate on the waivers before approval by the appropriate headquarters.

f. For each acquisition, modification, and foreign military sales (FMS) program, the program/system manager will tailor the methodology in this regulation to the program's specific needs. Program and acquisition planning documents must describe the approach for identifying, selecting, acquiring, and managing contracts for all equipment.

g. The program/system manager will base the equipment selection decision on a methodical screening of all known sources of equipment, both government and industry. With or without modification, the equipment selected must satisfy the technical and logistics support requirements of the system it will be used in. The program/system manager will make a decision based on the information in the

Logistic Support Analysis Record (LSAR) or on other analytic information that gives the expected LCCs of each candidate (atch 1). This decision process produces MGFELs and MCFELs that become part of the contract. When reviews and decisions affect system configuration, the program/system office keeps these lists current throughout the contract period. Program/system office directorates of contracting and manufacturing will review RFPs before releasing them to ensure they include master GFE and CFE Lists.

h. Within the constraints of equipment selection and acquisition method criteria, equipment will generally be selected according to the following order—

(1) Air Force Designated Standard Items/Preferred Items.

(2) Items in the government inventory or being developed under government contract.

(3) Commercially available items that meet technical and logistics requirements.

(4) Modifications of any of the above.

(5) New items to be developed.

i. If the program requires delivery of operational equipment, perform the GFE and CFE selection-process analysis (atch 2) to support all equipment selection and acquisition approach decisions. If the program/system manager expects the cost of analyzing an item will be more than any potential savings, the manager will substantiate this estimate and document it in the program records; the selection process will not then have to be carried out.

j. The GFE and CFE selection process requires a systematic method to identify and select the equipment that best satisfies program/system requirements and the best way to acquire it. The process involves two decisions that are separate but interdependent: an equipment selection decision and an acquisition approach decision. Support these decisions with explanatory documentation, coordinate them with all participants, and incorporate the documentation into program records. Program directors and managers will be prepared to explain the rationale for their selection process at program reviews.

k. Begin the process for choosing between GFE and CFE before submitting the RFP for validation, full-scale development, or production and continue it throughout these phases as additional requirements for equipment are identified. For the validation phase RFP, this process need not be used unless the equipment will significantly affect system design and validation.

l. The acquisition approach decision extends the item selection decision by showing the best way for the government to provide or otherwise acquire the selected equipment so the contractor can integrate it into the system. The acquisition approach must be responsive to the requiring activity's equipment requirements and schedule.

m. When a program/system office needs to acquire equipment for program/system needs, it has four general options:

(1) Equipment can be furnished to the prime contractor as GFE by the responsible Department of Defense (DOD) equipment-buying activity. Examples of buying activities are—

(a) AFSC product divisions, for equipment under development or new equipment to be developed.

(b) AFLC ALCs, for inventory equipment after program management responsibility has been transferred.

(c) Any other DOD equipment-buying activity.

(2) Equipment can be furnished to the prime contractor as GFE as a result of direct contracting actions with equipment contractors by the AFSC program office or AFLC system office. Use this option when the buying activities in 3m(1) above report they cannot provide the equipment needed.

(3) Through the contracting officer, the program/system office can authorize the prime contractor to obtain equipment as CFE. Do not use this option unless options (1) and (2) have been eliminated, based on the GFE and CFE selection analysis.

(4) Government-owned property can be loaned or leased to a contractor. See attachment 10 for policies and procedures for control of military property.

n. When selecting, developing, or acquiring equipment, consider leadtime requirements so equipment will be available in time to meet the program's schedule. To ensure GFE is available, complete AFLC/AFSC Form 8, GFE Availability Request/Acquisition Assessment (atch 3) and establish a GFE acquisition management program (atch 4 and 5).

o. Give GFE/CFE equipment engineering data, such as physical size and mechanical, shielding, and electrical requirements needed for design of facility, to the designer in time to meet program schedule.

p. Contractors must be requested to help carry out the DOD Standardization Program and make best use of existing DOD equipment inventories. They must be requested to challenge equipment required in the RFI if other equipment would be more advantageous to the government.

q. Based on system or equipment configuration, prepare a list of CFE that conforms to the component breakout criteria and guidelines of DAR 1-326, DOD FAR Supplement 17.7202, AFSCR/AFLCR 800-24, and this regulation. Evaluate the CFE annually and consider converting to GFE according to the breakout guidelines (atch 9). For those items to be broken out, consider transferring management responsibility to the AFLC item manager before program management responsibility transfer (PMRT) of the system.

r. When using government-owned equipment as GFP on government contracts follow the guidance in DAR 1-302.1 and DAR Section XIII and FAR 8.001 and DOD FAR Supplement 8.7006-6.

s. Process FMS requirements for GFE support according to this regulation, unless the country requests different processing as specified in AFR 400-3. Then consider using GFE assets to fulfill FMS production and installation requirements on a case-by-case basis, depending on—

(1) The agreement with the individual country.

(2) Whether the FMS weapon system program requires single-vendor integrity.

(3) Other conditions the countries involved have mutually agreed on.

t. AFLC/AFSC Form 8 for security assistance programs must include—

(1) Pertinent portions of the letter of agreement or other document that specifies the logistic support and data the contractor must supply (for example, technical orders (TO), provisioning data, logistic support analysis data).

(2) Statements obtained from HQ USAF/PRI as to whether hardware and supporting data are releasable.

u. Equipment selection must also be considered during the initial stage of program planning.

v. Ensure that GFE and GFM used to meet FMS requirements are properly billed to the FMS country according to AFR 170-3.

#### 4. HQ AFSC Responsibilities. HQ AFSC/SDX will—

a. Be the OPR for all AFSC GFE/CFE policies and procedures. HQ AFSC/SDX must ensure that the product divisions and joint program offices get all management policies and procedures.

b. Approve the preferred items recommended by the product divisions for the AF S/PIL and review all standard items recommended for the AF S/PIL. (ASD-AFALC/AXT must coordinate on all avionics items recommended for the AF S/PIL (AFR 800-28) and ASD/AEGS must coordinate on all SE recommended for the AF S/PIL). HQ AFSC/SDX will—

(1) Jointly with HQ AFLC/MML develop standards, methods, and models to use in the GFE/CFE selection process, monitor how effectively they are carried out, and keep them up to date.

(2) Jointly with HQ AFLC develop and maintain the AF S/PIL.

(3) Ensure AFSC Form 56 tasks the program/system manager to evaluate the use of AF-designated standard items and gives proper guidance for selecting the equipment the system or subsystem requires.

c. Review the annual component breakout report from the product division OPRs to see if the component breakout process has been performed.

#### 5. AFSC Product Divisions and Joint Program Offices Responsibilities. They will—

a. Evaluate and integrate GFE and CFE practices and develop and implement any needed improvements.

b. Develop, update, and maintain the LCC model the program/system office uses to make equipment selection decisions during the GFE and CFE selection process.

c. Submit AFLC/AFSC Form 6, Air Force Standard/Preferred Item List, for items that can be added to the AF S/PIL according to attachment 8.

d. Designate an OPR to exercise overall management responsibility in formulating and maintaining local policies and procedures for selecting and acquiring GFE and CFE. The OPR will—

(1) Advise the program/system office how to tailor the procedures in this regulation and use LCC models suited to the equipment considered in the selection process.

(2) Help tailor the checklists for equipment selection and acquisition approach to ensure relevant technical performance and design aspects of alternate equipment are considered.

(3) Ensure that the PMGFEL and PMCFEL are included in the RFP.

(4) Coordinate with AFALC.

(5) Receive the annual component breakout report from the program offices. Determine if the component breakout reviews are performed adequately and report product division and joint program office activity to HQ AFSC/SDX by September of each year. The report must identify programs for which a breakout review was performed and the review results.

#### 6. AFSC Program Offices and AFLC System Offices Responsibilities:

a. The Program Director and System Manager (PD/SM) will—

(1) Exercise overall management responsibility for selecting, acquiring, and managing equipment to support program/system needs.

(2) Get help in contracting, manufacturing, engineering, comptroller, equipment-buying activities, small business, contract administration office (CAO), and logistics.

(3) Designate a GFE manager or office within the program/system office to carry out the responsibilities in 6b below.

(4) Ensure program system planning and acquisition documentation specifically includes program strategy, criteria, and constraints for selecting, acquiring, and managing equipment.

(5) Ensure the GFE and CFE selection process is used once ME and SE requirements are identified.

(6) Ensure that the tailored GFE and CFE selection process meets program/system requirements.

(7) Ensure available equipment lists and other source documents are screened to identify equipment that is technically appropriate for program/system needs.

(8) Ensure that expected LCC is a principal criterion in the equipment selection process according to AFR 800-11.

NOTE: An LCC analysis for a single implementation of a new standard item may indicate an alternative as more cost-effective due to the limited application of the new item. This could preclude introducing the standard into the inventory and thwart the standardi-

zation effort, since the standard item's cost effectiveness is based on multiple and widespread application. Therefore, newly developed standard items will be used on all programs when specifically directed or when the PD/SM determines they fulfill the technical requirements. This policy will continue for 2 calendar years from the date of PMRT or from first item delivery of an AFLC-developed item.

(9) Ensure that equipment on the MGFEL and MCFEL and any modifications to them are included in the system or subsystem specifications and contract.

(10) Ensure the rationale for all equipment selection decisions throughout the life of the program or system is recorded in program documentation.

(11) Encourage contractors to challenge any recommended equipment when they can show alternate equipment is more advantageous because it supports DOD standardization better and makes better use of existing DOD equipment inventories.

(12) In coordination with the supporting command, review and approve—

(a) The PMGFEL and PMCFEL in the RFP.

(b) The MGFEL and MCFEL in the contract.

(c) All changes to the MGFEL and MCFEL, after contract award, resulting from the contractor's recommendation or the Component Breakout Decision process (DAR 1-316 or DOD FAR Supplement 1.1212).

(13) Ensure purchase requests/military inter-departmental purchase requests (PR/MIPR) are prepared and processed for all developmental and initial operational test and evaluation and all production GFE requirements the program/system office is responsible for funding.

(14) Ensure all Configuration Control Board (CCB) actions that affect the MGFEL and MCFEL are brought to the attention of the GFE manager so the lists can be updated.

(15) Be prepared to present and discuss the rationale for all GFE and CFE selection decisions at program reviews.

(16) Ensure GFE requirements are planned and programmed in the appropriate command's SE budget for congressional approval.

b. The GFE manager will—

(1) Serve as the central point of contact for all GFE and CFE decisions about the program/system, including requests from other program/system offices to expand the use of new development items by using them as GFE in additional programs.

(2) Help the program/system manager prepare GFE and CFE planning documentation.

(3) Tailor the GFE and CFE selection process so it satisfies program/system needs and monitor the process to keep it relevant.

(4) Prepare documentation to substantiate equipment selection and acquisition approach decisions throughout the life of the program.

(5) On behalf of the program/system manager, determine any FMS constraints that may govern the GFE and CFE selection process and any subsequent component breakout decisions (DAR 1-326 or DOD FAR Supplement 17.7202).

(6) Prepare the PMGFEL and PMCFEL for inclusion in the RFP.

(7) Start a preliminary availability assessment.

(8) Prepare and process part I of AFLC/AFSC Form 8.

(9) Assign control numbers to part I of AFLC/AFSC Form 8 and maintain an AFLC/AFSC Form 8 file in the program/system office.

(10) Determine if inventory equipment is available for GFE and ensure it is compatible with the overall program/system schedule.

(11) Require the prime contractor to indicate the quantity and schedule of GFE required. DD Form 610, DOD GFAE Requirement Schedule, (atch 7) may be used for this purpose. Have the cognizant DOD CAO validate the quantity and schedule the contractor has shown on DD Form 610 and send this form to the GFE equipment-buying activity.

(12) Start the preliminary acquisition assessment.

(13) Prepare the MGFELs and MCFELs for inclusion in the contract and, after contract award, keep the lists current. Have copies of the lists (including revisions resulting from contract changes) sent to each ALC/MUCO/MMS for all GFE items. Ensure the NSN is included for each item.

(14) Include requirements for reporting rejections, failures, excesses, and shortages of GFE in the prime contract. DD Form 611, DOD GFAE Shortage, Transaction, Final Status, and DD Form 611-1, DOD GFAE Rejection Failure Data, may be used for this purpose. Ask the contractor to send the NSN, the reparable shipper document, and the replacing requisition to the ALC/MUCO/MMS office, along with any other details about the replacement. The contractor will enter project code "094" in columns 57-59 of the replacing requisition (DAR Appendix H; DOD FAR Supplement Appendix H; and AFM 67-1, vol I, part one).

(15) Confirm that equipment on the MGFEL is available and formally accept it during source selection (before contract award). Reconfirm that equipment on the MGFEL is still available within 30 days after awarding the prime contract.

(16) Schedule component breakout reviews, identify candidate breakout equipment items, assign items to one of the three classification groups, and document the results and the rationale for the decisions. Send the documentation to the product division OPR.

(17) Coordinate with the comptroller to ensure documents for budget and funds transfer are processed promptly to support system or program equipment requirements.

(18) Assign responsibility to appropriate manufacturing personnel to prepare and revise AFLC/AFSC

Form 7, Government Furnished Configuration Item Technical Requirements (atch 6).

(19) Ensure that configuration control, engineering, and manufacturing personnel coordinate with each other when they prepare a new or revised AFLC/AFSC Form 7.

(20) Be responsible for overall processing, monitoring, and filing of AFLC/AFSC Form 7.

(21) Complete part IV of AFLC/AFSC Form 8 to accept or reject existing GFE/GFM assets offered in part II of the form within 30 days if the form is submitted after contract award. If the form from the MUCO shows the item has a nonconsumable item materiel support code (NIMSC) of 5 (managed by another service's primary inventory control activity (PICA)), the program/system office must give the ALC MUCO the AFSC billing activity code and the fund appropriation (see DAR Appendix H; DOD FAR Supplement Appendix H; and AFM 67-1, vol I, part one) so the MUCO can show them on the requisition it prepares. The other service's PICA needs funded requisitions for the NIMSC 5 items it supplies.

(22) Ensure by including as terms of the contract-

(a) That the contractor uses established MILSTRIP procedures to prepare requisitions for government inventory items (DAR Appendix H; DOD FAR Supplement Appendix H; and AFM 67-1, vol I, part one).

(b) That the program/system office gives the contractor the correct signal code (colm 51) and fund codes (colms 52 and 53).

(c) That the contractor enters the last eight digits of the contract number in the supplementary address field or in columns 73-80. If both these fields are filled, show the complete contract number in the "Remarks" block of the requisition. If necessary, mail the requisitions giving these data to the ALC MUCO/MMMS office; otherwise use normal channels according to AFM 67-1, volume III, part eight, chapter 2.

(d) That the contractor's EY requisitions do not use stock fund code of 6H/6C in columns 52 and 53 unless specific arrangements have been made with the program/system office and respective AFLC division manager.

(e) That contractor requisitions to replace rejects show 094 in columns 57-59.

(f) That requisitions for nonreimbursable material show 024 in columns 57-59.

(23) When the MUCO requests, validate requirements for items in the MUCO account so items no longer required can be purged.

(24) When changes affect the GFE delivery schedule, promptly furnish full details to the equipment-buying activity.

(25) With the equipment-buying activity, mutually identify and resolve significant GFE problems.

(26) Ensure that the contract establishes



necessary controls to process GFE shortages and rejects promptly.

(27) With the equipment-buying activity, ensure that excess GFE is disposed of according to contract provisions.

(28) Monitor and process engineering change proposals (ECP) when the system or configuration item specifications change.

(29) When contract changes affect GFE, ensure the contractor submits or revises DD Form 610. If the quantity and schedule requirements shown on the form change, have the cognizant DOD contract administration office validate the changes.

(30) Maintain current records of FMS items for billing purposes.

(31) Maintain records of all equipment requested by or provided to other programs as GFE.

(32) Manage loan assets according to AFM 67-1, volume III, part one, chapter 9, section H.

#### 7. Equipment-Buying Activities Responsibilities. They will—

a. Develop a formal business strategy to find out whether they can buy GFE to meet program/system requirements.

b. Assume total management responsibility for any GFE either assigned to them or accepted for development or acquisition.

c. Respond promptly to the program/system office's GFE Availability Request/Acquisition Assessment.

d. Within 15 days after receiving part I of AFLC/AFSC Form 8, complete part III according to attachment 3 and send it to the program/system office.

e. Ensure a current and accurate AFLC/AFSC Form 7 is on file before contracting for GFE.

f. Ensure the configuration of the acquired GFE agrees with the configuration in AFLC/AFSC Form 7.

g. For equipment, combine production requirements and spares requirements into a single total requirement whenever possible.

h. Ensure that the GFE vendor contracts include all requirements for provisioning, logistic support, engineering data, and program/system data. Also ensure the equipment to be acquired agrees with engineering design data supplied to the facility designer and that the equipment will fit into the facility as designed. If not, then the primary method of accommodating new or changed requirements will be as changes to equipment rather than changes to the facility. Changes to the facility will be accepted only if no reasonable alternative exists.

i. If changes in configuration or the GFE delivery schedule may affect the program/system or its contracts, notify the program/system office promptly.

j. Process material deficiency reports according to TO 00-35D-54 or the provisions of the GFE vendor's contract warranty.

k. With the program/system office, mutually resolve all significant GFE problems.

l. In cooperation with the program/system mana-

ger and contractor, ensure that excess GFE is disposed of according to contract provisions.

m. Process "reject" problems if and when they occur. All contracts must tell what to do if the contractor receives GFE and GFM items that are unacceptable.

#### 8. HQ AFLC Responsibilities:

a. HQ AFLC/MM is the OPR for AFLC GFE/CFE/GFM policy and procedures to support development and production contracts. HQ AFLC/MM ensures that all management policies and procedures are sent out to AFALC, the Aerospace Guidance and Metrology Center (AGMC), the AFLC Cataloging and Standardization Center (CASC), and the ALCs.

b. HQ AFLC/MM will provide guidance and programming data needed to establish support requirements for production and modification programs.

c. HQ AFLC/MM will ensure that AFLC Form 1208 gives guidance for using Air Force Designated Standard Items and for selecting GFE that a system or subsystem requires.

d. AFLC CASC/CBRS is the OPR for the AF S/PIL and is responsible for approving preferred items recommended by the ALCs for the AF S/PIL. (ASD AFALC/AX must coordinate on all avionics items recommended for the AF S/PIL (AFR 800-28) and ASD/AEGS must coordinate on all SE recommended for the AF S/PIL).

e. Jointly with HQ AFSC/SDX, AFLC CASC/CBRS plans, develops, maintains, and issues the AF S/PIL.

f. Using advance planning data from program/system managers, programs funds and budgets to acquire GFE to support future programs.

g. Develops policy for acquiring engineering and technical data for GFE and CFE (AFR 800-34).

#### 9. ALCs Responsibilities:

a. The D/MM (MMM) will—

(1) Establish controls to ensure compliance with this regulation and AFM 67-1, volume III, part one, chapter 9, section H and designate a manager to monitor GFE/GFM operations for the ALC.

(2) Establish controls for processing AFLC/AFSC Form 8 and AFLC/AFSC Form 7.

(3) Ensure that approved GFE items initially requested on AFLC/AFSC Form 8 and formally accepted by the program/system office are placed in MUCO holding accounts to satisfy program/system requirements.

(4) With help from engineers and the program/system office, ensure that any available assets meet the technical requirements of the specifications and of the system being developed or modified.

(5) Inform the program/system manager of all configuration changes.

b. The MUCO will—

(1) Receive all AFLC/AFSC Forms 8 from the program/system office and establish a file folder that will contain all pertinent data for each item.

(2) Assign control numbers and establish a control system for forms and send the forms to the item manager specialist (IMS) for necessary action.

(3) When required, ask the Defense Property Disposal Service or other services about availability and acquisition assessment.

(4) After the IMS has completed AFLC/AFSC Form 8, review them for completeness, update files, sign the forms, and send them to the program/system office.

(5) On receiving the program/system office's acceptance of available serviceable or reparable assets:

(a) After the program/system office has submitted AF Form 185, Project Order, notify the IMS to adjust the Management of Items Subject to Repair (MISTR) Schedule to meet the program's requirements. Have the repaired assets placed in the MUCO account and keep the program/system office informed. Notify the Maintenance Modification Branch (MMMM) office when equipment is repaired and shipped so they can have Financial Accounting bill it.

(b) Prepare MILSTRIP requisitions, using the MUCO account number, and send them to the proper supply source to get available assets. Hold assets in the MUCO account until the program/system office or contractor sends shipping instructions. (If assets are available from another service's PICA, the program/system office must give the MUCO fund codes for the requisition so that it can be billed properly.)

(c) For assets obligated for use as GFE, will not release them for any other purpose without the requiring activity's permission.

(6) After the program/system office accepts an offer, and the ALC takes the necessary supply action, tell the program/system office the status of each item, including the quantity available, repair status, location of assets, etc.

(7) Receive and process or reject requisitions from the program/system office or the contractor. If assets (total or partial) are not available or cannot be shipped as required, advise the program/system office or contractor. The MUCO will receive, store, and account for GFE items that the production contractor cannot accept.

(8) Not normally store reparable assets in the MUCO account.

(9) Semiannually, validate the GFE in the MUCO account with the program/system office. If the office no longer requires assets, the MUCO gets disposition instructions from the applicable IMS.

(10) Coordinate on all PRs/MIPRs to ensure that releasable assets are used before acquiring more.

c. The Inventory Management Division (MMI) will—

(1) Receive from the MUCO and process AFLC/AFSC Form 8 for both preliminary and final program requirements. Maintain necessary historical records and return forms through the MUCO to the program/system office. If an item requested on the AFLC/AFSC Form 8 is managed by another service's

PICA, call or send a message to the PICA for data to complete the form. Ensure that the form indicates whether the item is free or whether AFSC must reimburse for it.

(2) Prepare and submit through the MUCO amended parts II and III of AFLC/AFSC Form 8 when information in previous documents is no longer valid.

(3) On receiving the PR/MIPR, reverify requirements and assets, then coordinate.

(4) Prepare and process PRs/MIPRs for all spares that AFLC funds to support the new programmed requirements, including provisioning and engineering data to select repair parts. If necessary, begin an advance PR and process as required. When provisioning data are not necessary to support the acquisition, ensure that the appropriate AFLC logistics data system begins functioning early enough to provide repair parts at all authorized levels of maintenance.

(5) When a PR is for the next fiscal year's replenishment spares, mark it "advance PR" and send it to the accounting and finance division (ALC/ACFS). Send copies of these PRs to the due-in asset activity so they can be entered into the due-in asset system (JO-41).

(6) Provide the standard item support required for installed GFE items during development, test and evaluation (AFR 67-19).

(7) In processing and coordinating PRs/MIPRs, send the program/system manager's monthly delivery schedule showing numbers of items needed for kits, SE, and spares (AFSCR/AFLCR 57-7).

(8) Supply the TOs or the work packages for repairing or overhauling items. Requisition TOs according to TO-00-5-2, section VI.

(9) Process EY requisitions from weapon system contractors or program/system offices. Ensure that columns 51, 52, and 53 of each requisition contain correct codes for either billing or free issue.

(10) Revise MISTR schedules as required to make assets available when production contractors need them.

(11) Process MUCO requisitions for available items and budget for items that the program/system office formally accepts but which AFLC is responsible for funding.

(12) With the aid of the equipment specialist and technicians, select items for the AF S/PIL. Prepare and submit AFLC/AFSC Form 6 for those items.

(13) When other government organizations manage items, and the Air Force is not currently listed as a user, ensure that these items are put in the Air Force system and Air Force is listed as a user.

d. The AFLC PR/MIPR Control Office will—

(1) Receive PRs/MIPRs and establish controls over them.

(2) Ensure they are processed according to AFSCR/AFLCR 57-7.

**10. AFALC Responsibilities.** The responsibilities of AFALC include planning early support; improving availability, supportability, and readiness; reducing LCC; maintaining an LCC track record; improving methodologies for system support and acquisition; emphasizing logistics objectives in business strategy; providing operational experience; and improving interfaces among AFSC, AFLC, and using commands. Specific support is available, throughout the item selection and GFE versus CFE acquisition process, to help realize these and other goals.

a. AFALC/LW, Deputy for Strategic, Missiles, Space, Electronics and Armament Programs, and AFALC/SD, Deputy for Aeronautical Programs, will—

(1) Ensure the AFLC system managers get copies of PRs and correspondence about GFE problems for the assigned system.

(2) Keep the subsystem program managers (AFLC IMSs and MUCOs) informed about subsystems support.

(3) Be AFLC's focal point for the subsystem program managers.

(4) Help the system managers with logistics considerations in subsystem actions.

(5) Identify IMS, system manager, and technology repair center support needed, including support of test programs.

(6) Keep the IMS, MUCO, and system manager informed about major logistics problems.

(7) Help the system manager with logistics, including actions of the CCB, engineering reviews, LSAR, technical assistance with logistics, and review of applicable contract actions.

b. AFALC/PT, Deputy for Engineering and Test Evaluation, will maintain a lessons learned data bank; provide tailored lessons learned packages to program/system offices, ALCs, or other GFE/CFE screeners on request; and help apply the lessons.

**11. AFPROs/Cognizant Contract Administration Offices Responsibilities.** They will—

a. Validate quantities of GFE the contractor requests on DD Forms 610.

b. Verify schedule setbacks from on-deck dates to installation dates.

c. Verify the contractor's proposed time of installation is the best time to install GFE.

d. Recommend whether local repair should be authorized and what repair capability will be required.

e. Monitor and validate contractor submission of DD Form 611 periodic and final status reports that show receipts and on-hand quantities of GFE as called for on DD Form 610 requirements documents.

f. Ensure that the proper disposition is made of any excess GFE during the performance of and after completion of a contract.

OFFICIAL

FREDERICK P. HALLSWORTH, Colonel, USAF  
Director of Administration

ABBIE G. CAYWOOD, Lt Col, USAF  
Director of Administration

SUMMARY OF CHANGES

This revision adds component breakout policy and procedures, adds loan and lease policy and procedures, updates S/PIL strategy, clarifies policy and procedures for using AFLC/AFSC Form 8, and generally clarifies GFE and CFE selection and management procedures.

LAWRENCE A. SKANTZE, General, USAF  
Commander

EARL T. O'LOUGHLIN, General, USAF  
Commander

### GFE/CFE LIFE-CYCLE COST (LCC) MODEL

**1. General Introduction.** This attachment describes a way to compare LCCs for equipment. By definition, the LCC of equipment is the total cost of developing it, acquiring it, and owning it over its full life. To be meaningful, LCC must be presented in terms of the cost elements included, the period of time covered, and the assumptions and conditions imposed.

a. The following LCC analysis is a simplified approach and provides, at best, a "figure of merit." The analysis is designed to give the program/system office maximum flexibility. It is a way to choose between two or more items of equipment on the basis of cost.

b. The costs in the model must meet the following criteria:

(1) They must be relevant. For example, when existing equipment (standard item, inventory or commercial item) is compared with a new development or modification effort, the cost of developing the existing equipment is usually considered "sunk"; it would not be included as a relevant cost of the existing equipment.

(2) They must be significant. The amount of a cost element, in absolute dollars, must be large enough to matter. For example, on a multimillion-dollar acquisition program, elements that cost hundreds or thousands of dollars might not be considered significant.

c. The sum of all elements in the model must represent the expected LCC requested on the item selection checklist (atch 2, para 6).

d. Use judgment in deciding which cost elements to include in each analysis and in making estimates for the elements' costs. For example, when actual values are not known, get knowledgeable estimates and compare them to known values. If a particular cost element doesn't seem both significant and relevant, don't include it.

e. This LCC model can be programmed for handheld calculators. (You can get a copy of the "TI-59 Handheld Calculator LCC Model User's Handbook" from Directorate of Cost Analysis, Comptroller, ASD, Wright-Patterson AFB OH 45433.)

### 2. Approach to Model:

a. Read this attachment to become familiar with the material.

b. Separate the LCC analysis worksheet (fig A1-1), the data collection worksheet (fig A1-2), and the list of standard parameter values (fig A1-3).

c. Note the LCC worksheet is designed to follow the cost equations in paragraph 3.

d. Complete the data collection worksheet using actual values or estimates.

e. Calculate the cost using the data in the data collection worksheet and the list of standard parameter values.

f. Complete the LCC worksheet to determine the figure of merit.

g. Update the analysis when new data or alternatives become available and item selection decisions are required.

### 3. Determining LCC. The following procedures tell how to determine each cost element on the LCC analysis worksheet:

a. **Research and Development Cost ( $C_1$ ).** Use one of the following:

-Development cost (parametric type) model, such as the RCA PRICE Model.

-Bid/quote.

-Estimate based on cost of similar equipment (analogy method).

-Independent cost estimate.

b. **Total Acquisition Cost ( $C_2$ ).** Sum the costs for System Investment ( $C_{2.1}$ ) and Support Investment ( $C_{2.2}$ ).

(1) **System Investment Cost ( $C_{2.1}$ ).** Use one of the following:

-Acquisition Cost, Model, such as the RCA PRICE Model.

-Catalog price.

-Bid/quote.

-Analogous equipment.

-Independent cost estimate.

(2) **Support Investment Cost ( $C_{2.2}$ ).** Sum the costs for Support Equipment ( $C_{2.2.1}$ ), Initial Base Spares ( $C_{2.2.2}$ ), and Initial Depot Spares ( $C_{2.2.3}$ ).

(a) **Support Equipment Cost ( $C_{2.2.1}$ ).** Use one of the following:

-Catalog price.

-Bid/quote.

-Estimate based on cost of similar equipment (analogy method).

-Percentage of System Investment Cost ( $C_{2.1}$ ) - (FACTOR).

(b) **Initial Base Spares Cost ( $C_{2.2.2}$ ):**

Use  $C_{2.2.2} = (UC)(STK)(M)$

UC = Unit cost of the equipment as a spare.

M = Number of operating bases where spare equipment is stocked.

STK = The number of spares required for each base to fill the base repair pipeline, including a safety stock to protect against random fluctuations in demand.

$$STK = \left[ \frac{(POH)}{(M) \times (MTBR)} \right] (t) + 1.5 \times \sqrt{\left( \frac{(POH)}{(M) \times (MTBR)} \right)} (t)$$

Where POH = Expected operating hours for one month during the peak-usage period for the total equipment population.

MTBR = Mean unit operating hours between removals. Equivalent to MTBF if there are no repair-in-place actions.

t = Weighted pipeline time in months.

$$t = [(RTS) \times (BRCT)] + [(NRTS) \times (OST)]$$

RTS = Repairable at base.

BRCT = Time in months for an item repaired at the base, from removal of the item until it is returned to serviceable stock (Given).\*

NRTS = Not repairable at base.

OST = Order and Shipping Time (Given).

(c) Initial Depot Spares Cost (C<sub>2.2.3</sub>):

$$\text{Use } C_{2.2.3} = \frac{(POH) \times (NRTS) \times (DRCT) \times (UC)}{(MTBR)}$$

Where DRCT = Time in months, from removal of the item until it is returned to serviceable stock. This includes the time required for transportation and handling from base to depot, and the shop-flow time to repair the item within the technology repair center (Given).

c. Ownership Cost (C<sub>3</sub>): Sum the costs for—

- Base Maintenance Manpower (C<sub>3.1</sub>)
- Base Maintenance Material (C<sub>3.2</sub>)
- Depot Maintenance Manpower (C<sub>3.3</sub>)
- Depot Maintenance Material (C<sub>3.4</sub>)
- Second-Destination Transportation (C<sub>3.5</sub>)
- Replenishment Spares (C<sub>3.6</sub>)
- Inventory Management (C<sub>3.7</sub>)

(1) Base Maintenance Manpower Cost (C<sub>3.1</sub>):

$$\text{Use } C_{3.1} = \frac{(TOH)}{(MTBR)} \times [PAMH + RMH + BCMH + (RTS) \times (BMH)] \times (BLR) + \frac{(TOH)}{SMI} \times (SMH) \times (BLR)$$

The first term is the work-hour labor cost to do maintenance due to unscheduled failures over the system's life at base. The second term is the work-hour labor cost to do scheduled maintenance on the equipment.

Where TOH = Total operating hours for all equipment over the life cycle.

PAMH = Average work-hours spent preparing and getting access to the installed system; for example, jacking, unbuttoning, removing other units, etc.

RMH = Average work-hours for replacing an item. Includes work-hours to troubleshoot; remove, replace the equipment; and operationally check newly installed equipment.

BCMh = Average work-hours to benchcheck the equipment in the base-level shop before repair.

BMH = Average work-hours to do base-shop maintenance on equipment that has been removed, including fault isolation, repair, and verification.

BLR = Base Labor Rate (Given).

SMI = Operating-hour interval between scheduled periodic or phased inspections on the equipment.

SMH = Average work-hours to do a scheduled periodic or phased inspection on the equipment.

(2) Base Maintenance Material Cost (C<sub>3.2</sub>):

$$\text{Use } C_{3.2} = \frac{(TOH) \times (RTS) \times (UC) \times (BMC)}{(MTBR)}$$

Where BMC = Average cost per base-shop repair expressed as a fraction of a UC. Includes the cost of expendable materials consumed in repair, plus the labor, material, and stockage cost of lower-indenture repairable components or subassemblies.

(3) Depot Maintenance Manpower Cost (C<sub>3.3</sub>):

$$\text{Use } C_{3.3} = \frac{(TOH) \times (NRTS) \times (DMH) \times (DLR)}{(MTBR)}$$

\*When a variable definition is followed by "Given," the value of this variable is a government-furnished standard value (see fig A1-3). Use actual values, however, if they are known.

Where DMH = Average work-hours to perform depot maintenance on removed equipment, including fault isolation, repair, verification, or condemnation.

DLR = Depot Labor Rate (Given).

(4) Depot Maintenance Material Cost ( $C_{3,4}$ ):

$$\text{Use } C_{3,4} = \frac{(\text{TOH}) \times (\text{NRTS-COND}) \times (\text{DMC}) \times (\text{UC})}{(\text{MTBR})}$$

Where DMC = Average cost per depot repair expressed as a fraction of a UC. Includes the cost of expendable materials consumed in repair, plus the labor, material, and stockage cost of lower-indenture reparable components or subassemblies.

COND = Fraction of removals when the equipment is subsequently condemned. NRTS-COND (see definition of NRTS).

(5) Second-Destination Transportation Cost ( $C_{3,5}$ ):

$$\text{Use } C_{3,5} = \frac{(\text{TOH})}{(\text{MTBR})} \times [2 \times (\text{NRTS})] \times (\text{PSC}) \times (1.35) \times (\text{W})$$

This equation includes the cost of round-trip transportation for equipment sent to depot for repair or condemnation. The 1.35 factor is the ratio of packed to unpacked weight.

Where PSC = Average packing and shipping cost to CONUS locations (Given).

W = Weight of equipment in pounds (lbs).

(6) Replenishment Spares Cost ( $C_{3,6}$ ):

$$\text{Use } C_{3,6} = \frac{(\text{TOH}) \times (\text{COND}) \times (\text{UC})}{(\text{MTBR})}$$

(7) Inventory Management Cost ( $C_{3,7}$ ):

$$\text{Use } C_{3,7} = [\text{IMC} + \{(\text{PIUP} \times (\text{RMC}))\}] \times (\text{PA} + \text{PP} + 1) + (\text{M}) \times (\text{SA}) \times (\text{PIUP}) \times (\text{PA} + \text{PP} + 1)$$

The first term is the cost to enter new line items into the government's supply inventory and manage them over the life of the system. The second item is the life-cycle base-level supply-management cost of this new equipment.

Where IMC = Initial management cost to introduce a new line item of supply (assembly or piece part) into the wholesale inventory (Given).

PIUP = Operational service life of the equipment in years.

RMC = Recurring management cost to maintain a line item of supply (assembly or piece part) in the wholesale inventory (Given).

PA = Number of new "P"-coded reparable assemblies within the equipment

PP = Number of new "P"-coded consumables within the equipment.

SA = Annual inventory-management cost for line items in base supply (Given).

d. Life-Cycle Cost. Sum the costs of Research and Development ( $C_1$ ), Total Acquisition ( $C_2$ ), and Ownership ( $C_3$ ).

COST ELEMENTS		COST
RESEARCH AND DEVELOPMENT	TOTAL RESEARCH AND DEVELOPMENT COST = $C_1$	<input type="checkbox"/>
ACQUISITION		
SYSTEM INVESTMENT	$C_{2.1} =$	<input type="checkbox"/>
SUPPORT INVESTMENT		
SUPPORT EQUIPMENT	$C_{2.2.1} =$	<input type="checkbox"/>
INITIAL BASE SPARES	$C_{2.2.2} =$	<input type="checkbox"/>
INITIAL DEPOT SPARES	$C_{2.2.3} =$	<input type="checkbox"/>
	$C_{2.2} = C_{2.2.1} + C_{2.2.2} + C_{2.2.3} =$	<input type="checkbox"/>
TOTAL ACQUISITION COST = $C_2 = C_{2.1} + C_{2.2} =$		<input type="checkbox"/>
OWNERSHIP		
BASE MAINTENANCE MANPOWER	$C_{3.1} =$	<input type="checkbox"/>
BASE MAINTENANCE MATERIAL	$C_{3.2} =$	<input type="checkbox"/>
DEPOT MAINTENANCE MANPOWER	$C_{3.3} =$	<input type="checkbox"/>
DEPOT MAINTENANCE MATERIAL	$C_{3.4} =$	<input type="checkbox"/>
SECOND-DESTINATION TRANSPORTATION	$C_{3.5} =$	<input type="checkbox"/>
REPLENISHMENT SPARES	$C_{3.6} =$	<input type="checkbox"/>
INVENTORY MANAGEMENT	$C_{3.7} =$	<input type="checkbox"/>
TOTAL OWNERSHIP COST = $C_3 = C_{3.1} + C_{3.2} + C_{3.3} + C_{3.4} + C_{3.5} + C_{3.6} + C_{3.7} =$		<input type="checkbox"/>
LIFE-CYCLE COST = $C_1 + C_2 + C_3 =$		<input type="checkbox"/>

Figure A1-1. Life-Cycle Cost Analysis Worksheet.

VARIABLE NAME	UNITS	VALUE*			DEFINITION
		A	B	C	
UC	\$/SPARE				UNIT COST OF THE EQUIPMENT AS A SPARE
M	-				NUMBER OF OPERATING BASES
POH	PEAK HOURS/MONTH				PEAK OPERATING HOURS PER MONTH
MTBR	HOURS				MEAN TIME BETWEEN REMOVAL
TOH	TOTAL HOURS				TOTAL OPERATING HOURS OVER ENTIRE LIFE-CYCLE PERIOD
NRTS	FRACTION				NOT REPARABLE AT BASE
RTS	FRACTION				REPARABLE AT BASE (NRTS + RTS = 1)
PAMH	HOURS				PREPARATION AND ACCESS WORK-HOURS
RMH	HOURS				REPLACEMENT WORK-HOURS
SMI	HOURS				SCHEDULED MAINTENANCE INTERVAL
BCMh	HOURS				BENCHCHECK WORK-HOURS
BMH	HOURS				BASE MAINTENANCE WORK-HOURS
BMC	FRACTION OF UC				BASE MATERIAL COST PER BASE REPAIR
DMH	HOURS				DEPOT MAINTENANCE WORK-HOURS
DMC	FRACTION OF UC				DEPOT MAINTENANCE COST PER DEPOT REPAIR
W	POUNDS				WEIGHT OF EQUIPMENT
COND	FRACTION				CONDEMNATION RATE
PIUP	YEARS				OPERATIONAL SERVICE LIFE
PA	-				NEW REPARABLE "P"-CODED ITEMS
PP	-				NEW CONSUMABLE "P"-CODED ITEMS
SMH	HOURS				SCHEDULED MAINTENANCE WORK-HOURS

\*Use Columns A, B, and C to record the values of the named variables for each alternative being considered.

Figure A1-2. Data Collection Worksheet.



PARAMETER	UNITS	VALUE*	DEFINITION
BRCT	MONTHS	AVIONIC EQUIPMENT = 0.20 OTHER NON-MODULAR EQUIPMENT = 0.33	BASE REPAIR CYCLE TIME
OST	MONTHS	0.394	ORDER AND SHIPPING TIME
DRCT	MONTHS	1.35	DEPOT REPAIR CYCLE TIME
BLR	\$/WORK-HOURS	13.03	BASE LABOR RATE
DLR	\$/WORK-HOURS	18.05	DEPOT LABOR RATE
PSC	\$/POUND	0.59	PACKING AND SHIPPING COST
SA	\$/ITEM/YEAR	36.59	BASE SUPPLY INVENTORY COST
IMC	\$/ITEM	46.60	INITIAL MANAGEMENT COST
RMC	\$/ITEM/YEAR	104.20	RECURRING MANAGEMENT COST

\*The values listed above are 1976 values and are subject to change. Contact AFLC/AC for the latest values.

Figure A1-3. List of Standard Parameter Values.

## GFE/CFE SELECTION PROCESS

**1. Purpose of This Attachment.** This attachment tells how to plan and manage GFE, select the equipment, determine the acquisition approach (GFE or CFE), and document this selection process. The goal is to select and acquire equipment in a way that is most advantageous to the government.

**2. Selecting Equipment:**

**a. Item Selection.** The item selection process generally parallels the source selection process. Evaluate each item according to the checklist in figure A2-2. Weight the questions in terms of system or program needs. Tabulate the answers in a summary worksheet (fig A2-3) and use the results to select the items that are most appropriate to meet system or program needs.

**b. Acquisition Method.** After selecting items and completing the preliminary availability and acquisition analyses (paras 3b(2)(a)-(b) and atch 4 and 5), then determine the more advantageous acquisition method, GFE or CFE. This is a qualitative assessment that can be made with the help of questions in paragraph 6: identify key issues involving GFE or CFE and develop an objective way to assess the GFE or CFE decision.

**3. GFE/CFE Process, Precontract Phase.** Figure A2-1 outlines the process, starting at the end of the conceptual phase during the preparation of the SOW and RFP for the follow-on demonstration and validation phase. The process may be applied to more than one conceptual design approach because competing categories of systems or equipment may be contending for demonstration and validation. The GFE/CFE lists will also change as the definition of the system design evolves from phase to phase.

**a. Program Requirements/Planning Analysis (Block 1).** Review the program direction for special guidance about systems engineering or configuration management. Resulting needs for GFE, guidance, and constraints will be set in these areas and program/system offices will address them in planning documents. This function includes the following subfunctions:

(1) Identify equipment needs. AFSC Form 56 gives management guidance and describes deviations from or amplification to accepted practices for system standardization, configuration management, LCC, and integrated logistics support. When appropriate, it also documents any systems engineering efforts needed to optimize system performance parameters and configuration. Analyze all this information to see how it affects equipment selection. To identify needed SE analyze the following:

(a) Mission tasks and characteristics.

(b) System design concept.

(c) Operation and maintenance concept.

(d) Logistic support analysis, MIL-STD-1388-1A(2A).

(e) Support Equipment Plan, DI-A-6102A.

(2) Formalize equipment management planning. In the Program Management Plan (sections 4 and 13), document formal equipment management planning and fulfill constraints. This planning will describe the system's major equipment and the acquisition approach (GFE or CFE). Planning documents will support the objectives of the Defense Standardization Program. When possible, specify items that are amenable to component breakout per DAR 1-326 and DOD FAR Supplement 17.7202 and give the approximate breakout date.

(3) Tailor the GFE/CFE decision to the program's equipment needs. Program management may require special actions in such areas as design to cost, LCCs, logistics, and test. Use any unique program requirements to modify the GFE/CFE selection process in paragraphs 4-6 and figure A2-2.

**b. Item Selection Process (Block 2).** Now start the item selection process. The purpose of the process is to systematically choose items from available equipment lists that best fulfill government requirements. The process includes the following functions:

(1) Equipment List Screening (Block 2A). Review the AF S/PIL and all other available lists of equipment (commercial catalogs: AF Avionics Planning Baseline; MIL-HDBK 300, Technical Information File of Ground Support Equipment, etc). In this initial screening, eliminate all classes of equipment that are not relevant to program requirements (for example, tires for an airborne radar program). This screening process should yield items that can potentially meet program needs and that warrant further examination before the final items are chosen. Screening may show that several items could fulfill one function or requirement.

(2) Preliminary Equipment Selection Decision (Block 2B). Analyze items according to paragraph 4. Complete item selection by deciding technical appropriateness of equipment alternatives.

(a) GFE Availability Request/Acquisition Assessment (Block 2c). For items that warrant further examination, perform preliminary availability and acquisition analyses (submit an AFLC/AFSC Form 8 according to atch 3) to get additional information before doing the rest of the item selection process. The availability analysis shows whether existing government assets can be made available (releasable) or acquired as GFE, and the related costs, lead times, etc., for inventory assets. For inventory items AFLC does not have, cannot get, or does not manage, send a copy of the same AFLC/AFSC Form 8 to the GFE program/system office or equipment-buying activity. The activity will do an acquisition analysis to find out whether it can buy the item as well as to establish the associated costs, lead times, data requirements, etc. The activity will do this analysis according to attachments 3, 4, and 5.

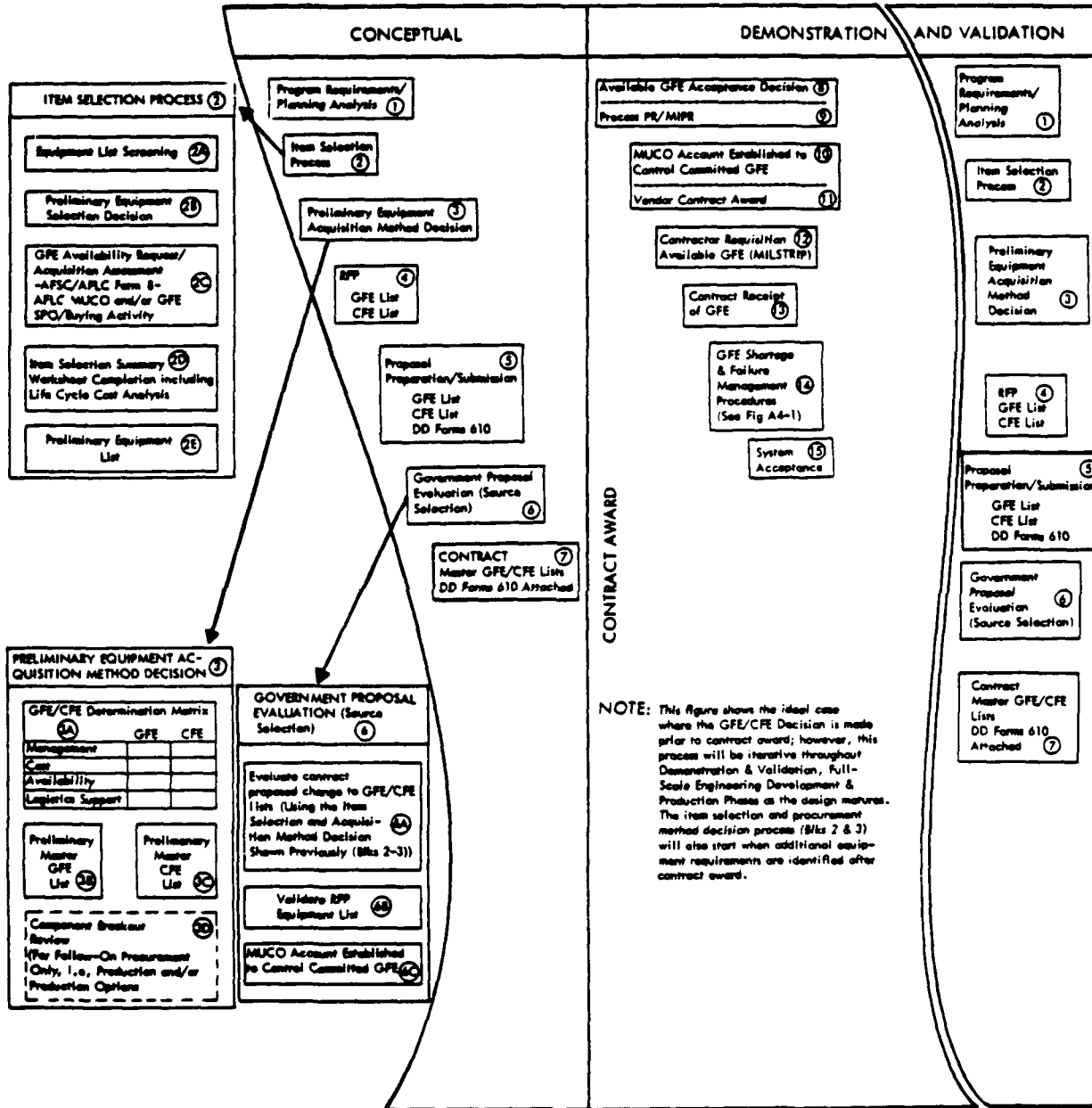


Figure A2-1. Equipment Selection and Acquisition Process.

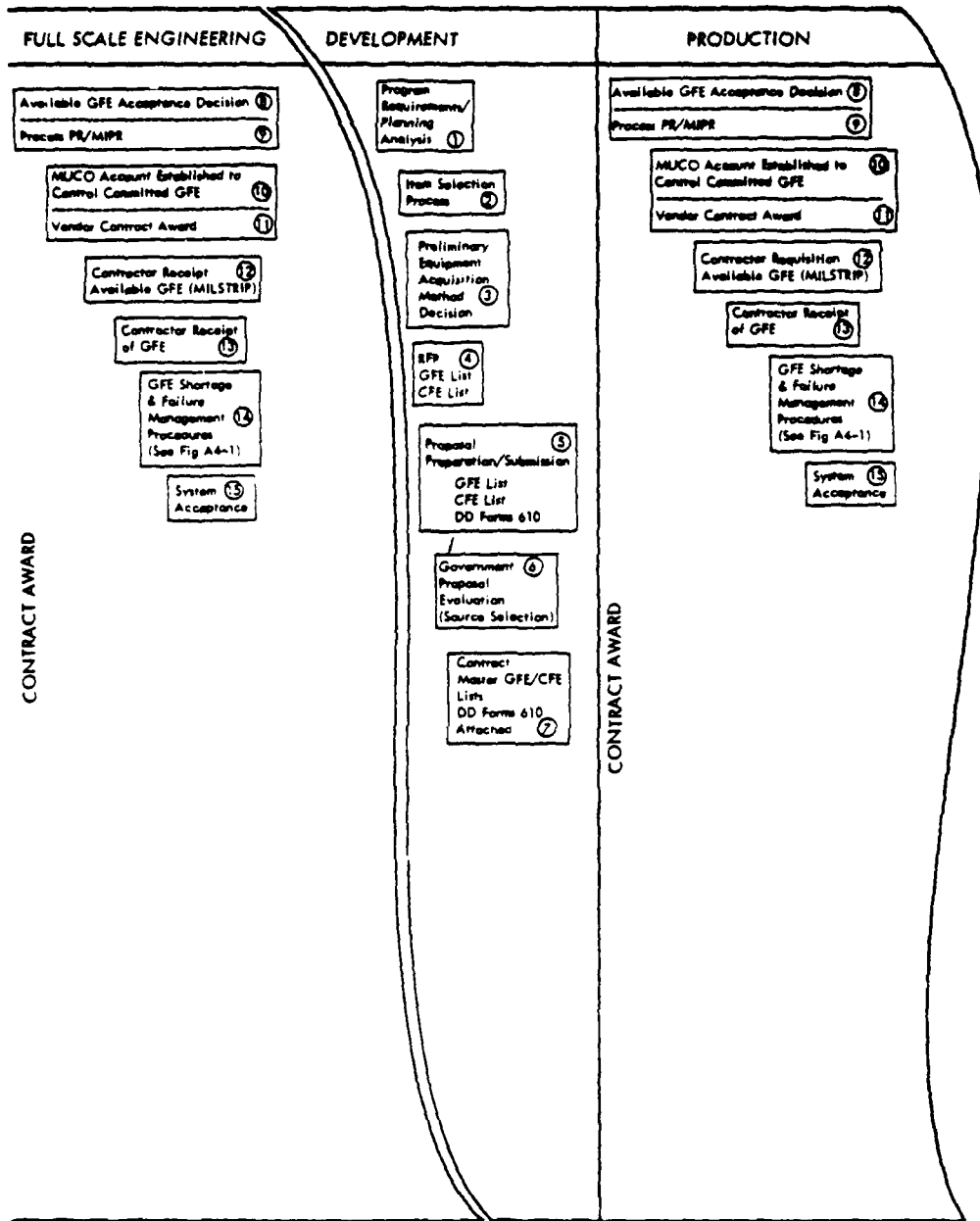


Figure A2-1. Continued.

SCORE	TECHNICAL
_____	Has the item previously been qualified to meet its intended application? If not, what qualification testing will it require?
_____	Are there test data for each of the following—reliability and maintainability (R&M), survivability, vulnerability, human factors? Is the availability of these test data critical to the program's/system's schedule?
_____	Is the item compatible with the program's/system's environmental conditions (corrosion, humidity, temperature, shock, vibration, etc.)?
_____	For an inventory item, what is its current physical condition? Will it satisfy the requirements of its product specification?
_____	Must the item be modified for its intended use?
_____	Does the item or its test equipment require software? Will modifying the item require changing the software?
_____	Is the item approaching technological obsolescence? Is technological obsolescence significant for program/system requirements?
_____	For inventory assets, is the specification current?
_____	Does the item meet program/system safety requirements?
_____	Does the item require a standard interface?
_____	Is the item compatible with the program/system interface requirements?
_____	Is the item compatible with standard interfaces?
_____	Are there historical data available on the equipment (MTBF, MTTR)?
_____	If the item were selected as part of the program/system, how would it affect the program's/system's preventive maintenance time?
_____	How would the item affect program/system MTBM?
_____	Are the item's physical dimensions and weights within the constraints the program/system imposes?
_____	Is the item's configuration stable or is it subject to high change activity (for example, ECPs, TCTOs, modifications)? Will changes be consistent with program/system requirements?
_____	Does the government own reprourement data for the item?
_____	Does the item require special test or support equipment? If so, is it available?
_____	Is the item currently used in (or forecast for use in) other programs/systems in its present or modified condition? If so, would a joint acquisition of the item save money?
_____	Can the item be bought in large enough quantities to acceptable quality-assurance standards? Are extremely tight tolerances required during manufacture?
_____	For an item available in inventory, who has overhauled it? Was it overhauled to TOs or specifications?
_____	Does the state of the art dictate whether to develop a new item or use an existing or modified item?

Figure A2-2. Item Selection Checklist.

_____	Does the item have growth potential to increase capability or performance by making modifications?
_____	Where an item's reliability was established by AFR 66-1, what environmental conditions was the item subjected to when the data were gathered? Will the new environment be similar?
_____	Is there enough technical documentation to redefine the item's functional and physical characteristics? If so, is the documentation current and approved?
	<b>SCHEDULE</b>
_____	Is the inventory item available to meet the program/system schedule?
_____	If the item must be modified, can it be modified in time to meet the master program/system schedule?
_____	Can the commercial item be bought in time to meet the program/system schedule?
_____	What is the delivery schedule for SE? Does it meet prime-item delivery?
_____	Can a new item be developed in time to meet the program/system schedule?
	<b>LOGISTICS SUPPORT</b>
_____	Does the item present any special transportation, handling, or storage problems? If so, are they peculiar to the item or normal for the item's class of equipment?
_____	Will personnel need additional training to operate or maintain the item?
_____	If the item requires modification, who will modify it?

Figure A2-2. Continued.

ACQUISITION #:  
 ITEM FUNCTION:  
 ITEM(S) NOMENCLATURE:  
 EVALUATOR:  
 DATE:  
 ASSIGN CATEGORY WEIGHTS:\*

TECHNICAL	_____	TOTAL 100 POINTS
SCHEDULE	_____	
LOGISTICS	_____	
SUPPORT	_____	
COST	_____	

CATEGORY: TECHNICAL			
CHECKLIST SCORE	ITEM A	ITEM B	ITEM N
1.			
2.			
3.			
4.			
	ITEM SCORE	_____	_____
	TOTAL MAXIMUM SCORE POSSIBLE		

CATEGORY: SCHEDULE			
CHECKLIST SCORE	ITEM A	ITEM B	ITEM N
1.			
2.			
3.			
4.			
	ITEM SCORE	_____	_____
	TOTAL MAXIMUM SCORE POSSIBLE		

CATEGORY: LOGISTICS SUPPORT			
CHECKLIST SCORE	ITEM A	ITEM B	ITEM N
1.			
2.			
3.			
4.			
	ITEM SCORE	_____	_____
	TOTAL MAXIMUM SCORE POSSIBLE		

CATEGORY: COST			
CHECKLIST SCORE	ITEM A	ITEM B	ITEM N
1.			
2.			
3.			
4.			
	ITEM SCORE	_____	_____
	TOTAL MAXIMUM SCORE POSSIBLE		

Figure A2-3. Item Selection Summary Worksheet.

CATEGORY: SCORE DETERMINATION			
WEIGHTED SCORE (WS) = $\frac{\text{TOTAL ITEM SCORE}}{\text{TOTAL MAX SCORE}} \times \text{CATEGORY WEIGHTING}$			
CATEGORY	ITEM A	ITEM B	ITEM N
TECHNICAL	WS	WS	WS
SCHEDULE	WS	WS	WS
SUPPORT	WS	WS	WS
COST	WS	WS	WS
	TOTAL	TOTAL	TOTAL

\*The weights assigned to each category must be commensurate with individual program/system and life-cycle cost objectives.

ITEM SELECTED:

EVALUATOR COMMENTS:

Figure A2-3. Continued.

(b) Item Selection Summary Worksheet Completion, Including LCC Analysis (Block 2D). The program/system office must then analyze the remaining items in the item-selection process. This includes doing an LCC analysis (atch 1) and completing an item selection summary worksheet using the item selection checklist.

(3) Preliminary Equipment List (Block 2E). Document the items selected for acquisition.

c. Preliminary Equipment Acquisition Method Decision (Block 3). In deciding how to acquire the equipment, determine which acquisition method (GFE or CFE) is more beneficial to the government.

(1) GFE/CFE Determination Matrix (Block 3A). Use the checklist and matrix in paragraph 5 and figure A2-3.

(2) PMGFEL (Block 3B). The government will furnish the equipment on the PMGFEL. AFSCR/AFLCR 800-24, figure 6-2, gives one possible format for this list. This format is not mandatory, but the PMGFEL must at least specify the NSN nomenclature, quantity per system, type of installation (contractor or government), and estimated unit price.

(3) PMCFEL (Block 3C). The PMCFEL shows items selected for the system that should be CFE because it is more beneficial to the government. The format for this list should be similar to that for the PMGFEL.

d. Component Breakout Review (Block 3D):

(1) Breakout Review. Review all CFE items, including those on the MCFEL, periodically to determine if they should be converted to GFE. Conduct this review at least annually before preparing the budget or before each successive acquisition. Four actions are required to "break out" an item from CFE to GFE.

(a) Review the MCFEL to identify items that may be suitable for "breaking out."

(b) Analyze these items by the component

breakout guidelines in DAR 1-326, DOD FAR Supplement 17.7202, and attachment 9.

(c) Review the checklist questions (para 6 below) to ensure they are relevant to the acquisition. Revise the checklist questions to reflect changes to program requirements.

(d) Analyze these items according to 3c above and paragraph 5.

(2) Document as breakout items those items that follow the guidelines and satisfy the assessment.

(3) Revise the MGFEL and MCFEL so they show all approved contractor recommendations and component breakout actions. When appropriate, include these lists as part of amended or new contracts. Send copies of revised MGFELs to each ALC MUCO office.

e. RFP (Block 4). The PMGFEL and PMCFEL must be included in the RFP. However, the RFP must also request an alternate price quotation, assuming the contractor were to furnish the equipment on the GFE list. This provides current cost data to refine the acquisition method decision. The program/system office must also include DOD Data Item DI-P-6162A and DD Form 610 in the RFP under "Contract Data Requirements List" (atch 7). The RFP solicitation instructions should give the contractor flexibility to propose modifying either list whenever internal analysis shows an advantage to the government. Contractors must document the rationale for changes in the proposals they submit.

f. Proposal Preparation/Submission (Block 5). In preparing proposals, the contractor must review and comment on the PMGFEL and PMCFEL. The contractor's documentation will contain at least the information presented in the PMGFEL and the PMCFEL. The contractor's proposal must include substantiating information that will help the government evaluate the GFE/CFE proposals.



**g. Government Proposal Evaluation (Source Selection) (Block 6).** In reviewing proposals, the government will review the contractor's proposed changes to the PMGFEL and PMCFEL.

(1) Evaluate contractor-proposed changes to GFE and CFE lists (Block 6A). The contractor can propose alternate GFE and CFE for the government to consider. When a contractor submits an alternate GFE/CFE proposal, the government analyzes contractor-proposed changes to the RFP equipment lists. First the government thoroughly reviews the contractor's rationale. Analyze the deviations the contractor proposes against the government's approach in the RFP equipment lists, using the same method as for the original item selection and acquisition method decisions (blocks 2 and 3). Based on this analysis, incorporate approved item selection and acquisition approach changes to the MGFEL and MCFEL (block 7).

(2) Validate RFP Equipment Lists (Block 6B). After evaluating any contractor-proposed changes to the PMGFEL, the program/system office will ensure that the RFP equipment lists are current, accurate, and ready for entry into the MGFEL and MCFEL. Because the program/system office must include these lists in the contract, the lists must give enough information for planning, funding, and acquiring equipment for system integration. Reconfirm the availability of items on the MGFEL and send a formal acceptance letter or message to the ALC MUCO before awarding the contract.

(3) MUCO Account Established to Control Committed GFE (Block 6C). On receiving the acceptance letter, the ALC MUCO places the items in a MUCO account to ensure the program/system office's requirements can be met.

**h. Contract Award (Block 7).** The MGFEL and MCFEL must be included in the system/subsystem contract. Contracts must give the contractors incentives to propose deviating from the lists when they can show that the deviations use government equipment more effectively or better promote the objectives of the Defense Standardization Program. The MGFEL and MCFEL must be kept current throughout the contract period when program/system office reviews or decisions affect the system configuration. The ALC MUCOs will use this list to validate requirements from the program/system office or contractors.

#### 4. Item Selection Process:

a. Review the program's requirements for equipment and its plans for managing equipment.

b. Review the questions on the item selection checklist and verify that they apply to program needs.

c. Modify categories and questions on the item selection checklist to meet unique program requirements.

d. Assign points (weights) to each of the four categories: technical, schedule, logistics support, and

cost. The weights must reflect each category's importance to the program. The weights for all categories should total 100. Show these weights on the item selection summary worksheet.

e. Assign a numerical value for the answer to each question. For example, you might assign a score of 10 to a completely satisfactory answer and a score of 0 to a completely unsatisfactory answer. Questions within a given category can be assigned different scores; more important questions should be assigned higher scores.

f. Analyze each item, using information from the equipment lists, the technical authority responsible for the item, and commercial catalogs.

(1) Evaluate each item with the checklist and record the scores on the item selection worksheet. Add comments if necessary. You may use one worksheet to record results for several items.

(2) For each category, determine the highest possible score by totalling the values assigned to all the questions in the category.

g. Total the scores recorded in f(1) above for each category.

h. Divide the category total in g above by the highest possible score in f(2) above to get a raw score.

i. Multiply this raw score by the weight assigned to the category in d above to get the weighted category score. Record this score on the item selection worksheet.

j. Repeat the process to get weighted category scores for each category. Total the category scores.

k. Fill out the item selection worksheet.

l. Merely comparing scores does not always lead to a clear decision. Therefore, before beginning this process, consider:

(1) If an item gets an unacceptable score on a high priority question, should it be disqualified?

(2) If an item gets an unacceptable score on a high priority category, should it be disqualified?

(3) If items get comparable scores, how will a choice be made?

**5. Determining GFE/CFE Acquisition.** Use this process after selecting the item and doing the availability and acquisition analyses. Throughout the following procedure, "method of acquisition" means choosing between CFE and GFE.

a. Tailor the questions and categories on the GFE/CFE Determination Checklist (para 6) as necessary to meet unique program requirements.

b. Refer to the GFE/CFE Determination Matrix (fig A2-4).

(1) Assign each category a weight or percentage that reflects its importance in meeting program needs.

(2) Answer or analyze the checklist questions and decide whether the answer favors GFE or CFE.

(3) Decide which method of acquisition would be better for each category.

c. Analyze the matrix to help evaluate and select

Evaluator: _____	Date: _____								
<b>PREFERENCE SELECTION</b>									
<b>CATEGORY</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">GFE</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">CFE</td> </tr> <tr> <td style="text-align: center;">Favor</td> <td style="text-align: center;">Partial</td> <td style="text-align: center;">Favor</td> <td style="text-align: center;">Partial</td> </tr> </table>		GFE		CFE	Favor	Partial	Favor	Partial
	GFE		CFE						
Favor	Partial	Favor	Partial						
<hr/>									
<b>A. Management</b>									
Question 1.									
2.									
3.									
Total	<hr/>								
<b>B. Cost</b>									
Question 1.									
2.									
3.									
Total	<hr/>								
<b>C. Availability</b>									
Question 1.									
2.									
3.									
Total	<hr/>								
<b>D. Logistic Support</b>									
Question 1.									
2.									
3.									
Total	<hr/>								
<b>TOTAL ENTRIES</b>									
<hr/>									
<b>Weighted Sum:</b>									
<hr/>									
<b>DECISION:</b>		GFE or CFE	<b>RATIONALE:</b>						

**Figure A2-4. GFE/CFE Determination Matrix (Sample Format).**

the more advantageous acquisition method. Record the supporting rationale.

**6. GFE/CFE Determination Checklist:**

**a. Management Factors:**

(1) Which method of acquisition would provide the better capability to assume the technical risks associated with quality assurance, reliability, and interchangeability?

(2) Which method encourages small business to take part in the program as an item vendor?

(3) Which method gives the government better item configuration control?

(4) Which method better ensures timely delivery?

(5) Which method better ensures contractors will adhere to warranty provisions?

(6) Which method encourages a stronger competitive environment?

(7) Which method allows for FMS considerations to be fulfilled better?

(8) Which method gives the government a better technical and management view of the item, if the item has a potential for use in other systems?

(9) Which method is better considering the number of items to be acquired?

(10) Which method takes better advantage of other programs that are already acquiring the same item?

(11) Which method has better potential for integrating the equipment into the system?

(12) Which method gives better assurance that contractors will deliver on schedule and comply with specifications?

(13) For an item with potential for use in other systems, which method permits a continuing engineering program that keeps the item current with the state of the art?

(14) Which method better supports the NATO rationalization/standardization/interoperability policies and direction?

**b. Cost Factors:**

(1) Which method better handles the program's funding constraints?

(2) Which method is more cost effective (for example, how does the contractor's overhead cost compare with the cost of any additional government resources that would be needed if the item were supplied as GFE)?

(3) Which method better exploits the unit-

price savings resulting from competition? Are there several vendors who can supply the selected item?

(4) Which method has a more acceptable degree of cost risk? (For example, if GFE cost is 90 percent of CFE cost, but the confidence level in the GFE cost is only 10 percent and confidence in the CFE cost is 95 percent, then CFE has a lower cost risk.)

**c. Availability Factor.** Which method better provides the lead time needed to meet the prime contractor's schedule requirements?

**d. Logistics Support:**

(1) If an item is not in the DOD inventory and is nonsupportable, which method would be most advantageous to the government for providing logistics support elements, such as technical data and spares, after the item is supplied?

(2) Which method better provides for maintaining the item after delivery to the contractor?

(3) If an item is available in the DOD inventory, can it be kept in a holding account until needed? Are there enough spares and repair parts to support the additional operational requirements? Which method do these considerations favor?

**POLICY, PROCEDURES, AND PREPARATION INSTRUCTIONS  
FOR AFLC/AFSC FORM 8,  
GFE AVAILABILITY REQUEST/ACQUISITION ASSESSMENT**

**1. Policy and Procedures:**

a. The program/system office will submit AFLC/AFSC Form 8 only for items identified by an NSN or NC.

b. The program/system office will use section I of the form to request—

(1) Availability (releasability) of inventory government serviceable or reparable assets that can be used to support program/system development and production requirements.

(2) AFLC to provide equipment for development and production reserves so rejects or late deliveries do not cause shortages.

(3) AFLC to provide initial or replenishment spares support when the preliminary availability assessment shows there are not enough GFE assets to cover production requirements and AFSC will have to buy additional or new GFE.

(4) The cognizant equipment-buying activity to buy an item of GFE/GFM if government assets are not available to meet development and production requirements.

(5) AFLC to provide military property for loan or lease to contractors.

c. The program/system office will complete section I of the form and send the original and three copies to the MUCO of the AFLC FSC/MMAC prime item ALC (AFLCR 523-3 or the Master Equipment Management Index, TA001) for GFE. The program/system office will complete section I of the form and send the original and three copies to the MMMS office (Loan/Lease Control Office) at the prime item ALC for loan or lease property requirements. On receiving the form the prime ALC MUCO or loan/lease control officer will—

(1) Validate the prime FSC/MMAC assignment.

(2) If the FSC/MMAC prime ALC assignment is incorrect, enter the correct ALC in section II, item 27, and return the form to the submitting program/system office.

(3) If the FSC/MMAC prime ALC assignment is correct, process the form within 15 workdays. If more time is needed, negotiate with the submitter. The procedure is as follows:

(a) Assign a control number and establish a control file.

(b) Send the form to the responsible IMS to evaluate and complete section II or III, as appropriate.

1. If the managing IMS is the PICA (DOD IMS), the IMS will determine if assets are on hand or due in to support the requirement. If assets are or will be available, complete section II. Inform the program/system office whether the items will be "reimbursable" or "free issue." (Stock fund items are reimbursable to a noncapitalized EY account

when issued either out of the inventory control point (ICP) or out of another capitalized account.) If assets are not available, the IMS can either buy the item or give the program/system office the authority to buy. Complete section III and have the approving authority sign the form (AFLCR 57-19).

2. If the managing IMS is the Secondary Inventory Control Activity (SICA) (service/agency IMS), the IMS will coordinate the request with the PICA to obtain an asset availability position. If the PICA indicates the assets are or will be available, complete section II. Inform the program/system office whether the items will be "reimbursable" or "free issue." If assets are not available and the PICA will buy the item or give the program/system office permission to buy, complete section III and have the approving authority sign the form (AFLCR 57-19).

(c) When the IMS evaluation has been accomplished, the form will be returned to the MUCO or loan/lease officer who, in turn, will review the form, sign it, update the files, and return two copies of the form to the submitting program/system office.

(d) On receipt of the form, the program/system office will evaluate the IMS comments: complete section IV indicating acceptance or rejection of asset offers; and return the completed form to the MUCO or loan/lease control officer so logistics action can be initiated or the file can be closed. If reparable assets were offered and accepted, the program/system office will send the form (with section IV completed) and an AF Form 185 to the ALC Maintenance Modification Branch (MMMM) to cover the cost of repair (AFR 170-2).

d. If the AFLC/ALC notifies the program/system office that government assets are not available in the inventory to meet their requirements, or that AFLC does not manage the item, the program/system office sends the AFSC equipment-buying activity a copy of the form.

(1) When it gets the form, the activity uses a formalized business strategy to determine whether it can buy the item.

(2) The buying activity must notify the initiator of the form as to whether or not the activity can buy the GFE item. The activity does so by completing section III of the form and sending it to the program/system office within 15 workdays after receipt (unless otherwise negotiated).

(3) The director of the buying activity must approve section III of the form before sending it to the program/system office.

**2. Preparing AFLC/AFSC Form 8.** See table A3-1 for guidance on completing AFLC/AFSC Form 8, figure A3-1.

GFE AVAILABILITY REQUEST/ACQUISITION ASSESSMENT													
I. TYPE REQUEST													
<input checked="" type="checkbox"/> GFE REQUEST				<input type="checkbox"/> LOAN REQUEST				<input type="checkbox"/> LEASE REQUEST					
1. INITIATOR John Doe			2. ORGN & OFFICE SYMBOL ASD/YPMG			3. TELEPHONE NO 54321			4. DATE 11 Oct 83				
5. CONTROL NO 37836-1			6. AMENDMENT NO			6. A CONTRACTOR NO. NAME BY SRAN A-26300-F1-C002A Smith Aerospace Corp FY3674							
7. NATIONAL STOCK NO./NOMENCLATURE TYPE DESIGNATOR 6601-01-063-1104, Indicator Fuel Flow, EFU-22A/A-7													
B. PRODUCTION (INSTALLATION) REQUIREMENTS													
LINE	FISCAL YEAR A	SYSTEM TYPE DESIGNATOR SERIES MISSION DESIGN B	NUMBER OF SYSTEMS C	QUANTITY OF GFP REQUIRED		DOCK TIME MONTHS F							
				PER SYSTEM D	TOTAL INSTALL E								
1	84	ABX	1	37	174	24							
2													
3													
4													
5													
G. REQUIRED GFP DELIVERY SCHEDULE													
MONTH		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
QUANTITY PER MONTH		15	15	15	15	15	15	15	15	15	15	15	15
MONTH													
QUANTITY PER MONTH													
MONTH													
QUANTITY PER MONTH													
9. REMARKS													
II. AFLC ASSESSMENT													
10. AFLC IM Maj T.A. Smith			11. ORGN & OFFICE SYMBOL MMICA			12. TELEPHONE NO 53671			13. DATE 30 Oct 83				
14. NATIONAL STOCK NO./NOMENCLATURE TYPE DESIGNATOR 6601-01-063-1104, Indicator Fuel Flow													
15. UNIT COST 174.00			16. PROGRAM YEAR 84			17. STOCK FUND INVESTMENT Stock Fund			18. ALC CONTROL NO A-641-3		19. AMENDMENT NO		
20. PRODUCTION REQUIREMENTS						21. QNTY AVAILABLE (RELEASEABLE) TO SUPPORT PROD LOAN LEASE ROM*							
LINE	FISCAL YEAR A	SYSTEM B	TOTAL INSTALL QUANTITY C	STOCK FUND A	INVESTMENT*								
					SERVICEABLE B	REPARABLE C							
1	84	ABX	174	73	23	36							
2													
3													
4													
5													
22. OTHER APPLICABLE DATA													
A. ENGINEERING DATA REQUIRED None								ORGANIZATION		CONTRACTOR			
B. TECHNICAL ORDER DATA REQUIRED None				E. REPAIR CAP CUR EXIST						X			
C. SERVICEABLE ITEM		MIL SPEC MIL-I-8143C		F. REPAIR CYCLE (DAYS)						45			
		PART NO C4118560006											
D. REPARABLE ITEM		MIL SPEC MIL-I-37366A		G. COST TO REPAIR (PER UNIT)						65.00			
		PART NO FB82561117											

23 ALC MUCO/LOAN/LEASE CONTROL J. Johnn <i>J. Johnn</i>		24 ORGN & OFFICE SYMBOL SM-ALC/MMMC		25 TELEPHONE NO 53671		26 DATE 2 Nov 83	
27. REMARKS							
III ACQUISITION ASSESSMENT							
28 PROGRAM ITEM MANAGER S. Bear <i>S. Bear</i>		29 ORGN & OFFICE SYMBOL OC-ALC/MMMC		30 TELEPHONE NO 83612		31 DATE 10 Nov 83	
32 NATIONAL STOCK NO./NOMENCLATURE TYPE DESIGNATOR/VENDOR PART NO 6601-01-063-1104, Indicator Fuel Flow AM-374							
33 BUYING ACTIVITY ABLE TO ACQUIRE GFP ITEM <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				34 MEET ITEM BG DELIVERY SCHEDULE <input type="checkbox"/> YES <input type="checkbox"/> NO			
35 BEST DELIVERY SCHEDULE THAT CAN BE SUPPORTED							
				FY			
MONTH							
QUANTITY PER MONTH							
				FY			
MONTH							
QUANTITY PER MONTH							
				FY			
MONTH							
QUANTITY PER MONTH							
36 UNIT COST \$174.00		37 END ITEM INITIAL SUPPORT COST \$186.00		38 DATE FUNDS NEED TO BE AVAILABLE 30 Aug 84			
39 DATE PR MIPR NEEDS TO BE AVAIL 20 May 84		40 ADMIN LEAD TIME (MONTHS) 3 months		41 PRODUCTION FLOW TIME (MONTHS) 24 months			
42 WARRANTY PROVISIONS							
43 BUYING ACTIVITY DIRECTOR		44 DIRECTOR'S ORGN & OFFICE SYMBOL			45 DATE		
46 REMARKS							
IV SYSTEM PROGRAM OFFICE APPROVAL							
47 COMMENTS OF APPROVING OFFICIAL							
48 APPROVING ORGANIZATION AND OFFICE SYMBOL ASD/YPMG				49 TELEPHONE NO 36261		50 DATE 23 Nov 83	
51 TYPE NAME AND TITLE OF APPROVING OFFICIAL Col D.J. Smith				52 SIGNATURE OF APPROVING OFFICIAL <i>Col D.J. Smith</i>			

Figure A3-1. Continued.

TABLE A3-1

## INSTRUCTIONS FOR PREPARING AFLC/AFSC FORM 8

1. Section I, GFE/Loan/Lease Request—The AFLC/AFSC system/program office completes this section to request that the cognizant ALC or source of supply make inventory assets available (releasable), or that the cognizant buying activity buy assets, to satisfy GFE/GFM/loan or lease property requirements for development or production contracts.
2. Section II, AFLC Assessment (except items 23 through 26)—The applicable IMS completes this section to notify the system/program office whether inventory assets are available to satisfy the GFE/GFM production/loan/lease requirements identified in Section I. If Air Force is SICA, the IMS contacts the other service PICA to establish availability. Enter the name and symbol of the PICA, if applicable, in item 27.
3. Section II, items 23 through 26 (and item 27 when applicable)—The MUCO or loan or lease control officer completes this section after the IMS has completed all items outlined in this attachment.
4. Section III, Acquisition Assessment—The IMS completes the acquisition assessment (with the approval of the PICA if another service is the buying activity) to inform the system/program office whether the buying activity can buy the GFE item or loan or lease property.
5. Section IV, System Program Office Approval, is self-explanatory.

A		B	
SEC	ITEM	COLM	ENTRY
I			Check block to indicate if GFE request or loan or lease property request.
	1		Typed name of the system/program office initiator. After completing Section I, the initiator signs above the typed name to signify that the data are correct.
	2		Initiator's organization, office symbol, and AFB.
	3		Initiator's telephone number.
	4		Date of preparing Section I.
	5		The system/program office's AFLC/AFSC Form 8 control number. The system/program office uses this number to process, file, and monitor the forms.
	6		The basic (original) form's number in item 5 and the appropriate amendment number in item 6 when amending a form issued previously. Always issue and distribute amendments by consecutive amendment numbers.
	6a		System/program contract number, contractor name, EY stock record account number (SRAN) (for amendments and originals submitted after contract award).
	7		The NSN, nomenclature, or type designator of GFE/GFM item or loan or lease property requested. If there is more than one vendor for an item, give the name of each acceptable vendor along with the applicable item information.
	8		Self-explanatory.
		A	The fiscal year(s) when the GFE/GFM production assets are required.
		B	Nomenclature of the system the GFE/GFM will be in.
		C	Total number of systems to be produced during the fiscal year(s) in item 8, column A.
		D	Number of GFE/GFM items to be installed in each system.

TABLE A3-1-Continued			
A		B	
SEC	ITEM	COLM	ENTRY
		E	Number of GFE/GFM items to be installed in each system plus spares. Asterisk the entry: "see block 9 remarks."
		F	The system GFE dock time (in months) that the system/program office uses to calculate GFE requirements.
		G	Identify, by month, the GFE/GFM loan or lease property delivery schedule needed to meet the production schedule. This delivery schedule not only reflects GFE DD Form 610 requirements but also allows for vendor shipping times, potential GFE rejects, and GFE dock time (if not already included in the DD Form 610 requirements). If loan or lease property is requested, indicate the year and month assets will be returned to the Air Force by the contractor.
	9		Remarks that will help the IMS buying activity make an availability or acquisition assessment: quantity and required schedule of ALC spares requested for production reserves, unique warranty requirements, FMS requirements and special conditions, requests for ALC to fund initial spares, requests for deficiency trends, and identification of the buying activity (if other than AFLC). If the item is for an SAP, include parts of the letter of agreement or other documents specifying the logistics support and data to be bought from the contractor for the country (TOs and provisioning data) and a releasability statement for hardware and supporting data (obtained from HQ USAF/LEF). Loan items will be identified by annotating LOAN in half-inch letters. Include: "** _____ total to include _____ spares (see block 8E remarks.)"
II			AFLC ASSESSMENT
	10		Typed name of the IMS responsible for the GFE/GFM item or loan or lease property. After completing Section II (excluding items 23-26), the IMS signs above the typed name to signify the data are correct.
	11		IMS's organization and office symbol.
	12		IMS's telephone number.
	13		Date of preparing Section II.
	14		The NSN(s), nomenclature, or type designator of GFE/GFM items or loan or lease property that are inventoried. If there is more than one vendor for an item, give the name of each vendor along with other applicable information.
	15		The price the system/program office must pay for each unit. If there is more than one price for the GFE/GFM item or loan or lease property, list each price and specify the quantity available at each price; also, in item 21, indicate whether the items offered are long supply and reimbursable or nonreimbursable.
	16		The fiscal year(s) when the inventory assets become available.
	17		Indicate whether the available assets are stock-funded or investment.
	18		ALC control number. Each ALC MUCO or loan or lease control officer assigns and maintains control numbers.



TABLE A3-1-Continued			
A		B	
SEC	ITEM	COLM	ENTRY
	19		When amending a Section II issued previously, enter the basic (original) AFLC/AFSC Form 2 control number in item 18 and the amendment number in item 19. Always issue and distribute amendments by consecutive amendment numbers for each basic form. Always coordinate with the MUCO or loan or lease control officer when assigning amendment numbers.
	20		Enter the GFE/GFM production requirements from item 8, columns A, B, and E into columns A, B, and C of this item.
	21		The total number of inventory assets that are available or releasable to satisfy each line of GFE/GFM production requirements given in item 20, column C, or total loan or lease property requirements that are available or due-in in time to meet total loan or lease requirements. (Enter the cost associated with each quantity of available assets only if item 15 gives two or more unit prices.)
		A	Total number of stock fund numbers.
		B	Total number of serviceable investment items (count due-in items as serviceable).
		C	Total number of reparable investment assets.
	22	A	If there are no engineering data or insufficient engineering data to support the GFE end item or loan or lease property, estimate what it will cost to buy the data. Enter "None" if there are already enough engineering data. The ALC's GFE item technician helps the IMS complete this item.
		B	If there are no or insufficient technical data for base-, intermediate-, or depot-level maintenance or repair, estimate the cost to buy the data. Enter "None" if there are already enough technical data. The ALC's GFE item technician helps the IMS complete this item.
		C	The military specification number and vendor part number of serviceable GFE/GFM items or loan or lease property that are available. If there is more than one vendor for an item, give each vendor's name and part number in item 27 and cross-reference them here.
		D	The military specification number and GFE/GFM/loan/lease property vendor part number for reparable items that are available. If there is more than one vendor for an item, give each vendor's name and part number in item 27 and cross-reference them here.
		E	Indicate whether there are organic or contractor repair capabilities for reparable assets that are available.
		F	Length of the organic or contractor repair cycle, in days.
		G	The unit repair cost for organic or contractor repair. In item 27, give any other information that will provide the system/program office additional pertinent information on the availability assessment, such as spares, spare parts, and data items required to support GFE end items or loan or lease property.
	23		Typed name of the MUCO representative responsible for the GFE item or loan or lease control officer responsible for loan or lease property. After completing items 23 through 26, the MUCO representative or loan or lease control officer signs above the typed name to signify the data are completed as required.

TABLE A3-1-Continued			
A		B	
SEC	ITEM	COLM	ENTRY
	24		MUCO representative's or loan or lease control officer's organization and office symbol.
	25		MUCO representative's or loan or lease control officer's telephone number.
	26		Date the MUCO representative or loan or lease control officer reviews AFLC/AFSC Form 8.
	27		Remarks that give the system/program office additional data about the availability assessment, such as spares, spare parts, and data items.
III			ACQUISITION ASSESSMENT
	28		Typed name of the IMS. After completing Section III, the IMS signs above the typed name to signify the data are correct.
	29		IMS's organization and office symbol.
	30		IMS's telephone number.
	31		Date of preparing Section III.
	32		The NSN, nomenclature, type designator, vendor part number, and vendor names for the GFE/GFM loan or lease property to be acquired (if different from item 7).
	33		Indicate whether the buying activity can buy the GFE/GFM loan or lease property identified in Section I. Give rationale for negative replies in item 46.
	34		Indicate whether the buying activity can support the delivery schedule in item 8. If the buying activity can buy the item but cannot meet the schedule in item 8, give the best possible delivery schedule in item 35.
	35		Identify by month the best delivery schedule the buying activity can support. Make every effort to provide the assets at the earliest achievable date.
	36		The current unit cost or projected unit cost.
	37		Estimate what the system/program office must pay for the end item's initial support data and hardware. This must include at least the initial engineering support data, TOs and manuals, and peculiar SE for base-, intermediate-, and depot-level support of the GFE end item.
	38		Date when system/program office funds must be made available for this acquisition.
	39		Date when the system/program office must make the PR/MIPR or requisition available to start this acquisition.
	40		Administrative lead time, in months, needed to contract the GFE/GFM loan or lease property requirements to a vendor. This period begins when the system/program office identifies the requirements in a PR/MIPR; it ends when the vendor is awarded a contract.

TABLE A3-1-Continued			
A		B	
SEC	ITEM	COLM	ENTRY
	41		Vendor's production lead time, in months. This period begins when the vendor is awarded a contract; it ends when the vendor delivers the first production unit to the government.
	42		Type and duration of vendor's warranty.
	43		Type name of the director of the AFSC buying activity. After reviewing the completed Section III, the approval authority signs above the typed name to signify approval and concurrence.
	44		Approval authority's organization and office symbol.
	45		Date of approval.
	46		Remarks that give the system/program office further data about the acquisition assignment.
IV			SYSTEM/PROGRAM OFFICE APPROVAL
	47		Comments about the items being approved. If GFE loan or lease property is not accepted, tell why. If this item has been identified in item 9 as a loan item, annotate the loan return date in item 9.
	48		Approving organization and office symbol. Organization and symbol accepting the assets offered in Section II, or acquisition offered Section III, of this form.
	49		Telephone number.
	50		Date of approval.
	51		Approving official's typed name and title.
	52		Signature of approving official.

**MISSION EQUIPMENT (ME)—ACQUISITION AND MANAGEMENT GUIDANCE**

**1. General Introduction.** This attachment tells how to acquire and manage GFE ME that is on, or will be put on, the MGFEL. The process normally begins before the RFP is released (fig A2-1, block 4). However, item selection (block 2) and the preliminary equipment acquisition method decisions (block 3) continue throughout the demonstration and validation, full-scale engineering development, and production phases as the design matures and additional equipment requirements are identified. This attachment assumes that the item selection process and preliminary equipment acquisition method decision are completed before the RFP and contract award. (However, this process can be started whenever new equipment requirements are identified (at preliminary design reviews, logistic support analysis reviews, critical design reviews, ECPs, etc.)) The acquisition and management process has two phases: precontract award and postcontract award. This process ideally repeats during the system's life cycle. As figure A2-1 shows, the process first starts at the end of the conceptual phase, during the transition to demonstration and validation and at the end of the demonstration and validation, and full-scale engineering development phases.

**2. GFE/CFE Process, Precontract Award.** Tasks before contract award are in blocks 1-7 and discussed in attachment 2.

**3. GFE/CFE Management, Postcontract Award.** The program/system office is responsible for making sure the government acquires all the ME on the MGFEL. The following management approach is provided for guidance:

**a. Available GFE Acceptance Decision (Block 8).** The program/system office will notify the ALC MUCO in writing within 30 days after contract award or, if AFLC/AFSC Form 8 is submitted after contract award, within 30 days after receiving the form. The formal notice of acceptance cites the control number the ALC MUCO assigned to the form requesting equipment availability.

**b. Process PR/MIPR (Block 9).** When assets are not available, the program/system office makes plans to acquire them and processes a PR/MIPR as follows:

(1) **Plan Acquisition.** Before starting acquisition, the program/system office verifies that each item of GFE is technically adequate for its intended use in the system. The program/system office prepares, processes, and revises an AFLC/AFSC Form 7 according to attachment 6. Program/system engineering personnel review this form for each GFE item. They resolve any technical discrepancies with the applicable GFE engineer before the program/system office submits PRs/MIPRs to the equipment-buying activity.

(2) **Process PR/MIPR.** The program/system office will prepare and process PRs/MIPRs according

to AFSCR/AFLCR 57-7 for all development and initial operational test and evaluation (DT&E and IOT&E) GFE requirements (when AFSC funds are used) and all GFE production requirements. They send the equipment activity (if outside an ALC) a copy of the coordinated initial or revised AFLC/AFSC Form 7. The program/system office does not prepare or process PRs/MIPRs either for spares and provisioning support or for the common SE managed by AFLC. An exception is allowed, however, whenever AFSC funds spares requirements for DT&E and IOT&E. Submit planning or advanced PRs for firm GFE requirements if funds are not available and the GFE lead time (administrative plus production) requires immediate acquisition action to support the system's requirements. The responsible ALC IMS prepares and processes PRs/MIPRs for all common SE and spares that AFLC funds and for spare parts and data items to support the GFE end item. The program/system office or equipment-buying activity processes all PRs/MIPRs according to AFSCR/AFLCR 57-7. The AFSC PR/MIPR includes spares, spare parts, and data items. The ALC IMS will fund these items and attach DD Form 1423 during coordination so all requirements can be bought from the same contractor.

**c. MUCO Account Established (Block 10).** After the program/system office accepts the GFE, the MUCO transfers the available assets (ME and SE for delivery to the contractor) to the MUCO account. AFSC sends an AF Form 185 to the ALC Maintenance Modification Branch (MMMM) to cover the cost of repair and repairs are scheduled. After repair, the GFE is sent to the MUCO account. The MUCO holds the assets in its account until the program/system office or the contractor requisitions them. Assets that the AFLC IMS or another service PICA buys can also be placed in a MUCO account until the program/system office or the contractor requisitions them or they can be shipped directly to contractors, whichever is more acceptable and economical.

**d. Vendor Contract Award (Block 11).** When items are not available in the inventory and the program/system office has processed a PR/MIPR, the equipment-buying activity will ensure the GFE vendor's contract has identified all requirements for provisioning, logistics support, engineering data, and program/system office data, and consolidate as much as possible all production and spare requirements identified on PRs in order to get the most economical price. However, GFE contracting action must not be delayed to the point that production and spare delivery requirements cannot be met.

**e. Contractor Requisitioning of Available GFE (MILSTRIP) (Block 12).** The program/system office or contractor requisitions the assets held in the MUCO account. The contractor prepares requisitions according to MILSTRIP and any special instructions

the program/system office has issued. The program/system office must ensure all requisitions contain the codes the ALC needs to validate, ship, and bill (contractor SRAN, signal code, fund code, and contract number). The program/system office must also ensure requisitions are submitted in time so equipment can be delivered to meet the schedule in DD Form 610.

**f. Contractor Receipt of GFE (Block 13).** The contractor receives GFE from two basic processes: requisition of available assets from the ALC MUCO IMS accounts and direct delivery of GFE bought through vendor contract. The program/system office notifies the equipment-buying activity whenever changes will affect the GFE delivery schedule. If there are conflicts between the program/system and GFE delivery schedules, resolve the conflict to minimize the impact on the program/system.

**g. GFE Shortage and Failure Management Procedures (Block 14).** See figure A4-1.

(1) Sufficient Quality Received (Block 14A). The buying activity works closely with the program/system office to ensure the prime contractor gets enough GFE assets to meet DD Form 610 requirements. The buying activity ensures the program/system office gets the proper acceptance and shipment documents for GFE delivered to the contractor. Similarly, the buying activity (if outside AFLC) works closely with the IMSs to ensure there are plenty of GFE spares for logistics support.

(2) Contractor GFE Acceptance Testing (Block 14B). The equipment-buying activity and the program/system office mutually ensure the GFE vendor's acceptance test procedures (ATP) are compatible with the prime contractor's ATP. Resolve discrepancies among the procedures so the GFE will operate adequately in the program/system environment without forcing the GFE vendor to do acceptance tests beyond system requirements.

(3) Pass (Block 14C). When GFE has passed acceptance tests, it can be incorporated into the program or system.

(4) System Acceptance (Block 15). Once GFE has been incorporated, it is subjected to system-level testing. Handle failures during these tests according to blocks 14D-14K. When GFE has successfully completed system-level testing, it becomes the responsibility of the ALC (if an IMS has been assigned management responsibility) when the government formally accepts the program/system (DD Form 250, Material Inspection and Receiving Report).

(5) Fail (Block 14D). When GFE fails an acceptance (operational) test, the DOD organization administering the contract must verify the failure, then process the failed GFE according to TO 00-35D-54, USAF Material Deficiency Reporting and Investigating System, or according to the terms of the GFE vendor's warranty.

(6) Contractor Submission of GFE Failure Report (Block 14E). The program/system office ensures the prime contract includes DOD Data Item DI-P-6163A and DD Form 611-1 or an equivalent

form that tells the contractor how to report GFE failures. If an equivalent is used the prime contractor must be given failure criteria that establish the critical reject level to be reported. For example, "Report GFE with a 3-month rejection rate of 10 percent or higher." Send copies of rejection failure data to the GFE program/system office/equipment-buying activity and the prime ALC MUCO (if applicable).

(7) Evaluate Problems and Identify Corrective Actions (Block 14H). The program/system office notifies the GFE program/system office/equipment-buying activity whenever the office finds a significant problem with the GFE provided. When they mutually agree corrective action is required, the GFE program/system office/equipment-buying activity works with the program/system office to help correct problems. Consider these possible corrective actions: authorizing premium shipment of new units from the GFE vendor, borrowing assets from the ALC IMS, borrowing assets from another program/system office, getting replacements through MILSTRIP, speeding up the vendor's normal warranty repair cycle, starting future GFE buys if funds are available, or authorizing the prime contractor to issue the GFE vendor a purchase order to repair GFE (if the prime contract has such provisions).

(8) Government Implementation of Corrective Action (Block 14J). The program/system office or the equipment-buying activity will carry out the corrective actions they agreed to in block 14H. Both organizations ensure that corrective actions are carried out promptly so that GFE shortages do not delay the prime contractor's production line.

(9) Acceptance Testing of Corrected GFE (Block 14K). Repaired, borrowed, or otherwise corrected GFE undergoes the prime contractor's acceptance testing (block 14B). All units that fail these tests follow the procedures in blocks 14D-14K. Units that pass are installed in the system (block 15).

(10) GFE Shortage (Block 14F). Prime contractors will maintain accurate records on all GFE assets they receive. If there are discrepancies between the GFE on DD Form 610 and the GFE assets received, contractors must report them to the program/system office as in block 14G.

(11) Contractor Submission of GFE Shortage Report (Block 14G). The program/system office ensures the prime contract includes DOD Data Item DI-P-6161A and DD Form 611 or an equivalent form that tells the contractor how to report GFE shortages. Prime contractors must report shortages due to failed GFE and insufficient amounts of GFE. If an equivalent approach is used, it must provide for manual or computerized monthly shortage reports that match cumulative gross receipts against cumulative DD Form 610 requirements and cumulative rejects. Send each applicable GFE program/system office/equipment-buying activity and ALC MUCO a copy of the GFE shortage report.

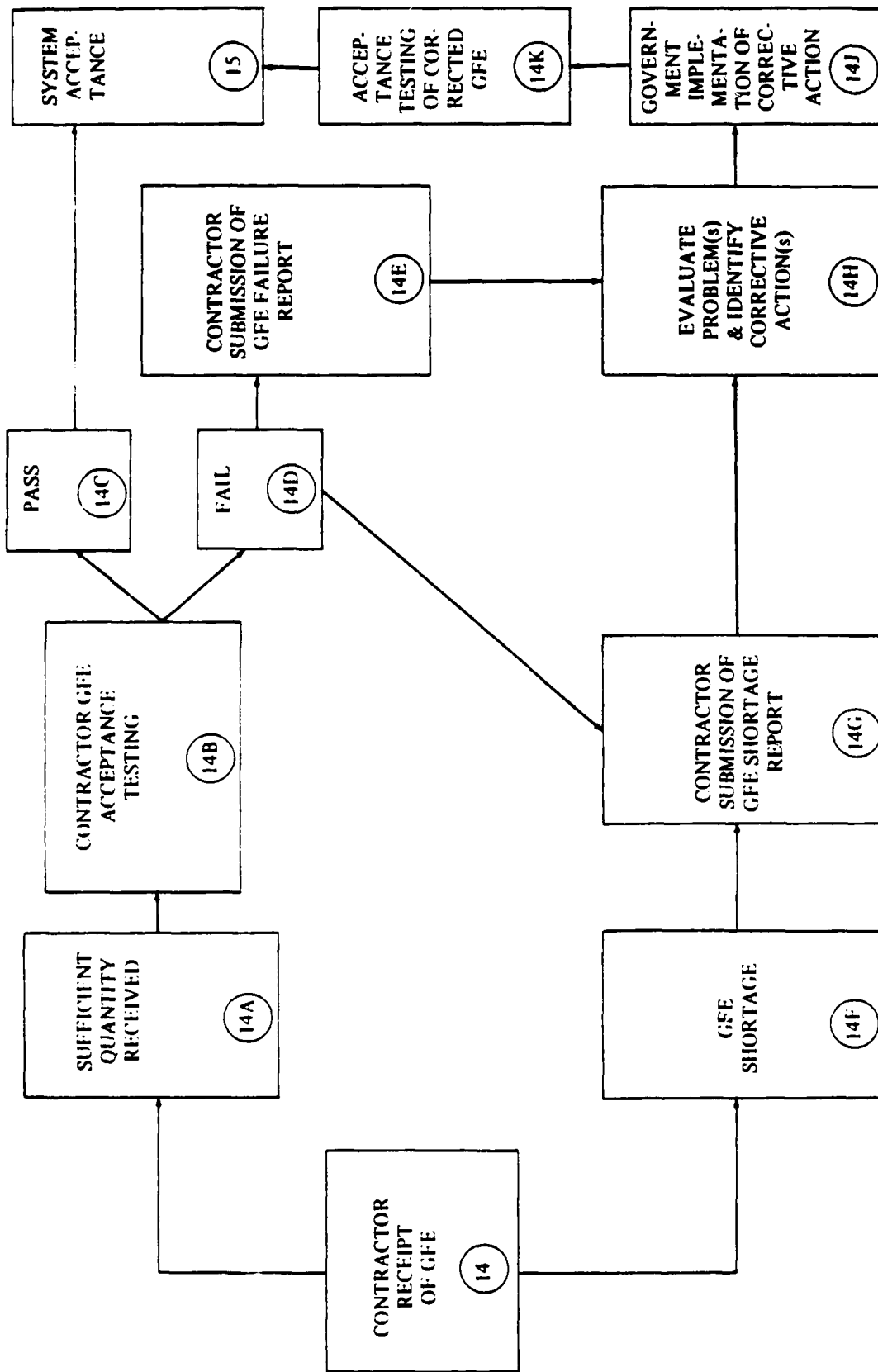


Figure A4-1. GFE Shortage and Failure Management Procedures.

**h. System Acceptance (Block 15).** After GFE is installed, it will be operationally tested. Handle any failures during these tests according to block 14. When GFE has successfully completed acceptance

testing, it becomes the responsibility of the ALC (if an IMS has management responsibility for it) when the government formally accepts the program/system (DD Form 250).

## SUPPORT EQUIPMENT (SE)—ACQUISITION AND MANAGEMENT GUIDANCE

**1. General Introduction.** This attachment tells how to identify, select, and acquire the SE needed to keep a weapon system or subsystem or equipment operational in its intended environment. Each AFSC program office, AFLC Deputy Program Manager for Logistics (DPML), and AFLC system manager organization will have an SE management organization. Since SE is one element of integrated logistics support (ILS), the ALC SM will channel all SE-related actions through the DPML and the ILS officer. In acquiring SE, management concentrates on setting up the analytical process (for example, LSA) to identify needs early, selecting equipment, pricing it promptly, demonstrating it is functionally adequate, and delivering test or production quantities once requirements have been approved. Figure A2-1 shows the equipment selection and acquisition process. The precontract award tasks (blocks 1-7) are the same for ME and SE; however, ME and SE postcontract tasks (blocks 8-15) differ slightly. Tasks 8-15, as they apply to ME, are described in attachment 4. This attachment explains how they apply to SE.

**2. GFE/CFE Process, Precontract Award.** Analyzing support requirements early makes it possible to cost-effectively "design in" the use of standard or preferred SE. Analyzing system or equipment supportability and testability must be an integral part of all system or equipment design. The analysis will be reviewed during all government system or equipment design reviews. This assessment will continue even if, because of program constraints, SE cannot be acquired until later. Use AFSCR/AFLCR 800-5 to see how the government reviews and approves the contractor's data to identify and select SE after the contract is awarded.

**3. GFE/CFE Process, Postcontract Award.** The program/system office has the ultimate responsibility for ensuring the government acquires all the SE on the MGFEI that must be delivered to the contractor. Because so many organizations are involved in buying, using, and maintaining SE, especially GFE SE, the following organizations must coordinate closely:

- Program/system office.
- Program director or system manager.
- GFE manager.
- SE manager.
- DPML and AFALC support organizations.
- ASD/AEGS.
- AFLC/ALC system manager.
- AFLC/ALC ME IMS.
- AFLC/ALC SE IMS.
- GFE SE program/system office/equipment-buying activity (if other than above organizations).
- WR-ALC/MMME (table of allowances [TA] management).
- Technology repair centers (depot).

- ATE software support centers.
- Aerospace Guidance and Metrology Centers.
- Operating command (using units).
- Test and evaluation activity.
- Air Training Command.

The command that has program management responsibility for an SE item is also responsible for budgeting and funding for it.

**a. Available GFE Acceptance Decision (Block 8).** The program/system office will notify the ALC MUCO in writing when equipment requirements become firm (within 15 days after awarding a contract or approving support equipment recommendation data (SERD)). Formally accepting equipment offered on the AFLC/AFSC Form 8 authorizes the ALC to place committed equipment in a MUCO account and authorizes the IMS to budget, fund, and buy approved GFE common SE they said they could buy for system requirements. The formal notice of acceptance cites the control number the ALC MUCO assigned to the AFLC/AFSC Form 8 requesting equipment availability. The program/system office may use approved copies of completed AFLC/AFSC Form 8 to formally accept the equipment the form requests.

**b. Process PR/MIPR (Block 9).** When the equipment requested is not available in the inventory, but the equipment-buying activity indicated on the form it could buy the equipment, the program/system office begins acquisition planning and processes a PR/MIPR. An exception is common SE, in which case initial quantities have already been put into the inventory. For common SE, the SE IMS will budget, fund, and initiate PRs/MIPRs to buy items that meet system requirements. The AFLC/AFSC Form 8 shows the quantities needed to support the system; however, the IMS must compute the additional quantities the organizational and depot maintenance organizations will need during production and deployment.

(1) Plan Acquisition. Before acquisition the program/system office verifies that each item of GFE is technically adequate for its intended use in the system. The program/system office prepares, processes, and revises an AFLC/AFSC Form 7 according to attachment 6. Before the program/system office submits PRs/MIPRs to the buying activity, program/system engineering personnel review current AFLC/AFSC Forms 7 for each GFE item and resolve any technical discrepancies with the applicable GFE engineer.

(2) Process PR/MIPR. The program/system office will prepare and process PRs/MIPRs according to AFSCR/AFLCR 57-7 for all GFE required for DT&E and IOT&E and send the buying activity (if outside an ALC) a copy of the coordinated initial or revised AFLC/AFSC Form 7. The program/system office does not prepare or process PRs/MIPRs for spares and provisioning support requirements. An



exception is allowed, however, whenever AFSC funds DT&E and IOT&E spares requirements. Submit planning or advanced PRs for firm GFE requirements if funds are not available and the GFE lead time (administrative plus production) requires immediate acquisition action to support the system's requirements. The responsible ALC IMS prepares and processes PRs/MIPRs for all common SE and spares that AFLC funds and for spare parts and data items to support the GFE end item. The program/system office or equipment-buying activity processes all PRs/MIPRs according to AFSCR/AFLCR 57-7. Include spares, spare parts, and data items on the AFSC PRs/MIPRs. The ALC IMS will fund these items and attach the DD Form 1423 during coordination so all requirements can be bought from the same contractor.

**c. MUCO Account Established (Block 10).** After the program/system office accepts, the MUCO transfers the available SE, which must be furnished to the contractor, to the MUCO account. AFSC sends an AF Form 185 to the ALC Maintenance Modification Branch (MMMM) to cover the cost of repair and repairs are scheduled. After repair, the GFE is sent to the MUCO account. The MUCO holds the assets in its account until the program/system office or the contractor requisitions them. Assets that the AFLC IMS or other service (PICA) buys can also be placed in a MUCO account until the program/system office or the contractor requisitions them or they can be shipped directly to contractors, whichever is more acceptable and economical. Do not enter GFE SE that is to be furnished directly to operations and maintenance organizations into MUCO accounts.

**d. Vendor Contract Award (Block 11).** When items are not available in the inventory and the program/system office or SE IMS has processed a PR/MIPR, the equipment-buying activity will ensure the GFE vendor's contract has identified all requirements for provisioning, end item support, and program/system office data, and consolidate as much as possible all production and spares requirements identified on PRs in order to get the most economical price. However, GFE contracting action must not be delayed to the point that production and spare delivery requirements cannot be met. If any problem in acquiring this equipment will degrade the delivery schedule for the system end article or SE, advise the GFE manager and program director/system manager immediately.

**e. Contractor Requisitioning of Available GFE (MILSTRIP) (Block 12).** The program/system office or contractor requisitions the assets held in the MUCO account. The contractor prepares requisitions according to MILSTRIP and any special instructions the program/system office has issued. The program/system office must ensure all requisitions contain the codes the ALC needs to validate, ship, and bill (contractor SRAN, signal code, fund code, and contract number). The program/system office must also ensure requisitions are submitted in time so

equipment can be delivered to meet the schedule in DD Form 610.

**f. Contractor Receipt of GFE (Block 13).** The contractor receives GFE from two basic processes: requisition of available assets from the ALC MUCO accounts and direct delivery of GFE bought through vendor contracts. The program/system office notifies the equipment-buying activity whenever changes will affect the GFE delivery schedule. If there are conflicts between the program/system and GFE delivery schedules, the program/system office will resolve the conflicts to minimize the impact on the program/system.

**g. GFE Shortage and Failure Management Procedures (Block 14).** See figure A4-1.

(1) Sufficient Quantity Received (Block 14A). The equipment-buying activity works closely with the program/system office to ensure that the prime contractor gets enough GFE assets to meet DD Form 610 requirements. The buying activity ensures that the program/system office gets the proper acceptance and shipping documents for GFE delivered to the contractor. Similarly, the buying activity (if outside AFLC) works closely with IMSs to ensure there are plenty of GFE spares for logistics support.

(2) Contractor GFE Acceptance Testing (Block 14B). The equipment-buying activity and the program/system office mutually ensure that the GFE vendor's ATP are compatible with the prime contractor's ATP. Resolve discrepancies between the procedures so the GFE will operate adequately in the program/system environment *without forcing the GFE vendor to do acceptance tests beyond system requirements.*

(3) Pass (Block 14C). When GFE has passed acceptance tests, it can be incorporated into the program or system.

(4) System Acceptance (Block 15) Once GFE has been incorporated, it is subjected to contractor system integration, SE compatibility testing, and operational (acceptance) testing.

(a) Contractor System Integration of SE. During their design and development processes, contractors integrate SE with the rest of the system. A major element of this integration involves assessing how the changing system configuration affects SE.

(b) SE Compatibility Testing and Acceptance Testing. Both GFE and CFE SE must be tested for system compatibility to ensure ME and SE are compatible. They must also be tested and evaluated to show compatibility and fault traceability for SE from one level of maintenance to another (for example, organizational to intermediate to depot). Handle any failures during these tests according to blocks 14D-14K. When GFE has successfully completed acceptance testing, it becomes the responsibility of the ALC (if an IMS has been assigned management responsibility) when the government formally accepts the program/system (DD Form 250).

(5) Fail (Block 14D). When GFE fails an acceptance test, the DOD organization administering

the contract must verify the failure, then process the failed GFE according to TO-00-35D-54 or according to the terms of the GFE vendor's warranty.

(6) Contractor Submission of GFE Failure Report (Block 14E). The program/system office ensures that the prime contract includes DOD Data Item DI-P-6163A and DD Form 611-1, modified so it applies to SE, or an equivalent form that tells the contractor how to report GFE failures. If an equivalent is used, the prime contractor must be given failure criteria that establish the critical reject level to be reported. For example, "Report GFE with a 3-month rejection rate of 10 percent or higher." Send copies of rejection failure data to the GFE program/system office/equipment-buying activity and the prime ALC MUCO (if applicable).

(7) Evaluate Problem and Identify Corrective Actions (Block 14H). The program/system office notifies the GFE program/system office/equipment-buying activity when it finds a significant problem with the GFE it provides. When they mutually agree corrective action is required, the GFE program/system office/equipment-buying activity works with the program/system office to help correct problems. Consider these possible corrective actions: authorizing premium shipment of new units from the GFE vendor, borrowing assets from the ALC IMS, borrowing assets from another program/system office, getting replacements through MILSTRIP, speeding up the vendor's normal warranty repair cycle, starting future GFE buys if funds are available, or authorizing the prime contractor to issue the GFE vendor a purchase order to repair GFE (if the prime contract has such provisions).

(8) Government Implementation of Corrective Action (Block 14J). The program/system office or the GFE program/system office/equipment-buying activity carry out the corrective actions they agreed to in block 14H. Both organizations ensure that corrective actions are carried out promptly so GFE shortages do not delay the prime contractor's schedule.

(9) Acceptance Testing of Corrected GFE (Block 14K). Repaired, borrowed, or otherwise corrected GFE undergoes the prime contractor's acceptance testing (block 14B). All units that fail these tests follow the procedures in blocks 14D-14K. Units that pass are installed in the system (block 15).

(10) GFE Shortage (Block 14F). Prime contractors will maintain accurate records on all GFE assets they receive. If there are discrepancies between the GFE on DD Form 610 and the GFE assets received, contractors will report them to the program/system office in block 14G.

(11) Contractor Submission of GFE Shortage Report (Block 14G). The program/system office ensures that the prime contract includes DOD Data Item DI-P-6161A, DD Form 611 modified so it applies to SE during all acquisition phases, or an equivalent that tells the contractors how to report

GFE shortages, either due to failed GFE or not enough GFE. If an equivalent approach is used, it must provide for manual or computerized monthly shortage reports that match cumulative gross receipts against cumulative DD Form 610 requirements and cumulative rejects. Send each applicable GFE program/system office/equipment-buying activity and ALC MUCO a copy of the GFE shortage report.

**h. System Acceptance (Block 15).** After GFE is incorporated, it is subjected to contractor system integration, SE compatibility testing, and operational testing. See 3g(4)(a)-(b) above for this information.

**4. Support Equipment Recommendation Data (SERD).** The contractor identifies SE by using MIL-STD 1388-18. The contractor will submit a SERD according to DID DI-S-6176 or DI-S-3596 in order to identify SE required and to recommend an item to meet the requirement. Each SERD is reviewed (75-day review cycle) by many organizations according to AFSCR/AFLCR 800-5. If the SE requirement meets the criteria of the definition of "equipment" (in "Terms Explained"), the program/system office will start the GFE/CFE decision process in attachment 2.

**5. Formal Program/System Office Approval of SERD.** After completing the SERD review, the program/system office approves the item selection and acquisition method decisions, then notifies the AFLC system manager/IMS, MUCO (MMMS), WR-ALC/MMME (TA manager), and the equipment-buying activity (if outside AFLC). Once the equipment has been approved, follow the normal postcontract award procedure for managing it. The program/system office also adds the approved equipment to the MGFEL or MCFEL. The contractor submits DD Form 610 for GFE SE to be delivered to the contractor.

**6. Managing SE To Be Delivered to the Operational and Support Commands.** The Support Equipment Acquisition and Control System (SEACS/ADS: CO13) is a USAF system operated by OO-ALC/MMMR for AFLC. It identifies SE requirements early and tracks them. The system is documented in AFM 67-1, volume IV, part one, chapter 28 for major command users and in AFM 67-1, volume III, part seven for AFLC. The single-site processing center at OO-ALC sends SEACS output products to the major command users and AFLC system managers. These products give both detailed and summary statistical data about the availability and delivery status of both GFE and CFE. This system can be used for all systems or major subsystems during the acquisition, transition, or major modification phases of the life cycle. If the SEACS system is not used, set up an alternate SE management system to track and control SE deliveries to the operational and support commands.

**POLICY, PROCEDURES, AND PREPARATION INSTRUCTIONS FOR AFLC/AFSC FORM 7,  
GOVERNMENT FURNISHED CONFIGURATION ITEM TECHNICAL REQUIREMENTS**

**1. Guidance and Procedures:**

a. Use AFLC/AFSC Form 7 to identify all technical requirements for each equipment configuration that an AFSC equipment-buying activity will acquire as GFE. The completed AFLC/AFSC Form 7 gives the buying activity the technical data it needs to start acquisition.

b. The program/system office and the configuration control board (CCB) will manage common and peculiar GFE according to AFR 65-3.

c. Identify system requirements for GFE items in the Missile/System/Air Vehicle Specification or in a separate inventory item specification, as prescribed by MIL-STD 490, Appendix XII; and MIL-STD 483. For each item, the prime contractor must indicate whether the item has to be qualified for a new use or environment or indicate acceptance tests to be performed on the GFE before it is installed in the system or equipment.

d. A military specification that identifies a GFE item is considered equivalent to a Type B specification prepared according to MIL-STD 490. Prepare a product fabrication specification (Type C), according to MIL-STD 490, to identify the item's product baseline (requirements for production acceptance tests and manufacturing requirements) unless suitable equivalent data is available. After the physical configuration audit is done, use the Engineering Change Proposal (ECP), MIL-STD 480, to control changes to the product baseline configuration. After the item's product baseline has been established and approved, update AFLC/AFSC Form 7 and the Part II specification if the form will be in the acquisition data package for subsequent acquisition of the GFE.

e. When contractors prepare specifications according to MIL-STD 490, they should not convert them to military specifications merely so the government can use them as acquisition data for either initial or follow-on acquisition of GFE items, unless there are justifiable reasons for doing so. Converting to military specification may be justified when the item is highly competitive, is available from multiple sources, and is used in more than one system.

f. Avoid specifying design features and capabilities unless they are essential for the system or its military

mission. Specifications ordinarily give only the information needed to identify the functional configuration and, when necessary, to identify the product configuration. State performance and functional requirements in quantitative measurable terms, with upper and lower tolerances.

g. When the program/system office approves the technical requirements on AFLC/AFSC Form 7, it certifies that they are the best solution in terms of performance, cost, program schedules, standardization, and other program requirements or constraints.

h. Coordinate new specifications, or changes to an existing specification, for GFE items with the program/system project engineer.

i. When changing an existing item to adapt it to a new system application, the program/system office gives the equipment-buying activity the proposed specification change. Prepare the proposed change as a Specification Change Notice (according to MIL-STD 490), a specification amendment, or a specification revision.

j. Prepare an initial AFLC/AFSC Form 7—

(1) To validate using an existing item for a new application.

(2) To identify how an existing item must be modified for a new application.

(3) For new development items.

k. Prepare a new AFLC/AFSC Form 7 to supersede an existing one when—

(1) A new GFE item replaces an existing one.

(2) Technical requirements are revised for an existing GFE item.

l. The program/system office will—

(1) Prepare a separate AFLC/AFSC Form 7 for each equipment configuration that will be bought as GFE.

(2) Send three copies of the completed form to the equipment buying activity (if outside an ALC).

(3) Establish and maintain, in the activity that starts PRs, a record file of the forms for all items of GFE the system requires.

**2. Preparation Instructions for AFLC/AFSC Form 7.** See figure A6-1 and table A6-1 for guidance on completing this form.

GOVERNMENT FURNISHED CONFIGURATION ITEM TECHNICAL REQUIREMENTS			
1. CONFIGURATION ITEM NOMENCLATURE Indicator Fuel Flow EFU-22A/A-7		2. DATE 2 Nov 77	
3. TYPE DESIGNATOR EFU-22A/A-7	4. NATIONAL STOCK NO./PART NO. 6610-01-063-1104/C4118560006	5. DATE OF SUPERSEDED ISSUE 12 Mar 75	
6. SYSTEM NUMBER F-16A/B	7. TYPE ITEM (Check One) <input checked="" type="checkbox"/> AIRBORNE <input type="checkbox"/> GROUND <input type="checkbox"/> FACILITY	8. REQUIREMENTS ARE FOR FISCAL YEARS 78 and on	
9. CONFIGURATION ITEM SPECIFICATION AND DRAWING		10. INTERFACE REQUIREMENT	
A. SPECIFICATION NO. MIL-I-38143C		A. DRAWING NO.	
B. PART 1	C. PART 2	B. SPECIFICATION NO.	
D. DATE TBA	E. DESIGN ACTIVITY ENAID	C. DATE	
F. TOP ASSEMBLY DRAWING NUMBER			
11. NEW DEVELOPMENT/PECULIAR ITEM REQUIREMENTS	YES	NO	SEE REMARKS
A. SYSTEM SE	X		
B. TRAINING EQUIPMENT		X	
C. TECHNICAL MANUALS	X		X
D. TRAINING SERVICES		X	
E. INTEGRATION SERVICES		X	
F. FAA CERTIFICATION		X	
G. ITEM COMPATIBILITY TESTING REQUIRED		X	
H. CONTRACTOR DATA REQUIRED	X		X
I. INSTALLATION/INTEGRATION INTERFACE DATA		X	
J. SURVIVABILITY		X	
K. SELECTED ITEM CONFIGURATION RECORD CONFIGURATION MANAGEMENT ACCOUNTING REPORT		X	
L. SPO REPRESENTATIVE REQUIRED AT			
(1) PRELIMINARY DESIGN REVIEW		X	
(2) CRITICAL DESIGN REVIEW		X	
(3) FUNCTIONAL CONFIGURATION AUDIT		X	
(4) PHYSICAL CONFIGURATION AUDIT		X	
M. COPY OF IFB/RFO/RFP REQUIRED	X		X
N. NUMBER COPIES OF CONTRACT			
12. RELIABILITY PROVISIONS	13. MAINTAINABILITY PROVISIONS		
A. <input checked="" type="checkbox"/> COMPLY WITH POLICY	A. <input checked="" type="checkbox"/> COMPLY WITH POLICY		
B. <input type="checkbox"/> APPROVED DEVIATION ATTACHED	B. <input type="checkbox"/> APPROVED DEVIATION ATTACHED		

AFLC/AFSC FORM 7 APR 79

REPLACES ASD FORM 38, MAY 69, WHICH IS OBSOLETE.

AFSC - Andrews AFB Md 1979

Figure A6-1. Sample AFLC/AFSC Form 7.

<b>14. TRANSPORTABILITY &amp; PACKING REQUIREMENT</b>			
Section 5 MIL-I-38143C			
<b>15. QUALITY ASSURANCE REQUIREMENT</b>			
A. <input checked="" type="checkbox"/> MIL-Q-9888	B. <input type="checkbox"/> MIL-I-45208	C. <input type="checkbox"/> MIL-STD-883	
<b>16. REMARKS</b>			
Block 11C: Revisions as required			
Block 11H: ECPs as required			
Block 11M: 1 copy ASD/ENAID			
Block 11N: 1 copy each ASD/YPMG ASD/ENAID			
<b>17. APPROVAL SIGNATURE RECORD</b>			
<b>SPO</b>	<b>DATE</b>	<b>ENGINEER</b>	<b>DATE</b>
CONFIGURATION MGT		AFLC	
PROG CONT		ATC	
CONTRACTING		UC	
TEST/DEP		OTHER	
<b>18. SPO SYMBOL AND TELEPHONE EXTENSION</b>			
ASD/YPMG 54321			
<b>19. GOVERNMENT PROJECT ENGINEER AND EXTENSION</b>			
ASD/ENAID/J. Johnn/53001			
<b>20. BUYING ACTIVITY PRO MGR AND TELEPHONE EXTENSION</b>			
ASD/AEAI/Maj Doe/53000			

Figure A6-1. Continued.

TABLE A6-1

## INSTRUCTIONS FOR PREPARING AFLC/AFSC FORM 7

1. It is essential to fill out this form completely and accurately. For all items that must be carried out by contract, give the exact information required for acquisition.
2. When attaching supplementary information to be used as acquisition data, prepare it so it can be inserted directly into the contract. Identify this supplementary information in item 16 and tell which subject or item of the form it applies to. Do not use letters, memos, or the like to modify specifications; the only ways to change specifications are revising them or amending them (para 1i).

A		B
ITEM	COLM	ENTRY
1		Item's complete approved nomenclature. If the item is a new development and the nomenclature has not been approved yet, enter the item's proposed nomenclature.
2		Date of preparing the form.
3		Item's type designator.
4		NSN and the part number. If there is more than one supplier for an item, and not all suppliers are acceptable, give the names of acceptable suppliers in item 16.
5		If this form changes requirements submitted previously for an item, give the date of the form that this one supersedes.
6		Program/system designation number, such as mission, design, series, and the FMS case designator, if appropriate.
7		Check to show whether the item is airborne, ground, or part of a facility.
8		First fiscal year when the item is required for the program/system.
9	A through F	Cite one of the following specifications: (1) The configuration item specification prepared according to MIL-STD 490. (2) The item's military specification. (3) An exhibit prepared by the program/system office's engineering support activity. (Only use this for an item's initial design, development, and production. If the engineering support activity does not convert the exhibit to a military specification, require the contractor to convert it into a specification according to MIL-STD 490.) The specification number must be complete, including any revision designator or amendment number. Cite the date the application specification was issued. If the item has been acquired previously, and the drawings or part II of the specification are to be used as acquisition data now, give the top assembly drawing number for the item. Show the design activity responsible for the drawings and specification. (When citing part II of the specification in the acquisition data package, cite part I of the specification as the overriding document; that is, if there is a conflict between the parts of the specification, part I prevails.) When the requirements cite part II of the specification and the referenced drawings, include two copies of the top assembly drawing with the AFLC/AFSC Form 7 and, in item 16, tell where to obtain copies of the complete set of drawings. (The drawings cannot be cited as acquisition data unless the government has unlimited rights to them.) If the item is a new development, include two copies of the contractor-prepared or military specification or the program/system office's prepared exhibit with the AFLC/AFSC Form 7. If the item was initially acquired as CFE for the program/system, and is now being converted to GFE, list any deviations from specification requirements during the CFE acquisition and tell whether the CFE item was fully qualified to the requirements cited on the form.
10	A through C	Tell where the item's interface requirements with other items of the program/system are described. The GFE vendor/contractor must have this information to design, develop, and produce the end item satisfactorily. Give the specification number or drawing number that controls the interface requirements. Cite the issue of the application specification. The program/system office must furnish two copies of the interface data as a part of the item's acquisition data package.

TABLE A6-1 - Continued

A		B
ITEM	COLM	ENTRY
11		In the columns under this part of the form, describe program/system requirements that are peculiar to this configuration item or that the program/system office or program/system contractor requires to install and integrate the item into the program/system configuration satisfactorily.
	A	If the configuration item is reparable and requires peculiar SE for maintenance, enter "Yes." If the item is nonreparable and does not require any peculiar SE for maintenance, enter "No." If the program's/system's operational or maintenance requirements require SE for the item for use at the field and organizational levels, enter "see remarks." In item 16, identify any operational or maintenance requirements data that the GFE vendor/contractor must know in order to recommend or furnish proper SE.
	B	Check "Yes" or "No" to show whether this item's training-equipment requirements will be integrated into program/system training equipment and whether the GFE vendor contractor must provide input. Obtain assistance and coordination from HQ ATC.
	C	Check whether inputs to the program/system technical manuals are required for the item. Technical manuals or other data may be required to support early training identified in item 11 B. Solicit ATC inputs to these requirements.
	D	Check "Yes" or "No" to show whether the GFE vendor/contractor must train Air Force personnel or program/system contractor personnel on the item. In deciding, get help and coordination from HQ ATC.
	E	Check "Yes" or "No" to show whether the program/system contractor needs the GFE vendor/contractor to help with program/system integration. If "Yes," include an attachment that defines what the vendor/contractor must do.
	F	Check "Yes" or "No" to show whether the configuration item must have FAA certification.
	G	Check here if the GFE vendor/contractor must do tests to demonstrate the item is compatible with the rest of the program/system before the item gets final qualification approval. Attach a complete description of the compatibility tests required.
	H	Check whether the program/system office needs engineering data prepared by the GFE vendor/contractor. Identify each required data item on a DD Form 1423, according to AFR 310-1, and attach it to the form.
	I	Check "Yes" or "No" to show whether the program/system contractor needs more installation, integration, and interface data than the item's specification gives. Usually, data item DI-E-7013, Drawing, Engineering and Associated Lists, Level 1 (conceptual and development design), or DI-E-7014, Drawings, Engineering and Associated Lists, Level 2 (production prototype and limited production) gives the requirements for preparing additional data. Cite them on DD Form 1423 when the program/system or installation contractor needs more data.
	J	Check "Yes" or "No" to show whether the item has any special or supplemental survivability requirements to function properly in an unnatural, man-made, hostile environment so the overall program/system equipment can survive. See AFR 80-38 and AFR 80-14 for test, validation, and survivability requirements.
	K	Check "Yes" or "No" to show whether the item requires "Selected Item Configuration Records." If "Yes," enter Data Item DI-E-3109 on the DD Form 1423. See item 11 H.

TABLE A6-1--Continued

A		B
ITEM	COLM	ENTRY
11	L	<p>Check "Yes" or "No" to show whether a program/system office representative must attend any of the following:</p> <ol style="list-style-type: none"> <li>(1) Preliminary Design Review (PDR).</li> <li>(2) Critical Design Review (CDR).</li> <li>(3) Functional Configuration Audit (FCA).</li> <li>(4) Physical Configuration Audit (PCA).</li> </ol> <p>(When acquiring the item under a follow-on acquisition from a source that has never furnished the item before, the contract must require a configuration audit. Items on the Qualified Parts List (QPL) need not have a configuration audit. If the item is developed as part of the full-scale engineering development phase for a program/system, determine whether AFSCR 84-2 requires a production readiness review (PRR). If so, it would normally be conducted with or after the PCA. Identify requirements for the PRR in item 16.)</p>
	M	<p>Check "Yes" or "No" to show whether the program/system office needs a copy of the Invitation for Bid, Request for Quotation, or Request for Proposal. After receiving these documents, the program/system office must verify that all their requirements have been satisfactorily included. They must notify the buying activity immediately if there are any errors or omissions.</p>
	N	<p>Tell how many extra copies of the contract (besides the number received in normal distribution) the program/system office needs.</p>
12	A and B	<p>If the hardware reliability requirements in the specification comply with AFR 800-18, check the first item. If the specification does not contain such reliability requirements, revise it according to paragraph 1i of this attachment. If it is in the best interests of the Air Force to deviate from policy, get approval for a deviation, attach it, and check the second box.</p>
13	A and B	<p>If the item's specified maintainability requirements comply with AFR 800-18, check the first box. If the specification does not contain such maintainability requirements, revise it according to paragraph 1i. If it is in the best interest of the Air Force to deviate from policy, get approval for a deviation, attach it to the form, and check the second box.</p>
14		<p>Identify any special or peculiar transportability or packaging requirements. Note whether these requirements supplement or replace the requirements in section III or V of the specification cited in item 9. Describe any supplemental or peculiar requirements in an attachment to the AFLC/AFSC Form 7, prepared so it can be inserted directly into the contract. The Transportation and Packaging Branch gives the program/system office technical assistance in completing this item.</p>
15	A through C	<p>Indicate the contractual quality assurance requirements that are appropriate. For example, USAF Notice 2, Test Method 5004, Class B, MIL-STD 883 describes the screening procedures to use when acquiring electronics equipment that contains microcircuits. (See AFSCP 74-4.)</p>
16		<p>Use this space to give the buying activity special instructions or to elaborate other items. If additional space is required, continue on a separate sheet. In this item, list all attachments to the form.</p>
17		<p>The responsible individual in the appropriate functional office signs to approve the technical requirements for the configuration item. The engineering director and the configuration management chief always approve the requirements. The program/system director or designated representative is the final authority to approve the item's technical requirements. The program/system director may authorize other approval signatures.</p>



TABLE A6-1—Continued

A		B
ITEM	COLM	ENTRY
18		The program/system office's office symbol and the telephone number of the contact point for the configuration item as used in that program/system.
19		When the program/system office does not have engineering responsibility, the name of the GFE project engineer for the item specification. Type the project engineer's office symbol and telephone number. The project engineer signs above the typed name to verify that the data are technically correct and acceptable from an engineering point of view.
20		Name of the project manager at the buying activity, office symbol, and telephone number.

**PROCEDURES FOR PROCESSING DD FORM 610,  
DOD GFAE REQUIREMENT SCHEDULE**

**1. Prime Contract Responsibility.** The prime contract must task prime contractors to—

a. Submit the DD Form 610 (DID DI-P-6162), or an equivalent, listing each item on the MGFEL that is to be delivered to the contractor.

b. Submit the form, or an equivalent, when they identify a GFE requirement after contract award.

**2. Flexible Scheduling.** In preparing the form, make sure schedules allow for learning curves. The first stages of a system or program usually vary. However, as contractors gain experience and production increases, lead times should decrease.

**3. Schedule Restrictions.** DD Form 610 schedules will not allow for—

a. Late delivery of GFE to dock.

b. Weather conditions or other provisions of an insurance nature.

c. Time to ship GFE from equipment manufacturers to the system contractor.

**4. Flexible Buying.** The program/system office should provide spares on DD Form 610 as a reserve so rejections do not cause shortages. Consider the historical performance of the specific GFE items, program lead times, and the availability of spares in

the worldwide Air Force inventory. When buying more GFE than is needed for installation, however, coordinate with the appropriate AFLC agency to keep the buying effort reasonable.

**5. Submitting the Form.** Submit the form promptly and accurately. This form is the GFE acquisition program's basis for making commitments, computing requirements, establishing acquisition schedules, placing contracts with GFE vendors, and allocating GFE assets. When prime contractors identify GFE requirements after contract award, they submit DD Form 610 to the DOD CAO for review and approval before sending it to the program/system office. AFPROs or cognizant service representatives responsible for administering contracts will ensure that prime contractors—

a. Establish requirements in their DD Form 610 accurately and completely.

b. Follow instructions for submitting the form.

**6. Approving the Form.** The prime contractors' DD Forms 610 are not official until the program/system office approves them. After approving a DD Form 610, the program/system office incorporates it into the prime contract.

## STANDARD/PREFERRED ITEM LIST STRATEGY

**1. General Introduction.** Economy and standardization call for developing and emphasizing the use of standard, preferred, or GFE inventory items in new weapon system development and retrofit modernization programs. To help the program director/system manager do this, a list was established by reviewing all currently available equipment. This list tells the program director/system manager which equipment USAF has designated as standard items and which items AFSC and AFLC have designated as preferred items in functional areas where there is no designated standard. This is the Air Force Standard/Preferred Item List (AF S/PIL). The AF S/PIL was developed in November 1979 and quarterly updates have been issued since then.

**2. Purpose of the List.** Using a list of standard and preferred items promotes standardization and cost effectiveness. Equipment listed on the AF S/PIL will be used when it meets the program's or system's technical and reliability requirements and is cost effective. As this list is not all-inclusive, the program director/system manager must still explore all sources to select proven, cost-effective equipment. Besides using equipment lists, program directors/system managers should ask AFSC product divisions and AFLC ALCs for information about equipment developed recently or still under development that can satisfy program/system requirements. Program directors/system managers and IMSs making recommendations to the AF S/PIL must carefully consider such parameters as performance, acquisition cost, support cost, reliability, and suitability of the item for multiple applications.

### 3. Criteria for Listing Equipment:

a. To be considered standard, items must have been specifically developed or acquired to fulfill multiple Air Force requirements. They must also be formally designated as standard by HQ USAF. Standard items include both inventory items and items under development.

b. Preferred items were not specifically developed or acquired to fulfill multiple Air Force requirements but have been subsequently identified by the cognizant equipment developing/buying activity as having that potential. These include both inventory items and items under development. Preferred items must also—

(1) Meet the definition of "equipment" in this regulation. (The AF S/PIL does not include piece parts.)

(2) Be suitable for a variety of applications.

(3) Be procurable and supportable.

(4) Be in full-scale engineering development or production (for development items).

(5) Be approved by HQ AFSC/HQ AFLC.

### 4. List Format:

a. The AF S/PIL is a microfiche product issued

each January. Supplements are issued in April, July, and October. These supplements include all items approved since the preceding basic or supplement.

b. The list is a compilation of AFLC/AFSC Forms 6 (fig A8-1) submitted by the program directors/systems managers or IMSs. The instructions for completing the form are on the back of the form. Descriptive data and illustrations may be continued, if necessary. Continuation sheets must be on plain bond paper.

c. The list is indexed by part number/National Item Identification Number (NIN), by Federal Supply Classification (FSC), and by functional class (from MIL-STD 864, Support Equipment Functional Classification Categories).

d. To ensure the list is not used to determine which offerors will be able to compete a particular product, the following cautionary statement is on the first frame: "Caution: This listing shall not be used by the procuring agency to determine which sources shall be solicited. The mere fact that an item is listed does not justify, in itself, a limitation of competition. The determination of which bidders/offerors to solicit shall be made in accordance with the statutes of the DAR or FAR."

### 5. Completing AFLC/AFSC Form 6:

a. Fill in the following equipment information:

(1) Common name.

(2) Approved Government-type designation (AN/XXX, etc.).

(3) NSN or NC number.

(4) Functional class (from MIL-STD 864).

(5) Latest acquisition cost.

(6) OPR.

(7) Date original AFLC/AFSC Form 6 initiated.

(8) Manufacturer's name and code (from Cataloging Handbook H4-1).

(9) Manufacturer's part number.

(10) A line drawing of the item or system (this may be an attachment to the form).

(11) Descriptive Elements:

(a) Functional description.

(b) Technical description.

(c) Similar items.

(d) Sources of technical information.

(e) Reliability and maintainability information.


(f) A clear statement how the item is acquired.

(g) Peculiar SE and its cost.

b. The intent of the AF S/PIL is that it be a stand-alone document. As such, the information on the AFLC/AFSC Form 6 must be detailed enough to allow the program director/system manager to decide whether an item should be considered for use on a new program.

### 6. Developing, Maintaining, and Distributing the List:

a. Anyone can recommend additions, corrections,

AIR FORCE STANDARD/PREFERRED ITEM LIST			
<i>(See Reverse for Instructions and Approvals/Disapprovals)</i>			
1. ITEM NAME CAP, FLUID TANK FILLER	10. ILLUSTRATION		
2. APPROVED GOVERNMENT TYPE DESIGNATION			
3. NATIONAL STOCK NUMBER (If Assigned) 1560-00-118-9669MA			
4. FUNCTIONAL CLASS EE-2.3			
5. UNIT COST \$44.79			
6. OPR AUTOVON 735-2942 OC-ALC/MMIFFA			
7. DATE 16 OCT 68			
8. MANUFACTURER'S NAME AND CODE 99321 SHAW AERO DEVICES			
9. MANUFACTURER'S PART NUMBER 457-370-12			
11. DESCRIPTIVE ELEMENTS			
<p>A. FUNCTIONAL DESCRIPTION: ALLOWS EXTERNAL FUELING OF FUEL TANK.</p> <p>B. TECHNICAL DESCRIPTION: ITEM HAS A TWIST TYPE LOCKING DEVICE THAT FITS INTO A FUEL TANK ADAPTER AND IS SEALED WITH AN "O" RING.</p> <p>C. RELATION TO SIMILAR EQUIPMENT: UNKNOWN.</p> <p>D. REFERENCE DATA: T.O.s 1A7D-4-6 FIG. 33IND4 AND 6J14-2-28-3 FIG. 3 SHEET 2.</p> <p>E. SERVICE HISTORY: N/A</p> <p>F. ACQUISITION STRATEGY: ITEM COMPETITIVE; DATA PROPRIETARY.</p> <p>G. SUPPORT EQUIPMENT: NONE.</p>			
12. DIMENSIONS 4 INCH DIAMETER, 2 INCH HEIGHT	13. WEIGHT 15 OZ	14. STANDARD/PREFERRED STANDARD	

AFSC/AFSC FORM 6  
NOV 82

PREVIOUS EDITION IS OBSOLETE.

AFSC-Andrews AFB Md

Figure A8-1. Sample AFSC/AFSC Form 6.

or deletions to the AF S/PIL. Send recommendations to the appropriate program director/system manager or IMS. They will evaluate the recommendation and initiate an AFLC/AFSC Form 6 for each suitable candidate item.

b. HQ USAF/RDXM, HQ AFSC/SDXP, AFLC CASC/CBRS, ASD-AFALC/AXT, ASD/AEGS, and each AFSC product division and AFLC ALC will establish a focal point and routing or reviewing procedures for the AF S/PIL. This will help ensure AFLC/AFSC Forms 6 are complete and technically accurate before they are sent on for approval.

(1) The AF S/PIL focal points will send completed AFLC/AFSC Forms 6 for all items except avionics and SE to their respective headquarters. The ALC focal points will send their forms to their approval authority, AFLC CASC/CBRS, Federal Center, Battle Creek MI 49016-3442. The product divisions will send their forms to their approval authority, HQ AFSC/SDXP, Andrews AFB DC 20334-5000. The focal points within these organizations will obtain coordination on the forms from the cognizant offices or agencies within their headquarters. The HQ AFSC focal point will send the coordinated forms for preferred items to AFLC CASC/CBRS and the forms for standard items directly to HQ USAF/RDXM.

(2) All AFLC/AFSC Forms 6 for avionics will be sent to ASD-AFALC/AXT for coordination. All forms for SE will be sent to ASD/AEGS for coordination. (NOTE: The Requirements and Systems Support Division, ASD/AEGS, of the Support Equipment System Program Office, ASD/AEG, is jointly staffed with AFSC and AFLC personnel.) After coordinating on the forms, these organizations will send the forms to the applicable approval authority.

#### 7. Focal Point Responsibilities:

a. AFLC CASC/CBRS is the OPR for maintaining and distributing the AF S/PIL and is delegated as the HQ AFLC program manager. This focal point will—

(1) Maintain a suspense system to record the status and location of each AFLC/AFSC Form 6 reviewed and published.

(2) Review the forms for format, spelling, and completeness.

(3) Route the forms to their equipment specialists for a review of the accuracy and completeness of the technical data.

(4) Ensure that HQ AFSC/SDXP has approved or disapproved the forms initiated by AFSC and has coordinated on those initiated by AFLC.

(5) Coordinate on the forms initiated by AFSC and approve or disapprove those forms initiated by AFLC.

(6) Ensure that HQ USAF/RDXM has approved all standard items.

(7) Ensure that any disapproved forms are returned to the appropriate focal point with a reason for the disapproval.

(8) Ensure that the Deputy for Avionics Control (ASD-AFALC/AX) has coordinated on all avionics items.

(9) Ensure that ASD/AEGS has coordinated on all SE.

(10) Publish the AF S/PIL in January and the supplements in April, July, and October.

(11) Distribute copies of the AF S/PIL to all activities on the distribution list and upon request.

(12) Print and distribute hard copies of the AF S/PIL to each focal point.

(13) Host a revalidation meeting the second week of October each year. Program problems and revalidation of each item currently on the list will be discussed.

(14) Send copies of the forms currently on the AF S/PIL to the appropriate focal points in July for review before the October meeting.

b. The ALC focal points will—

(1) Set up routing and reviewing procedures in their organizations to include all offices that need to review the form.

(2) Maintain a suspense system for new and revalidated forms to ensure adequate tracking during review in their organizations.

(3) Review all forms initiated at their ALC for format and completeness.

(4) Return incomplete forms to the initiator with a statement where corrections are needed.

(5) Receive copies of the forms in July for items currently in the AF S/PIL and ensure initiators do a revalidation review of their items.

(6) Attend the October revalidation meeting at AFLC CASC/CBRS. Bring the revalidated forms and any program problems for discussion.

(7) Send forms for avionics items to ASD-AFALC/AXT and copies of those forms to HQ AFSC/SDXP and AFLC CASC/CBRS.

(8) Send forms for SE to ASD/AEGS and copies of those forms to HQ AFSC/SDXP and AFLC CASC/CBRS.

(9) Send all other forms to AFLC CASC/CBRS and copies of those forms to HQ AFSC/SDXP.

c. Product division focal points will—

(1) Set up routing and reviewing procedures in their organizations to include all offices that need to review the form.

(2) Maintain a suspense system for new and revalidated forms to ensure adequate tracking during review in their organizations.

(3) Review all forms initiated at their product division for format and completeness.

(4) Return incomplete forms to the initiator with a statement where corrections are needed.

(5) Receive copies of the forms in July for items currently in the AF S/PIL and ensure that initiators do a revalidation review of their items.

(6) Attend the October revalidation meeting at AFLC CASC/CBRS. Bring the revalidated forms and any program problems for discussion.

(7) Send forms for avionics items to ASD-

AFALC/AXT and copies of those forms to HQ AFSC/SDXP and AFLC CASC/CBRS.

(8) Send forms for SE to ASD/AEGS and copies of those forms to HQ AFSC/SDXP and AFLC CASC/CBRS.

(9) Send all other forms to HQ AFSC/SDXP and copies of those forms to AFLC CASC/CBRS.

d. The ASD-AFALC/AXT focal point will—

(1) Review all forms for avionics items and recommend approval or disapproval.

(2) Send the forms for disapproved items back to the appropriate focal point with a reason for the disapproval.

(3) Send forms recommended for approval and copies of the forms for disapproved items, initiated by the product divisions, to HQ AFSC/SDXP.

(4) Send forms recommended for approval and copies of the forms for disapproved items, initiated by the ALCs, to AFLC CASC/CBRS.

(5) Attend the October revalidation meeting at AFLC CASC/CBRS.

e. The ASD/AEGS focal point will—

(1) Review all forms for support equipment items and recommend approval or disapproval.

(2) Send forms for disapproved items back to the appropriate focal point with a reason for disapproval.

(3) Send the forms recommended for approval and copies of the forms for disapproved items, initiated by the product divisions, to HQ AFSC/SDXP.

(4) Send the forms recommended for approval

and copies of the forms for disapproved items, initiated by the ALCs, to AFLC CASC/CBRS.

(5) Attend the October revalidation meeting at AFLC CASC/CBRS.

f. The HQ AFSC/SDXP focal point will—

(1) Review and approve or disapprove items initiated by the product divisions.

(2) Review and coordinate on ALC-initiated items and send coordinated copy to AFLC CASC/CBRS.

(3) Return the forms for disapproved items and a reason for disapproval to the product division focal point and copies to AFLC CASC/CBRS.

(4) Send approved forms to AFLC CASC/CBRS for final review and input to the AF S/PIL.

(5) Attend the October revalidation meeting at AFLC CASC/CBRS.

g. The HQ USAF/RDXM focal point will—

(1) Receive all forms for proposed standard items from AFLC CASC/CBRS.

(2) Approve or disapprove the proposed standard items.

(3) Send the forms that have been disapproved, with a reason for disapproval, to HQ AFSC/SDXP. The forms for disapproved items and the reason for disapproval will be returned to the initiator by HQ AFSC/SDXP.

(4) Send the forms for approved items to AFLC CASC/CBRS. The approved forms will be input to the AF S/PIL.

(5) Attend the October revalidation meeting at AFLC CASC/CBRS.

## COMPONENT BREAKOUT PROCESS

**1. Purpose of This Attachment.** This attachment tells how to plan for and convert equipment from CFE to GFE. The objective is to acquire items as GFE when significant cost savings can occur by purchasing directly from the original producer or supplier.

### 2. Approach to Conversion:

**a. Preparing for Conversion.** Determine when the next production acquisition RFP is to be released. Schedule the annual component breakout review before the release so that the RFP will reflect the review results. Establish a group from the various functional offices to perform the review.

**b. Item Identification.** Review the current configuration of the system. Identify those CFE items that are a "buy" item to the system prime contractor of \$1 million or more total cost, or that have a total LCC savings in excess of \$1 million.

**c. Item Review.** Circulate within the program/system office a description of the item and obtain functional office answers to the questions posed by DAR 1-326.4 and FAR Supplement 7.7202-4. Obtain estimates of the costs in funds or people needed to perform the breakout.

**d. Item Grouping.** Place each of the items reviewed into one of three groups: (1) no potential for breakout, (2) can be broken out, or (3) have a potential for breakout. Items classified as having no potential for breakout primarily on the basis of cost will have a cost analysis performed. However, the effect of breakout on some unique feature of the program acquisition strategy, such as a warranty,

should be recognized. Cost analysis should proceed to full identification of offsetting government cost to obtain the necessary engineering data and the additional manpower expense to manage the item. The cost analysis can be stopped when the postulated savings is no longer substantial. The basis for stopping must be documented. For those items having a potential for breakout, a time-phased action plan will be developed. The plan will clearly identify the obstacles, what action is needed to remove the obstacles, and who will take the action.

**e. Documentation of Results.** Produce a report (DAR 1-326.5 and DOD FAR Supplement 17.7202-5) that summarizes the results of this annual activity. The report is to be signed by the program director/system manager. Have the RFP modified to reflect the review results. Implement the actions to acquite the broken-out items. Send a copy of the report to the product division/ALC OPR.

### f. Report Format:

I. List of items that can be broken out (for each item discuss the following):

A. Selection rationale.

B. Implementation plan.

II. List of items that have potential for breakout (for each item discuss the following):

A. Selection rationale.

B. Documentation of obstacles and discussion of when component breakout should be feasible.

C. Time-phased implementation.

III. Items that have no potential for breakout (document selection rationale).

**g. Track the Potential Items.** Periodically assess the status of the action plans for those items having a potential for breakout. Revise and update the item action plans so the next annual review can proceed smoothly.

**POLICY AND PROCEDURES FOR LOAN OR LEASE OF MILITARY PROPERTY**

**1. General Introduction.** The GFE/CFE review process may determine that it would be advantageous to the Air Force to loan (bail) or lease government-owned property to a contractor for R&D, production, or other major contracts. Use of loaned or leased property should be carefully considered, especially in the case of equipment peculiar to military operations. Such use could reduce overhead and produce additional competitive bids from interested contractors. Military property, according to this regulation, is under strict budget control, is usually not bought for issue under a stock-level concept, and commonly has a long production lead time. Therefore, asset accountability and visibility must be maintained for assets loaned to contractors so that assets can be considered for other users in requirement computations and budget projections.

**2. Purpose of Policy.** This attachment outlines policies and procedures to ensure, if military property is to be loaned or leased to contractors, that such assets are listed on the RFP or invitation for bid (IFB) and are made available promptly to contractors when required to meet the terms of the contracts; that the prime IMS does not lose visibility of the assets while they are on loan or lease; and that assets are returned to the Air Force for other users at the expiration of the loan or lease requirement.

**3. Policy Procedures.** According to DAR 13-103 and FAR 45.310, military property may be furnished for supply or service contracts or on a special bailment contract. DAR B-105 and FAR 45.310 state the contract under which military property is provided may contain specific requirements for maintenance and control. The following guidelines will be included in all loan and lease agreements or contracts for military property (other points may be introduced as necessary):

a. All military property meeting the definition of DAR 13-103.7 and FAR 45.301 that is provided the contractor must be controlled as loaned (bailed) or leased whether obtained from Air Force stock; acquired under AFSC or AFLC contracts for use by the contractor; or acquired by the contractor, with title vested in the government. Any deviation from inclusion of these control elements must be approved by HQ AFSC/SDX or HQ AFLC/MML in writing for AFSC or AFLC contracts. Approval must be kept on file for 3 years after the contract is closed.

b. All military property loaned (bailed) or leased to the contractor must be documented and authorized by a special bailment contract or lease or be included as an exhibit or appendix to the basic R&D, production, or other type of contract.

c. A consolidated list of military property required for loan or lease to the contractor will be made an exhibit or appendix to the basic contract

or agreement. This list will be titled "Loan Property List" or "Lease Property List" as applicable. The following data will appear on the list. Other information may appear, if necessary.

(1) Complete contract number, including exhibit or appendix identification.

(2) Federal stock number (NSN or NC number).

(3) Nomenclature.

(4) Total quantity required.

(5) Month and year assets by quantity are required to be shipped to the contractor's facilities.

(6) Month and year assets by quantity will be returned to the Air Force.

(7) Indication whether contractor will acquire property.

d. Each item of military property on loan or lease will be identified by federal item identification number (NSN or NC number) and nomenclature according to DAR 13-103 and FAR 45.505-1. If an item is acquired by AFSC or AFLC contract for use by the contractor or obtained by the contractor from other sources, federal cataloging action must be taken as soon as possible.

e. Military property will be accounted for under each contract number for which a loan or lease is made (DAR 13-103 and FAR 45.310). Property may not be transferred from one contract to another or otherwise disposed of without the approval of the prime ALC IMS.

f. The contractor must maintain property accounting records for military property by federal stock numbers (NSN or NC numbers) and nomenclature (DAR B-105 and FAR 45.505-1). The contractor must make available such records, which will include asset quantities for each stock number that are in the contractor's or subcontractor's hands, when requested to do so by the government (DAR B-101 and FAR 45.506). The intent of this requirement is to reconcile contractor records with Air Force IMS records. This reconciliation may be done annually if the prime IMS believes it necessary.

g. MILSTRIP requisitions must be submitted by or for the contractor for all military property, according to DAR Appendix H, DOD FAR Supplement Appendix H, and DOD 4140.17M. Property acquired on AFSC or AFLC contracts to support loan or lease requirements will have shipping instructions placed against these contracts by the IMS to support contractor requisitions for these assets. The following data fields must be filled in as follows:

(1) Card columns 45-50. Must contain contractor stock record account to which shipment is being made if different from the stock record account number appearing in card columns 30-35.

(2) Card column 51. Must contain "D" or "R" for loan and appropriate signal code "C" or "L" for leased items. (NOTE: SEE AFM 67-1, vol I, part one, chap 10, section N, subsection 2).



(3) Card columns 52-53. Must be blank for loan and appropriate funds code for leased items. (NOTE: See AFM 67-1, vol I, part one, chap 10, section N, subsection 2 and AFSCR 170-6).

(4) Card column 56. Must contain "K."

(5) Card columns 57-59. Must contain project code 507, 508, 525, or 273 if for a lease agreement (AFM 67-1, vol I, part one, chap 10, section N, subsection 2).

(6) Card columns 77-80. Must contain last 4 digits of contract number.

h. If the loan/lease property list has prime items, a copy of the list will be sent to each ALC (MMMS) (ATTN: Loan/Lease Control Officer).

i. Contract language will be incorporated to require the PCO, CAO, or AFPRO to comply with paragraph 4.

j. The contractor will comply with disposition instructions from the CAO or AFPRO promptly at the end of the loan or lease period. If disposition instructions have not been received 60 days after the end of the loan or lease period, the contractor will request disposition instructions from the CAO or AFPRO. The CAO or AFPRO, in turn, will request disposition instructions from the prime ALC loan/lease control officer.

**4. Joint Responsibilities.** Coordination and cooperation by a number of functional organizations and individuals will be necessary to implement the loan or lease requirements. The following actions will be required, as a minimum. AFSC and AFLC organizations may supplement this regulation as necessary for improvements that would benefit the Air Force. They may also contact HQ AFSC/SDX or HQ AFLC/MML to suggest improvements to this regulation.

a. HQ AFSC/SDX and HQ AFLC/MML are jointly responsible for AFSC and AFLC management policies and procedures concerning loan and lease. HQ AFSC/SDX must make sure AFSC product divisions receive and implement these policies and procedures. HQ AFLC/MML must do the same for ALCs.

b. AFSC product divisions will appoint an OPR to develop and maintain local policies and procedures for deciding feasibility of loans or leases to contractors of GFP.

(1) The OPR will make sure the projected list of military property available for loan or lease is included in the RFP or IFB.

(2) The OPR will give the AFSC program office any necessary guidance on interpretation of local policies regarding loan or lease.

c. The AFSC or AFLC program/system office will—

(1) Select specific items of military property for loan or lease to contractors.

(2) Make sure loan or lease control procedures are implemented.

(3) Determine if military property selected for loan or lease can be obtained from ALC IMSs for use by the contractor.

(4) If loan or lease requirements cannot be supported from AFLC stock, make sure that property is acquired by AFLC, AFSC, or the contractor. NOTE: All military property provided the contractor is to be considered loan or lease.

(5) Make sure all military property approved for loan or lease is placed on a loan or lease property list and ensure that information is sent to the product division for inclusion in the contract or agreement as an exhibit or appendix.

(6) Revise the loan or lease property list as property requirements change.

(7) Make sure ALC/MMMS gets a complete copy of the loan/lease property list and all changes if the ALC has a prime stock number on the list.

(8) Make sure property is provided on a timely basis to meet the need date on the list.

(9) Make sure MILSTRIP requisitions are submitted for all items to be supplied from AFLC stock or AFLC or AFSC contracts.

(10) Appoint a loan or lease property manager who will—

(a) Be the point of contact for loan and lease procedures for military property.

(b) Prepare and process parts I and IV (and III if applicable) of AFLC/AFSC Form 8.

(c) Assign control numbers, maintain files, and track processing of AFLC/AFSC Form 8.

(d) Prepare the loan or lease property list from completed AFLC/AFSC Forms 8, keep it current, and distribute it to product division and ALC offices for inclusion in contracts, to the ALC/MMMS, and to other offices requiring the data.

(e) Coordinate with the ALC loan or lease control office to make sure records of assets are sent to the contractor.

(f) Ensure policy, procedures, and responsibilities in paragraphs 3 and 4c above are carried out as directed by the program/system office.

d. The ALC will be responsible for the following:

(1) The D/MM (MMM) will establish controls and local operating instructions that comply with this regulation and AFM 67-1, volume III, part one, chapter 10 and volume I, part one, chapter 10, section N.

(2) The ALC will designate a loan/lease control officer in D/MM (MMMS) to do the following:

(a) Receive AFLC/AFSC Forms 8 from the program/system office and set up a file folder for each.

(b) Assign a suspense control number to each form and send it to the stock number prime IMS for evaluation and processing.

(c) Receive completed AFLC/AFSC Forms 8 from the IMS, update file folders, and send the forms to the program/system office loan or lease property manager.

(d) If part II of the form is approved by the IMS to loan or lease assets, prepare an interaccount transfer to move assets reserved for loan or lease into ownership or purpose code "K," pending receipt of

contractor requisition. If the contractor requisition is not received within 30 days after date scheduled for loan or lease period to begin, contact program/system office loan or lease property manager to confirm continued need. Purge account "K" asset balances as needed.

(e) Receive and maintain an updated loan or lease property list.

(f) Receive and validate contractor requisition against the loan or lease property list, release valid requisitions for shipment from account "K" balance, and backorder and query contractor about requisitions not supported by the list.

(g) Maintain a suspense record of shipments to the contractor in the J041 System for visibility as due-in assets according to AFM 67-1, volume III, part one, chapter 10.

(h) Thirty days before the end of the loan or lease period, query the prime IMS regarding Air Force requirements for assets on loan or lease and send the redistribution order to the AFPRO or CAO to return assets to Air Force stock or for shipment to another user.

(i) Receive from IMS copies of PRs/MIPRs

that have loan or lease item requirements. Prepare AFLC/AFSC Form 8, section I, and send the form to the loan or lease control officer at the prime ALC for review and processing.

(3) The prime IMS will—

(a) Receive AFLC/AFSC Forms 8 from the loan or lease control officer.

(b) Review projected loan or lease requirements against requirements computation to determine if assets will be available during specified loan or lease period. Annotate AFLC/AFSC Forms 8, sections II and III as required, and return the forms to the loan or lease control officer (atch 3).

(c) If the PR/MIPR written by the IMS has a requirement for loan or lease, annotate PR/MIPR "Contains Loan or Lease Items." Attach list of stock numbers required as a loan or lease property list.

(d) Inform loan or lease control officer what disposition action to take with military property at the end of the loan or lease period.

(4) The AFPRO or cognizant CAO will help the loan or lease control office redistribute loaned or leased military property.

## APPENDIX G

### NAVAIR INSTRUCTION 4200.5C (DRAFT) "POLICY AND PROCEDURES GOVERNING THE COMPONENT BREAKOUT PROGRAM"

Appendix G is Naval Air Systems Command (NAVAIR) Instruction 4200.5C titled "Policy and Procedures Governing the Component Breakout Program." This instruction is in the final stages of the approval process at NAVAIR, and is a major revision to NAVAIR Instruction 4200.5B (same title).



DEPARTMENT OF THE NAVY  
NAVAL AIR SYSTEMS COMMAND  
NAVAL AIR SYSTEMS COMMAND HEADQUARTERS  
WASHINGTON, DC 20361 -0001

IN REPLY REFER TO

NAVAIRINST 4200.5C  
AIR-514

NAVAIR INSTRUCTION 4200.5C

From: Commander, Naval Air Systems Command

Subj: POLICY AND PROCEDURES GOVERNING THE COMPONENT BREAKOUT PROGRAM

Ref: (a) DOD FAR Supplement 217.7202 Component Breakout (1988 Edition)  
(b) NAVAIRINST 4130.1B, NAVAIR Configuration Management Manual  
(c) NAVAIRINST 4340.2A, Master Government Furnished Equipment List (MGFEL); preparation and utilization of  
(d) FAR Supplement No. 6, DoD Replenishment Parts Breakout Program, 25 Nov 88  
(e) P.L. 98-525 Sec. 1245

Encl: (1) Procedures for Breakout of Contractor Furnished Equipment to Government Furnished Equipment  
(2) Detailed Costing and Pricing Methodology  
(3) Component Breakout Feasibility Assessment Questionnaires

1. Purpose. To set forth policy, establish procedures, and assign responsibilities for the Component Breakout Program (CBP) within the Naval Air Systems Command (NAVAIR) following reference (a) and in consonance with references (b) and (c).

2. Cancellation. This instruction supersedes NAVAIR Instruction 4200.5B of 18 Jul 85. Since this this a major revision, changes have not been indicated.

3. Scope. The provisions of this instruction apply to components defined by reference (a), that have been included as contractor furnished equipment in a previous procurement of the end item that can be "broken out" from a forthcoming procurement for direct government purchase and provided as government furnished equipment. This instruction does not pertain to the initial contractor furnished equipment (CFE) or government furnished equipment (GFE) decisions that must be made at the inception of a procurement program, nor to the breakout of parts procured for replenishment under reference (d).

4. Policy

a. It is NAVAIR's policy to foster competition in procurement. This policy includes having an effective CBP as set forth by reference (a) for those CFE components which can be broken out and furnished to an end item contractor as GFE, if

- (1) substantial net cost savings will probably be achieved;
- (2) such action will not jeopardize the quality, reliability, performance, or timely delivery of the end item; and



- (3) NAVAIR has the resources to efficiently manage the resultant GFE.

The ultimate goal of every breakout action is a competitive procurement that satisfies the three conditions listed above. However, if full and open competition is not practical from the outset of a breakout action, but substantial savings could be achieved by procurement from the original equipment manufacturer, the conversion to GFE should be implemented without delay. The acquisition plan will provide the strategy for further competition as soon as all conditions to do so are met. Special and early consideration will be given for breakout of those components that are common equipment (installed in more than one type of aircraft, aerial targets, or missiles).

b. Reference (e) is a change in law regarding allocation of overhead to parts in which the prime contributes little value added. Department of Defense (DoD) implementing directions are not expected to conflict with component breakout objectives.

## 5. Responsibilities

### a. Naval Air Systems Command Headquarters (See Figure 1)

(1) The Assistant Commander for Systems and Engineering (AIR-05) is designated as the NAVAIR component breakout advocate. In this capacity, AIR-05 will exercise authority for the direction and management of the NAVAIR CBP and actively promote component breakout to ensure compliance with reference (a).

(2) The Deputy Commander for Operations (AIR-01) is responsible for encouraging and promoting the CBP among the designated acquisition managers. AIR-01 also serves as chairman of the Acquisition Operations Council (AOC), the staff entity responsible for final component breakout decisions based on review of study and acquisition manager recommendations. Where agreement cannot be reached with respect to breakout of specific components, AIR-01 will interface with the NAVAIR component breakout advocate in an effort to ensure that alternatives submitted to the AOC include sufficient visibility for an accurate risk assessment and final judgement.

(3) The Assistant Commander for Contracts (AIR-02) is the NAVAIR Competition Advocate and, as such, is responsible for reviewing/testing component breakout studies for validity and reliability of reported data. AIR-02 is also responsible, with technical support from AIR-514, for determination of the cognizant buying activity (normally AIR-02) and establishing schedules for breakout acquisitions.

(4) The Director, Production Management Division (AIR-514), is responsible for establishing and maintaining procedures governing the NAVAIR CBP. As such, AIR-514 will serve as the focal point for management of the CBP, and (a) communicate breakout policy; (b) coordinate review for the identification of breakout candidates; (c) task and monitor breakout studies; (d) convene and chair the breakout evaluation team component breakout review meetings; (e) monitor individual breakout actions to ensure timely and effective conversion from CFE to GFE; (f) maintain records; (g) provide reports for management review, and (h) provide APN-7 funding to support evaluation efforts.

NAVAIR COMPONENT BREAKOUT PROGRAM (CBP) ORGANIZATION

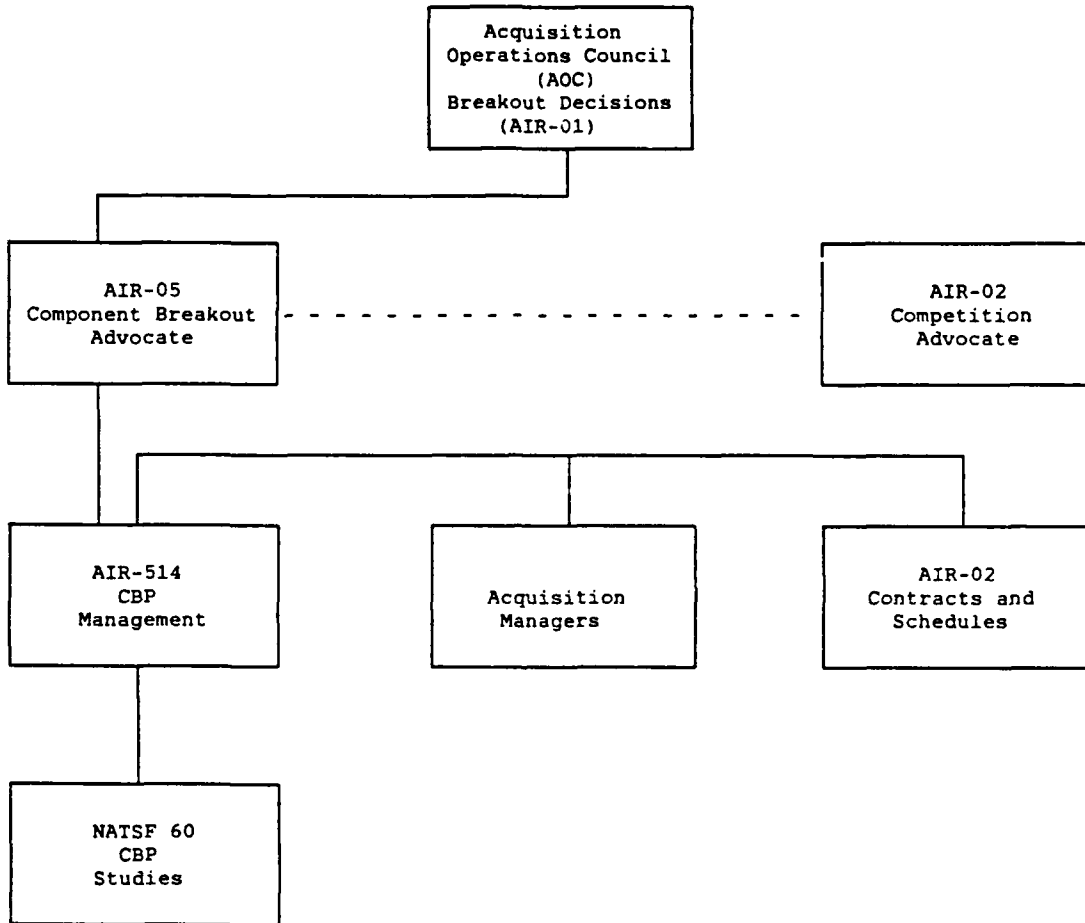


Figure 1

(5) The parent system acquisition manager is responsible for reviewing study evaluation team recommendations and forwarding a consolidated recommendation to the Acquisition Operations Council (AOC). Acquisition managers will be supported in these efforts by the breakout evaluation team.

(6) The Director, Cost Analysis Division (AIR-524), is responsible for providing cost pricing data, reviewing the study, and validating the cost analysis.

(7) The Program Executive Officer (PEO) will be an information addressee on all AOC decisions (paragraph 4.c. enclosure (1)) and retain full authority for implementation following general guidance for programs under his purview.

b. Director, Naval Air Technical Services Facility, Production Engineering Detachment NATSF 60. NATSF 60 is responsible for performing all component breakout studies, coordinating component breakout plans, tracking and maintaining current status of components identified for breakout, and for providing all technical and related data required for the decisionmaking process. The Director, or designated appointee, will also act as co-chairperson of component breakout review meetings.

c. Breakout Evaluation Team. The team, consisting of representatives from contracting, engineering, logistics, costing, and other functional elements as appropriate, is responsible for providing breakout recommendations (based on the breakout studies and other available information) and assisting with implementation of the AOC decision.

#### 6. Action

a. Addressees will identify breakout candidates, conduct component breakout studies and reviews, and follow-on implementing actions which are contained in enclosures (1), (2), and (3).

b. In order to achieve standardization in the component breakout process, the detailed costing and pricing methodology and feasibility assessment questionnaires contained in enclosures (2) and (3), will be utilized to document the breakout decision for each component evaluated.

Distribution:  
(See next page)

Distribution: FKA1A (established quantity); others 5 copies each  
SNDL: FB6 (El Centro); FKA1A (Deputy Commanders, Assistant Commanders, Comptroller, Command Specialist Assistants, Program Directors, Designated Program Managers, Program Coordinators, and Office and Division Directors); FKA6A1; FKA6A2; FKM15; FKP1J (Indian Head); FKR1B; FKR2A; FKR2B; FKR3A; FKR3C; FKR3H; FKR4A; FKR5; FKR7C

Copy to: (2 copies each unless otherwise indicated)  
SNDL: C37E4 (NPPSDO NDW C/L); C84B (Morgantown (1 copy)); FKA1A (AIR-07D A/L (1 copy), AIR-511 (5 copies), AIR-546, AIR-71232 (10 copies), AIR-71233B (40 copies)); FKP1M (1 copy); FKR2B (20 copies)

Stocked: Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120-5099



PROCEDURES FOR BREAKOUT OF CONTRACTOR FURNISHED EQUIPMENT TO  
GOVERNMENT FURNISHED EQUIPMENT

1. CFE Breakout Evaluation Process (Candidate Selection, Study, Review, and Decision)

a. Candidate Selection. Candidate selection will be carried out through the steps identified in paragraphs 4(a) through (d) below. Candidate should have an estimated accumulated value of at least \$1,000,000.00 per annual buy. Where appropriate, the candidate will include requirements of other Department of Defense (DOD) components and government agencies, military assistance programs, foreign military sales, etc. (Components of a smaller annual procurement value, where a substantial savings can be realized, should be considered for breakout evaluation on a one-time basis). The candidate selection process will be carried out annually after the candidate's second production year, unless otherwise directed by AIR-514.

b. Component Categories. Weapon system components are classified in three categories with respect to a CFE or GFE decision:

(1) Category I. Those components which are GFE. They will be listed in the Master Government Furnished Equipment List (MGFEL) per reference (c) and in NAVAIR contracts for other end items.

(2) Category II. Those components which are candidates for conversion from CFE to GFE.

(3) Category III. Those components which, based on study results, should remain CFE.

c. Study. NATSF 60 will conduct the component breakout study. This includes compiling and analyzing data collected on component breakout feasibility assessment questionnaires which address: (1) assessment of the potential risks of degrading the end items through such contingencies as delayed delivery and reduced reliability of the component; (2) calculation of estimated net cost savings (i.e., estimated purchase savings less any offsetting costs); and (3) analysis of the technical, operational, logistic, and administrative factors involved. The study findings and recommendations will then be compiled into a comprehensive study book to facilitate review and decision. These books will be distributed to AIR-514, AIR-02, AIR-02E, cognizant acquisition managers, Breakout Acquisition Managers and evaluation team members. The distribution will be found at the back of the study book.

d. Review. AIR-514 will coordinate and chair meetings of the breakout evaluation team to review study findings and recommendations for each breakout candidate. Representatives from the acquisition manager, class desk, assistant program manager for logistics, cognizant functional engineer, and NATSF 60 (NATSF 60 and cognizant production management personnel from AIR-514) are considered required team members for the review.

e. Decision. The acquisition manager, will on receipt of breakout evaluation team results (see 1d. above), provide the AOC via AIR-01C (with technical support from AIR-514), with a consolidated recommendation on the suitability of breakout for all components studied. An AOC final decision will be documented as indicated in paragraph 4a. below.

2. Implementation. Following the decision to convert from CFE to GFE, an acquisition engineer will be assigned the item by the AIR-05 cognizant engineering activity to ensure the specific conversion actions leading to procurement as GFE are accomplished following paragraphs 3(j) through (r) below.

3. Component Breakout Sequence of Events (For relative milestones, see Figure 2).

<u>RESPONSIBLE ACTIVITY</u>	<u>PROCEDURES</u>
a. AIR-514	Task NATSF 60 to provide list of potential component breakout candidates for specific weapon system.
b. NATSF 60	Provide list of component breakout candidates for the acquisition manager via AIR-514. This is taken from the weapon system priced CFE lists provided by AIR-02 upon request.
c. Acquisition Manager	Review, modify, and approve the candidate list and return to AIR-514.
d. AIR-514	Prepare study tasking letter to NATSF 6 identifying the specific weapon system and listing the candidate items.
e. NATSF 60	(1) Tailor feasibility assessment questionnaires, enclosure (3), to address specific weapon system study considerations.  (2) Disseminate feasibility assessment questionnaires to appropriate individuals via AIR-514.  (3) Forward contractor feasibility assessment questionnaires via AIR-514 to prime contractor via Defense Contract Administration Services Plant Representatives Office (DCASPRO), or Contract Administration Office (CAO). Conduct meetings with DCASPRO, CAO,

and prime contractor personnel as required to obtain desired information.

(4) Request escalation rates and other cost pricing data from AIR-524.

f. AIR-524

Provide latest DoD escalation rates and other cost pricing data as requested per questionnaires.

g. Cognizant Activities

Complete component breakout feasibility assessment questionnaires and phone NATSF 64G.

h. NATSF 60

(1) Using cost algorithm, current escalation rates, and Government Management Cost, derive component comparative cost estimates. Forward to AIR-514 for concurrence.

(2) Compile and finalize information received from NAVAIR engineer, logistics evaluator, DCASPRO, and prime contractor. Prepare component breakout study book and forward to AIR-514 with copies to designated codes.

i. AIR-524

Review study price analysis for concurrence.

j. AIR-514

Schedule component breakout meeting. Prepare memorandum notifying all component breakout team members of the meeting.

k. Breakout Evaluation Team

(1) Conduct component breakout reviews based on study results and other appropriate inputs.

(2) Document findings per enclosure (1), paragraph 3.

(3) Assign action items, action codes, buying codes, and due dates.

l. AIR-514

Prepare memorandum stating the results of the review.

m. Acquisition Manager

Make recommendations to AOC via AIR-01C/AIR-514 on breakout components.

- n. Acquisition Operations Council      Make breakout decision based on study and acquisition manager recommendations.
- o. Acquisition Manager      (1) Conduct procurement planning conference for any V cognizant items.  
    (2) Draft Acquisition Plan.
- p. Class Desk      Initiate engineering change proposal (ECP) request or cost impact letter following affirmative breakout decision and process MGFEL change to CCB.
- q. Cognizant Engineer      Determine requirement for production approval and initiate action if required.
- r. AIR-514      Update aircraft MGFEL per procedures of reference (c).
- s. AIR-514      Initiate procurement documents for broken out components.
- t. AIR-02/Buying Activity      (1) Synopsis.  
    (2) Evaluate proposals.  
    (3) Obtain justification and approval, negotiate, e.g., only one source, etc.  
    (4) Pre-business clearance approval, negotiate, postclearance approval, and contract award.

4. Records, Subsequent Evaluation Procedures, and Reports

a. Records. The results of the component breakout evaluation, including assigned action items, will be documented to reflect pertinent facts and conditions. AIR-514 will prepare a memorandum to all component breakout evaluation team members containing information on:

(1) components for which a recommendation to breakout has been made (category I), pending the acquisition manager's recommendation and AOC decision.

(2) components which have been reviewed and identified as being susceptible to breakout but deferred for future review (category II); and

(3) components which have been reviewed and determined to have no potential for breakout (category III).

b. Subsequent Evaluation Procedures. Components identified for potential breakout (Category II) will be reevaluated well in advance of each successive procurement. Evaluations, made preferably in the course of requirements determination, but in any event before procurement is initiated, will be repeated annually until a final breakout decision is achieved. When a component is classified as category II, the documentation will: describe the factors contributing to the category II classification; identify the activities responsible for action; and indicate the fiscal year (FY) when breakout should be effected.

c. Decision Memorandum. The AOC decision, regarding candidates recommended for breakout by the breakout evaluation team and acquisition managers, will be documented by the Chairman (AIR-01C) in a brief decision memorandum to AIR-514, PMA, AIR-511/540, with information copy to the PEO.

d. Reports

(1) The Director, NATSF 60 will, on a quarterly basis (2 weeks after each calendar year (CY) quarter), provide to the Director, AIR-514, a report containing

(a) status of component breakout studies;

(b) status of those components transferred from CFE to GFE from the time the breakout decision is made to contract award; and

(c) status of all action items assigned at the component breakout review meeting and the recommended buying activity.

(2) The Director, AIR-514 will submit quarterly reports to the NAVAIR component breakout advocate, competition advocate, and Assistant Commander for Contracts (AIR-02), on the status of the breakout effort on each major weapon system. This report will be submitted 3 weeks after each CY quarter.

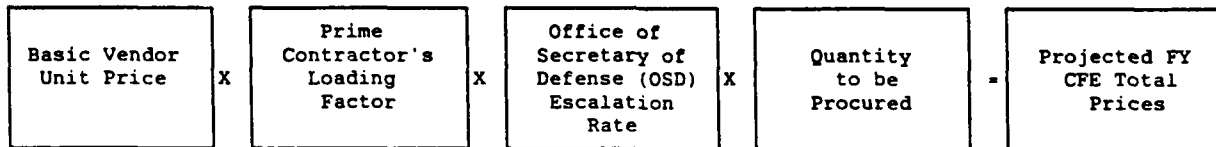
(3) The NAVAIR component breakout advocate (AIR-05) will provide periodic summary reports to the Commander, Naval Air Systems Command (AIR-00) on the progress of the CBP.

DETAILED COSTING AND PRICING METHODOLOGY

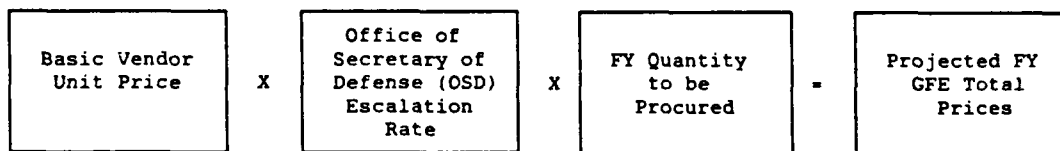
1. Cost Model Computations

a. This is a typical cost model used in the pricing analysis computations for NAVAIR Component Breakout Program. It depicts the importance of credible pricing (including Government Management Cost) in determining whether substantial net savings would be achieved via breakout.

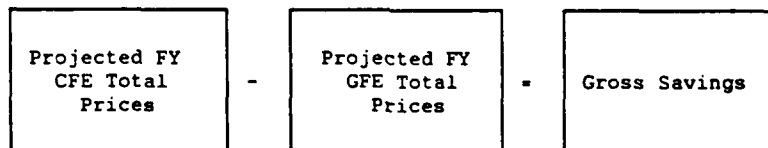
(1) CFE Pricing



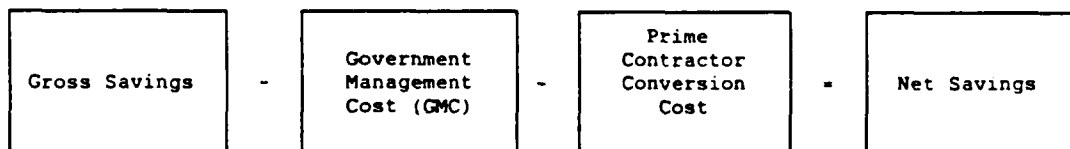
(2) GFE Pricing



(3) Gross Savings



(4) Net Savings



b. The objective of applying a standard discipline (cost model), to the evaluation of breakout situations is to attach maximum credibility to the derived estimate and thus make the task of deciding for or against breakout easier for the decisionmaker. With this cost model, several types of costs (vendor basic unit price, prime contractor loading, fiscal year buy, OSD escalation rates, GMC and prime contractor conversion costs) must be solicited via questionnaires of enclosure (3), estimated when necessary, summarized, and compared to accurately estimate the economics of breakout.

c. First, the model focuses on developing fully burdened estimates of unit price. Most recent data from a most reliable source is sought. Once all data is compiled, the

block iterative method is used to arrive at a total price for CFE and GFE, and determine gross savings.

d. Second, anticipated changes in costs to the Government and Contractor as a result of breakout is considered. Depending on the unique circumstances of the manufacturer, procurement, and/or integration of the original equipment, there is no set definition of "Conversion Cost". For different systems and developments, different contractor costs may be recurring, non-recurring, or diminishing.

e. Because offsetting prime contractor conversion costs vary from contract to contract, and as some costs may be unique to an individual program, questionnaires are sent to the prime contractor. They are asked to document (or estimate) offsetting costs and acquisition costs.

f. Completed questionnaires are collected, analyzed, and interpreted to identify the offsetting costs associated with breakout and to assess their nature. A spread sheet is developed to determine procurement year contractor conversion costs.

g. Net savings, calculated as shown, represent a decision-grade estimate of results likely to be achieved as a result of selecting the breakout option.

## 2. Government Management Cost (GMC)

a. GMC is the additional Government effort, resources, and support required in breakout (conversion) of a component from CFE to GFE. GMC as well as prime contractor conversion costs are used to offset gross savings to achieve net savings.

b. GMC is based on the acquisition and management complexity of the component, which, in turn, is determined by the number of WRAs (Weapon Replaceable Assemblies) involved. Basis for including GMC calculations in an effort to project net cost savings is mostly intuitive in that acquisition costs previously borne by the end item (prime) contractor shifts to the Government when direct procurements are initiated.

c. GMC inputs are provided by cognizant NAVAIR personnel, NAVAIR field activities (when necessary), DCASR or DCASPRO offices. When this information is not available, the NAVAIR GMC computation models are used.

FEASIBILITY ASSESSMENT QUESTIONNAIRES

1. This enclosure (3) contains six questionnaires that are used in gathering information necessary to conduct the component breakout study. These will be tailored, as required, to ensure that essential information is obtained for the component being evaluated for breakout feasibility assessment.

2. The component breakout study must embrace (a) assessment of potential risks of degrading the end item through such contingencies as delayed delivery and reduced reliability of the component, (b) calculations of estimated net cost savings, and (c) analysis of the technical, operational, logistic, and administrative factors involved. As to each of these, the decision must be supported by adequate explanatory information, including an assessment by, and consultation with, the end item contractor when feasible.

3. The six questionnaires, listed below, are tailored after the questions listed under breakout guidelines of reference (a).

- a. Prime Contractor's Production Assessment
- b. Prime Contractor's Engineering Assessment
- c. Cost Analysis (AIR-524) Assessment
- d. NAVAIR Engineering Assessment
- e. NAVAIR Logistics Assessment
- f. Component Drawing Status (NATSF 60)



\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PRIME CONTRACTOR PRODUCTION ASSESSMENT OF ABOVE COMPONENT**

**SUBJ:** Feasibility assessment, transition from Contractor Furnished Equipment (CFE) to Government Furnished Equipment (GFE). Refer to DoD FAR Supplement 217.7202, COMPONENT BREAKOUT, (1988 Edition) and NAVAIRINST 4200.5C.

**I. COMPONENT INFORMATION**

A. Prime Contractor Part Number: \_\_\_\_\_

B. Manufacturer: \_\_\_\_\_ FSCM: \_\_\_\_\_

C. Manufacturer Part Number: \_\_\_\_\_

D. Component WRA (Weapon Replaceable Assembly) Configuration List:

<u>WRA</u>	<u>IDENTIFICATION</u>	<u>QUANTITY</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**II. COMPONENT PRICING**

A. Vendor Purchase Order (P.O.) (Latest)

1. P.O. No.: \_\_\_\_\_ Vendor: \_\_\_\_\_

2. Fiscal Year: \_\_\_\_\_ Aircraft Production Lot: \_\_\_\_\_

3. Quantity: \_\_\_\_\_ Unit Price: \_\_\_\_\_

a. Provide breakdown of unit price if it consists of other costs (i.e., engineering data, software, warranty, etc.):

SUBJ: PRIME CONTRACTOR PRODUCTION ASSESSMENT QUESTIONNAIRE

<u>ITEM</u>	<u>COST</u>	<u>ITEM</u>	<u>COST</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. Indicate number of years if P.O. is multi-year \_\_\_\_\_.  
Was this multi-year procurement authorized by the Government? \_\_\_\_\_

5. What other items and prices are listed on the P.O. that are applicable to the component?

<u>ITEM</u>	<u>PRICE</u>	<u>ITEM</u>	<u>PRICE</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. State if above P.O. prices were negotiated, quoted, or other? \_\_\_\_\_

7. Are all items and WRAs that make up this component procured from one vendor? \_\_\_\_\_

a. If not, please identify as follows:

<u>ITEM</u>	<u>VENDOR</u>	<u>COST</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

SUBJ: PRIME CONTRACTOR PRODUCTION ASSESSMENT QUESTIONNAIRE

III. PROCUREMENT/PRODUCTION PLANNING

A. Quantity of components per aircraft: \_\_\_\_\_

B. Production/manufacturing lead time: \_\_\_\_\_

C. Has action been taken to procure subject fiscal year requirements? \_\_\_\_\_

D. Is a second source available for manufacture of this component? \_\_\_\_\_

1. If yes, provide name and FSCM. \_\_\_\_\_

E. If the component contains long lead items where funds are required ahead of component procurement, please list as follows:

<u>ITEM</u>	<u>VENDOR</u>	<u>COST</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

1. When would the next commitment be made, and for what fiscal years? \_\_\_\_\_

F. Has a complete set of engineering drawings and associated data (technical data package) been procured from the vendor? \_\_\_\_\_

1. If yes, (a) how many drawings are considered proprietary by the vendor \_\_\_\_\_ by the prime contractor \_\_\_\_\_.

(b) has this complete technical data package been submitted to the Naval Air Technical Services Facility? \_\_\_\_\_

**SUBJ: PRIME CONTRACTOR PRODUCTION ASSESSMENT QUESTIONNAIRE**

(1) If yes, when? \_\_\_\_\_

(2) If no, what is the status? \_\_\_\_\_

**G. Would late delivery of this component:**

1. Result in a work-around or out-of-station installation? \_\_\_\_\_

2. Cause an airframe production line stoppage? \_\_\_\_\_

**H. Has a production line support quantity (spares) been established for this component? \_\_\_\_\_**

1. If yes, what are the WRAs and quantities maintained for this support?

WRA

QUANTITY

<u>WRA</u>	<u>QUANTITY</u>
_____	_____
_____	_____
_____	_____
_____	_____

**I. What impact would breakout have, if any, on foreign military sales, military assistance or other offset programs? \_\_\_\_\_**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**IV. BREAKOUT TRANSITION COST**

A. What would the additional costs (recurring, non-recurring) be to the prime contractor if this component were converted to GFE? This should identify offsetting costs resulting

**SUBJ: PRIME CONTRACTOR PRODUCTION ASSESSMENT QUESTIONNAIRE**

from prime contractor discontinuance of procurement, management, and engineering of this component. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Other Costs to the Government (i.e., establishment of a repair facility, vendor's service warranty, CETS support, etc.).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

V. REMARKS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

ORGANIZATION: \_\_\_\_\_

PHONE: \_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PRIME CONTRACTOR ENGINEERING ASSESSMENT OF ABOVE COMPONENT**

**SUBJ:** Feasibility assessment, transition from Contractor Furnished Equipment (CFE) to Government Furnished Equipment (GFE). Refer to DoD FAR Supplement 217.7202, COMPONENT BREAKOUT, (1988 Edition) and NAVAIRINST 4200.5C.

**I. COMPONENT INFORMATION**

A. Prime Contractor Part Number: \_\_\_\_\_

B. Procurement/Performance Spec.: \_\_\_\_\_

1. Is this specification complete? \_\_\_\_\_

a. If no, what is the status and estimated completion date? \_\_\_\_\_

C. Is this component common to other aircraft or weapon systems? \_\_\_\_\_

1. If yes, please identify. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D. What is the installation lead time? \_\_\_\_\_

E. Is this component flight essential? (grounding) \_\_\_\_\_

\_\_\_\_\_  
F. Is this component mission essential? \_\_\_\_\_  
\_\_\_\_\_

**SUBJ: PRIME CONTRACTOR ENGINEERING ASSESSMENT QUESTIONNAIRE**

**II. DESIGN AND STABILITY**

A. Who is the design activity for this component? \_\_\_\_\_

\_\_\_\_\_

B. Are major design changes, redesigns, or substitutions in progress or anticipated for this component? \_\_\_\_\_

1. If yes, give a brief description of the change and ECP number. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C. Have product baseline and performance specification requirements been met? \_\_\_\_\_

1. If no, what is the status and estimated completion date? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**III. TESTING**

A. Are evaluation/demonstration tests on this component completed? \_\_\_\_\_

1. If no, what is the completion status and estimated completion date? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B. After receipt from vendor, is any special acceptance testing performed? \_\_\_\_\_

1. If yes, (a) what is the test procedures? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**SUBJ: PRIME CONTRACTOR ENGINEERING ASSESSMENT QUESTIONNAIRE**

(b) would such testing continue if the component were GFE instead of CFE? \_\_\_\_\_

2. If no, would the component still meet specification? \_\_\_\_\_

**IV. QUALITY ASSURANCE**

A. In the last 12 months have delivery delays been experienced with the vendor of this component? \_\_\_\_\_

1. If yes, (a) what was the nature of the delay? \_\_\_\_\_

(b) does this problem appear to be resolved? \_\_\_\_\_

B. How many rejects (acceptance test failures) have occurred in the last 12 months? \_\_\_\_\_

1. How many spare components were required in the last 12 months? \_\_\_\_\_

2. If a pattern of rejects has been identified, briefly describe the problems and the number of rejects associated with it.



**SUBJ: PRIME CONTRACTOR ENGINEERING ASSESSMENT QUESTIONNAIRE**

a. Which problems are resolved? \_\_\_\_\_

---

---

---

b. What is the status of problems not resolved?

---

---

---

---

**V. RELIABILITY**

A. Has a pattern of integration/flight test problems occurred in the last 12 months? \_\_\_\_\_

1. If yes, briefly describe the nature of the problem.

---

---

---

---

B. How many removals from the aircraft have occurred in the last 12 months? \_\_\_\_\_

1. If a pattern of removals has been identified, briefly describe the problems and the number of removals associated with it. \_\_\_\_\_

---

---

---

**SUBJ: PRIME CONTRACTOR ENGINEERING ASSESSMENT QUESTIONNAIRE**

**VI. REMARKS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NAME:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**ORGANIZATION:** \_\_\_\_\_

**PHONE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COST ANALYSIS ASSESSMENT OF ABOVE COMPONENT**

**SUBJ:** Feasibility assessment, transition from Contractor Furnished Equipment (CFE) to Government Furnished Equipment (GFE). Refer to NAVAIRINST 4200.5C, Policy and Procedures Governing the Component Breakout Program.

**I. PROCUREMENT INFORMATION**

**A. Total Aircraft (End Item) Requirements**

<u>FISCAL YEAR</u>	<u>QUANTITY</u>	<u>DATE OF 1ST AIRCRAFT DELIVERY REQUIREMENTS</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**B. Other Aircraft Requirements (i.e., Modifications, FMS, Air Force, etc.)**

<u>FISCAL YEAR</u>	<u>QUANTITY</u>	<u>IDENTIFY REQUIREMENT</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**II. COMPONENT PRICE ANALYSIS**

A. Vendor: \_\_\_\_\_ Part No.: \_\_\_\_\_

**SUBJ: COST ANALYSIS ASSESSMENT QUESTIONNAIRE**

**B. Basic Vendor Unit Prices:**

<u>FISCAL YEAR</u>	<u>UNIT PRICE</u>	<u>STATE: ESTIMATED, BUDGET, NEGOTIATED OR QUOTED</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**III. COST ANALYSIS**

**A. Prime Contractor Loading**

1. Provide total mark-up/prime contractor loading (compounded) for FY-\_\_\_\_ through FY-\_\_\_\_. (This will be used to compute CFE unit prices).

Fiscal year averages are as follows:

FY-_____	_____	%
FY-_____	_____	%
FY-_____	_____	%
FY-_____	_____	%
FY-_____	_____	%
FY-_____	_____	%

**B. OSD Escalation Rates**

1. CFE/GFE prices are normally calculated by applying current published OSD Selected Acquisition Review (SAR) escalation rates to basic vendor unit prices. In order to ensure that the latest escalation rates are being used, please fill in the percentages for the following:

FY-_____	to FY-_____	_____	%
FY-_____	to FY-_____	_____	%
FY-_____	to FY-_____	_____	%
FY-_____	to FY-_____	_____	%
FY-_____	to FY-_____	_____	%
FY-_____	to FY-_____	_____	%

SUBJ: COST ANALYSIS ASSESSMENT QUESTIONNAIRE

IV. CFE TO GFE TRANSITION COST

A. What additional support in GS/GM grade and man-hours would you require if this component were converted to GFE? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

1. Where would this support come from? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

B. What other expenses would you incur? (i.e., your travel).

ITEM

ESTIMATED COST

<u>ITEM</u>	<u>ESTIMATED COST</u>
_____	_____
_____	_____
_____	_____
_____	_____

V. COMMENTS: (Additional information concerning breakout of the above components from CFE to GFE). \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_

CODE: \_\_\_\_\_

PHONE: \_\_\_\_\_

ROOM: \_\_\_\_\_ BLDG.: \_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NAVAIR ENGINEERING ASSESSMENT OF ABOVE COMPONENT**

**SUBJ:** Feasibility assessment, transition from Contractor Furnished Equipment (CFE) to Government Furnished Equipment (GFE). Refer to NAVAIRINST 4200.5C, Policy and Procedures Governing the Component Breakout Program.

**I. COMPONENT INFORMATION**

A. Manufacturer: \_\_\_\_\_ Part No.: \_\_\_\_\_

B. Prime Contractor Part Number: \_\_\_\_\_

C. Procurement/Performance Spec.: \_\_\_\_\_

1. Who's specification is this? \_\_\_\_\_

2. If the above is not a Military Specification:

a. When can one be expected? \_\_\_\_\_

b. What activity would be tasked to provide this specification? \_\_\_\_\_

c. What would an estimated cost be in dollars and man-hours to prepare the specification? \_\_\_\_\_

\_\_\_\_\_  
D. Component WRA (Weapon Replaceable Assembly) Configuration List:

<u>WRA</u>	<u>IDENTIFICATION</u>	<u>QUANTITY</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**SUBJ: NAVAIR ENGINEERING ASSESSMENT QUESTIONNAIRE**

E. Production/manufacturing lead time: \_\_\_\_\_

F. Quantity of components per aircraft: \_\_\_\_\_

G. What other airframes or weapon systems is this component used on? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**II. DESIGN STABILITY**

A. Is the design of this component mature? \_\_\_\_\_

1. If yes, were product baseline and performance specifications met? \_\_\_\_\_

\_\_\_\_\_  
a. If no, what is the status and estimated completion date? \_\_\_\_\_

\_\_\_\_\_  
B. Are major design changes, redesigns, or substitutions in progress or anticipated? \_\_\_\_\_

1. If yes, (a) describe the change and corresponding ECP number. \_\_\_\_\_

\_\_\_\_\_  
(b) describe if this ECP would affect reliability and maintainability and to what extent. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

C. Does this component have a history of high failure rates? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**SUBJ: NAVAIR ENGINEERING ASSESSMENT QUESTIONNAIRE**

1. If yes, list the common failures and action being taken to remedy. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**III. TESTING**

A. Has all required testing (i.e., evaluation/demonstration quality, etc.) been completed on this component? \_\_\_\_\_  
\_\_\_\_\_

1. If no, what tests and percentage of each remain to be completed and when is completion anticipated? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Please list any current problems encountered during testing and action taken to resolve same. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Would any additional tests be required by the government, manufacturer or prime contractor if this component were converted from CFE to GFE and procured from the current manufacturer? \_\_\_\_\_  
\_\_\_\_\_

1. If yes, what tests would be required and what would an estimated cost be in dollars and man-hours by GS/GM grade if applicable? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**SUBJ: NAVAIR ENGINEERING ASSESSMENT QUESTIONNAIRE**

**IV. PROCUREMENT INFORMATION**

A. Have engineering drawings, associated lists and related data for this CFE component been procured by the prime contractor?

1. If yes, (a) is the prime contractor required to deliver data with unlimited rights? \_\_\_\_\_

(b) at what level were engineering drawings procured? \_\_\_\_\_

(c) does the vendor claim proprietary rights? \_\_\_\_\_

2. If no, what is your estimate of cost and time required to obtain those drawings? \_\_\_\_\_

B. Does this component have an Approval for Production (AFP)? \_\_\_\_\_

1. If yes, what is the date of approval? \_\_\_\_\_

2. If no, when do you expect approval? \_\_\_\_\_

C. If this component is converted from CFE to GFE, how long will it take to initiate the Acquisition Plan and process it through to approval? \_\_\_\_\_

**V. CFE TO GFE TRANSITION COSTS**

A. What additional support in GS/GM grade and man-hours would you require to manage this component as GFE? \_\_\_\_\_

**SUBJ: NAVAIR ENGINEERING ASSESSMENT QUESTIONNAIRE**

1. Where would this support come from? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

B. What other expenses would be involved in a conversion to GFE? (i.e., warranty, additional support equipment, your travel, Component Improvement Program, Interface Control Documentation, Associated Contractor's Agreement, etc.).

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM ratings where applicable)	<u>EST. COST</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**VI. ENGINEERING COMMENTS/RECOMMENDATIONS**

A. Please comment on the advantages or disadvantages of breakout of this component from CFE to GFE. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Do you recommend transitioning this component from CFE to GFE? \_\_\_\_\_

1. If no, (a) what must be done in order to breakout this component? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SUBJ: NAVAIR ENGINEERING ASSESSMENT QUESTIONNAIRE**

(b) in which fiscal year would conversion  
be appropriate? FY-\_\_\_\_\_.

ENGINEER: \_\_\_\_\_

CODE: \_\_\_\_\_

PHONE: \_\_\_\_\_

ROOM: \_\_\_\_\_ BLDG.: \_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NAVAIR LOGISTICS ASSESSMENT OF ABOVE COMPONENT**

**SUBJ:** Feasibility assessment, transition from Contractor Furnished Equipment (CFE) to Government Furnished Equipment (GFE). Refer to NAVAIRINST 4200.5C, Policy and Procedures Governing the Component Breakout Program.

**I. COMPONENT INFORMATION**

A. Prime Contractor Part Number: \_\_\_\_\_

B. Manufacturer: \_\_\_\_\_ Part No.: \_\_\_\_\_

C. Work Unit Code: \_\_\_\_\_

D. What is the demonstrated Operating Availability (Ao) rate for this component? \_\_\_\_\_ %.

**II. SUPPORT DATES**

A. Has NSD (Navy Support Date) occurred for this component?

\_\_\_\_\_  
1. If not, what is the scheduled date? \_\_\_\_\_

B. Has MSD (Material Support Date) occurred for this component? \_\_\_\_\_

1. If not, what is the scheduled date? \_\_\_\_\_

**III. MAINTENANCE**

A. How many maintenance man-hours per flight hour are currently required for:

1. Scheduled 0 level maintenance \_\_\_\_\_ MMH/FH.

2. Unscheduled 0 level maintenance \_\_\_\_\_ MMH/FH.

3. Scheduled I level maintenance \_\_\_\_\_ MMH/FH.

4. Unscheduled I level maintenance \_\_\_\_\_ MMH/FH.

**SUBJ: NAVAIR LOGISTICS ASSESSMENT QUESTIONNAIRE**

B. Approximately what percentage of this component is repaired at?

- A. Intermediate level \_\_\_\_\_ %.
- B. Depot level \_\_\_\_\_ %.
- C. Contractor \_\_\_\_\_ %.

C. What Contracting Engineering and Technical Services (CETS) are being provided for this component? \_\_\_\_\_

---



---



---

D. Identify additional maintenance costs and man-hours (prime contractor, field activities, and NAVAIR) if this component were converted from CFE to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**IV. SUPPLY SUPPORT**

A. Would additional spares and repair parts be required if this component were converted from CFE to GFE? \_\_\_\_\_

1. If yes, what would the estimated cost be? \_\_\_\_\_

B. Has a production line support quantity (spares) been established for this component? \_\_\_\_\_

**SUBJ: NAVAIR LOGISTICS ASSESSMENT QUESTIONNAIRE**

1. If yes, what quantity is required for this support?

---

C. What is the prime contractor's responsibility for supply when the component is CFE? \_\_\_\_\_

---

D. Identify additional supply support costs and man-hours (prime contractor, field activities and NAVAIR) if this component were converted to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**V. SUPPORT AND TEST EQUIPMENT**

A. Identify additional support, test equipment, and man-hours if this component were converted to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**SUBJ: NAVAIR LOGISTICS ASSESSMENT QUESTIONNAIRE**

**VI. TECHNICAL LOGISTICS DATA**

A. Identify additional technical data (e.g., technical manuals, microfilm drawings, engineering drawings, maintenance requirement cards, provisioning technical documentation, etc.) required if this were converted to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**VII. PACKAGING, HANDLING, STORAGE, AND TRANSPORTATION**

A. Identify additional packaging (containers, reusable containers), handling, storage and transportation requirements if this component were converted from CFE to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SUBJ: NAVAIR LOGISTICS ASSESSMENT QUESTIONNAIRE

VIII. TRAINING AND TRAINING DEVICES

A. Identify additional training (operational, maintenance, factory) and training devices required if the component is converted from CFE to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

B. What training lead times would be required for government personnel prior to the conversion if no contractor support were available? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

IX. RESOURCES

A. Identify additional resources, in addition to the above, if this component were converted from CFE to GFE:

<u>ITEM</u>	<u>EST. MAN-HOURS</u> (By GS/GM rating where applicable)	<u>COST</u>	<u>IDENTITY</u> (NAVAIR field activity or contractor)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____



**SUBJ: NAVAIR LOGISTICS ASSESSMENT QUESTIONNAIRE**

**X. COMMENTS/RECOMMENDATIONS**

A. Additional comments concerning the positive or negative aspects of breaking out this component from CFE to GFE. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Do you recommend breakout of this component? \_\_\_\_\_

1. If no, what must be done to breakout this item? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

a. In what fiscal year would you recommend breakout (conversion)? FY-\_\_\_\_\_.

APML: \_\_\_\_\_

CODE: \_\_\_\_\_

PHONE: \_\_\_\_\_

ROOM: \_\_\_\_\_ BLDG.: \_\_\_\_\_

DATE: \_\_\_\_\_

WEAPON SYSTEM: \_\_\_\_\_ FY- \_\_\_\_\_  
PRIME CONTRACTOR: \_\_\_\_\_  
COMPONENT: \_\_\_\_\_  
DESIGNATOR: \_\_\_\_\_  
VENDOR: \_\_\_\_\_

**COMPONENT DRAWING STATUS QUESTIONNAIRE**

(Refer to NAVAIRINST 4200.5C, Policy and Procedures Governing the Component Breakout Program).

1. Have engineering drawings, associated lists and related data for this CFE system/component been procured by the prime contractor? Yes \_\_\_ No \_\_\_.
2. Were these drawings reviewed by the prime contractor? Yes \_\_\_ No \_\_\_.
3. Did the contractor/vendor deliver a complete set of drawings? Yes \_\_\_ No \_\_\_ . Are new and revised drawings being delivered? Yes \_\_\_ No \_\_\_.
4. Do drawings include details of unique processes essential to design, manufacturer and test? Yes \_\_\_ No \_\_\_.
5. At what level was data procured? Level 1 \_\_\_, 2 \_\_\_, 3 \_\_\_. Was this level tailored? Yes \_\_\_ No \_\_\_.
6. Did the prime contract include the "Basic Data" flow down clause to subcontractors? Yes \_\_\_ No \_\_\_.
7. Is the prime contractor required to deliver data with "Unlimited Rights"? Yes \_\_\_ No \_\_\_.
8. Does the vendor claim proprietary rights? Yes \_\_\_ No \_\_\_ . Does the prime? Yes \_\_\_ No \_\_\_.
9. Are these drawings (aperture cards) on file at NATSF? Yes \_\_\_ No \_\_\_.
10. Who is the design activity? Government? Yes \_\_\_ No \_\_\_ . Prime? Yes \_\_\_ No \_\_\_ . Subcontractor? Yes \_\_\_ No \_\_\_.
11. Are you required to do in-process and final reviews? Yes \_\_\_ No \_\_\_.

**SUBJ: COMPONENT DRAWING STATUS QUESTIONNAIRE**

12. What percentage (number of drawings) have been reviewed?  
\_\_\_\_\_ %.

13. Is the drawing package adequate for competition? Yes \_\_\_\_  
No \_\_\_\_.

14. If the drawing package is incomplete, which data is needed to  
meet contract requirements? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. If your review is incomplete, when do you plan to complete it?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_

ACTIVITY/CODE: \_\_\_\_\_

PHONE: \_\_\_\_\_

DATE: \_\_\_\_\_

APPENDIX H

DODIG AUDIT RECOMMENDATIONS (DRAFT) AS OF 9 MAY 1990  
"AUDIT OF THE COMPONENT BREAKOUT PROGRAM FOR  
MAJOR SYSTEMS" PROJECT NO. 9AP-0044

Appendix H is an excerpt from the DOD IG draft audit reported cited in the body of this report as Reference 4. It provides detailed recommendations to the Secretary of Defense regarding the component breakout program, and proposes a significant increase in administrative oversight for the program.

# DRAFT

## RECOMMENDATIONS FOR CORRECTIVE ACTION

1. We recommend that the Under Secretary of Defense for Acquisition:

a. Designate a program manager for the Component Breakout Program within the Assistant Secretary of Defense (Production and Logistics) to monitor the Services' implementation of the component breakout program. Consideration should also be given to assigning this program manager responsibility for monitoring the Spare Parts Breakout Program to ensure close coordination between activities involved in the production buys and activities involved in spare parts procurements.

b. Direct the Defense Acquisition Regulatory Council to clarify the guidance in Defense Federal Acquisition Regulation Supplement 217.7202. At a minimum, this clarification should:

(1) Establish a method for determining when a component breakout review is required, including dollar thresholds that address annual, multiyear, and program life thresholds.

(2) Provide criteria for when a procurement is exempt from a component breakout review.

(3) Establish specific and mandatory review procedures.

# DRAFT

# DRAFT

(4) Establish a standard model for determining cost and net savings associated with component breakout.

(5) Specify the documentation required to support a breakout decision.

(6) Establish a requirement for an independent review and validation of component breakout studies and decisions.

c. Establish a reporting requirement within the Defense Acquisition System that will provide the following information:

(1) Major systems or equipment in production and the associated components that meet the breakout threshold.

(2) The components meeting the threshold, categorized as follows:

(a) Components not yet reviewed and estimated date of review.

(b) Components determined to have no breakout potential. The determination should document reasons why breakout was not recommended.

# DRAFT

# DRAFT

(c) Components identified as potential breakout candidates. The determination should document the barriers to breakout and planned corrective action.

(d) Components provided as contractor-furnished material that were broken out as replenishment spares. Justification should be provided on why components in this category were not broken out.

(e) Components selected for breakout. The determination should include the planned date of breakout and the estimated net savings.

d. Require the Service Acquisition Executives to establish component breakout objectives and to include the objectives in the performance standards of program executive officers and program managers.

e. Require competition advocates and program executive officers to review and approve all component breakout plans and decisions.

f. Develop procedures to report and track the identified material weakness as required by DoD Directive 5010.38, "Internal Management Control Program."

# DRAFT

# DRAFT

2. We recommend that the Comptroller, Department of Defense, prepare and submit a Defense Management Review Decision on component breakout that establishes dollar savings targets for the Services.

3. We recommend that the Service Acquisition Executives:

a. Direct program executive officers and program managers to comply with the component breakout requirements in the Defense Federal Acquisition Regulation Supplement 217.7202.

b. Establish responsibility within their immediate offices to review and monitor program managers' compliance and to establish accountability for component breakout reviews in the performance standards of program executive officers and program managers.



### LIST OF REFERENCES

1. Department of Defense Federal Acquisition Regulation Supplement, Component Breakout, para. 217.7202, 1988.
2. U.S. House of Representative: Report of the Committee on Appropriations together with Additional Views, Department of Defense Appropriation Bill, 1980, 20 September 1979.
3. U.S. Congress, Competition in Contracting Act, PL 98-369, 1984.
4. Department of Defense Inspector General, The Component Breakout Program within DOD (DRAFT), Washington, D.C., 9 May 1990.
5. The President's Blue Ribbon Commission on Defense Management, A Quest for Excellence (Final Report to the President), June 1986.
6. Interview between Fred Reinhard, Director, Defense Procurement Strategy, Office of the USD(A), and the researcher, 27 February 1990.
7. General Accounting Office, Limited Data on Parts Breakout Program, Washington, D.C., October 1986.
8. Sherwin, Kelly V., Component Breakout: An Analysis of Decisions, Master's Thesis, Air Force Institute of Technology, Wright-Patterson AFB, OH, September 1988.
9. Johnson, Kathryn M. and Molina, Joseph R., Identification and Importance of Offsetting Costs in Component Breakout, Master's Thesis, Air Force Institute of Technology, Wright-Patterson AFB, OH, September 1984.
10. Wayne, John H. Jr., Component Breakout: Weighing the Benefits and Risks, Research Project, Air Command and Staff College, Maxwell AFB, AL., February 1986.
11. Federal Acquisition Regulation, Contents of Written Acquisition Plans, paragraph 7.105.
12. Cohen, Jay Martin, Government Furnished Equipment: An Analysis of the Decision Making Process, Master's Thesis, Naval Postgraduate School, Monterey, CA, September 1980.

13. Department of Defense Inspector General, Component Breakout of the Harpoon Missile (Audit Report 89-108), Washington, D.C., 14 September 1989.

INITIAL DISTRIBUTION LIST

	<u>No. Copies</u>
1. Defense Technical Information Center Cameron Station Alexandria, VA 22304-6145	2
2. Defense Logistics Studies Information Exchange U.S. Army Logistics Management Center Fort Lee, VA 23801	1
3. Library, Code 0142 Naval Postgraduate School Monterey, CA 93943-5002	2
4. Department Chairman, Code 54 Department of Administrative Sciences Naval Postgraduate School Monterey, CA 93943-5000	1
5. Professor David Lamm, Code AS/Lt Department of Administrative Sciences Naval Postgraduate School Monterey, CA 93943-5000	5
6. Competition Advocate General Department of the Navy ATTN: CAPT J.M. Cohen Washington, D.C. 20360-5000	1
7. Competition Advocate General Department of the Air Force ATTN: Mr. Tony Kausal (Code SAF/AQZ) The Pentagon (Rm. 4D860) Washington, D.C. 20330-1000	1
8. Competition Advocate General Department of the Army ATTN: Ms. Joann Langston (Code SARD-CA) The Pentagon (Rm. 3E412) Washington, D.C. 20310-0103	1

9. Director, Defense Systems Procurement Strategy 1  
OASD (P&L) (P) (DSPS)  
ATTN: Mr. Fred Reinhard  
The Pentagon (Rm. 3C762)  
Washington, D.C. 20301-8000
10. Program Executive Office 1  
Cruise Missiles and Unmanned Aerial  
Vehicles Joint Project  
ATTN: RADM W.C. Bowes  
Washington, D.C. 20361-1014
11. Program Manager 1  
Blackhawk Helicopter Program  
ATTN: COL W.E. Turner (Code SFAE-AV-BH)  
4300 Goodfellow Drive  
St. Louis, MO 63120-1798
12. Program Manager 1  
F-15 Aircraft Program  
ATTN: COL M. Hayashi (Code ASD/VF)  
Bldg. 56, Bay 1  
Wright-Patterson AFB, OH 45433-6503
13. Naval Air Systems Command 1  
Production Management Division (AIR-514)  
ATTN: Mr. Gerald Cecala  
Washington, D.C. 20361-5140
14. Headquarters, Air Force Systems Command 1  
ATTN: LCOL W.J. Colmer (Code AFSC/XRMP)  
Andrews AFB, MD 20334-5000
15. Headquarters, Army Materiel Command 1  
ATTN: Mr. Jim O'Brien (Code AMC DE-AQ)  
5001 Eisenhower Blvd.  
Alexandria, VA 22333-0001
16. U.S. Army Aviation Systems Command 1  
Competition Engineering Division  
(Code AMSAB-3B)  
4300 Goodfellow Blvd.  
St. Louis, MO 63120-1798
17. Small Business Administration 1  
Aeronautical Systems Division  
(Code ASD/SBA)  
Bldg. 70  
Wright-Patterson AFB, OH 45433-6503

18. Department of Defense Inspector General 1  
ATTN: Mr. Joe Doyle  
Rm. 600  
400 Army-Navy Drive  
Arlington, VA 22202-2884
19. Deputy Assistant Secretary of 1  
Defense (Procurement)  
ATTN: CAPT Scott Parry  
The Pentagon (Rm. 3E144)  
Washington, D.C. 20301
20. LT Joe Manna 3  
P.O. Box 4251  
Pittsfield, MA 01202
21. Naval Air Systems Command 1  
Department of the Navy  
ATTN: PMA 258F  
Washington, D.C. 20361-1258
22. LCDR Raymond W. Smith, Code AS/Sx 1  
Department of Administrative Sciences  
Naval Postgraduate School  
Monterey, CA 93943-5000