A Preliminary Perspective on Regulatory Activities and Effects in Weapons Acquisition

G. K. Smith, J. A. Drezner, W. C. Martel,
J. J. Milanese, W. Mooz, E. C. River

40 Years
1948-1988

RAND | NATIONAL DEFENSE RESEARCH INSTITUTE

R-3578-ACQ

A Preliminary Perspective on Regulatory Activities and Effects in Weapons Acquisition

G. K. Smith, J. A. Drezner, W. C. Martel,
J. J. Milanese, W. Mooz, E. C. River

March 1988

Prepared for the
Office of the Under Secretary of Defense
for Acquisition

RAND

Approved for public release; distribution unlimited

The research described in this report was sponsored by the Office of the Under Secretary of Defense for Acquisition under a Federally Funded Research and Development Center relationship with the Office of the Secretary of Defense, Contract No. MDA903-85-C-0030.

Library of Congress Cataloging in Publication Data

A preliminary perspective on regulatory activities and effects in weapons acquisition / G. K. Smith ... [et al.].
p. cm.
"Prepared for the Office of the Under Secretary of Defense for Acquisition."
"March 1988."
"R-3578-ACQ."
ISBN 0-8330-0821-8
1. Munitions—Law and legislation—United States. 2. United States—Armed Forces—Weapons systems. 3. United States—Armed Forces—Procurement. I. Smith, Giles K., 1928- . II. RAND Corporation. III. United States. Office of the Under Secretary of Defense, Acquisition.
UF533.P74 1988
355.8'2—dc19 87-28683
CIP

The RAND Publication Series: The Report is the principal publication documenting and transmitting RAND's major research findings and final research results. The RAND Note reports other outputs of sponsored research for general distribution. Publications of The RAND Corporation do not necessarily reflect the opinions or policies of the sponsors of RAND research.

Published by The RAND Corporation
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138

PREFACE

Many managers and executives responsible for conducting weapons acquisition programs, both in industry and the Department of Defense, argue that the process is now overregulated. More specifically, they argue that rigorous enforcement of an expanding body of regulations is seriously inhibiting the timely and economical development of weapon systems. There is, however, little unambiguous and systematically documented evidence of the penalties claimed to result from this regulatory environment. Anecdotes and assertions abound, but hard, quantitative evidence is surprisingly sparse.

In the spring of 1986, RAND was invited to undertake a study to identify the extent of growth in the regulatory structure controlling weapons acquisition, and the effects of those regulations. Emphasis was placed on the search for quantitative information, however limited in scope, that might contribute to a better understanding of the issues.

In July 1986, the Institute for Defense Analyses (IDA) was asked to complement the RAND effort by extending the scope of research to include areas of cost and economic analysis and to contribute reviews of additional industry sectors. Results of the IDA work were included in the final briefing and are incorporated in this report. Appendix E was prepared by IDA.

Results of this research, presented in briefing form to Dr. Donald Hicks, then Under Secretary of Defense for Research and Engineering,[1] and members of his staff in September 1986, constitute only a start on addressing a large and complex issue. More work is needed to adequately understand the range of effects of current controls on weapons acquisition processes, and to continue this preliminary exploration into the myriad of institutions that actively contribute to weapon acquisition.

This study was sponsored by the Office of the Under Secretary of Defense for Acquisition; it was carried out in the Applied Science and Technology Program of the National Defense Research Institute, RAND's OSD-supported Federally Funded Research and Development Center.

[1]In the DoD reorganization, this position was replaced by that of Under Secretary of Defense for Acquisition.

SUMMARY

Many managers and executives responsible for conducting weapons acquisition programs, both in industry and the Department of Defense, argue that the process is now overregulated. More specifically, they argue that a growing tendency toward rigid and undiscriminating enforcement of an expanding body of legislation and regulations governing weapons acquisition is seriously inhibiting the timely and economical development of weapon systems. Such overregulation is, they claim, constraining our national defense capabilities in adverse and perhaps unforeseen ways.

These regulatory controls take many forms and serve many objectives. They include the formal Federal Acquisition Regulations and the various supplements and extensions found in the Defense Federal Acquisition Regulations, as well as the whole body of procedures ranging from management review (incremental reporting, decision layering) and financial auditing (prevention of "waste, fraud, and abuse") to detailed legislative oversight (sometimes referred to as "micromanagement") that have accumulated over the past several decades. In this study we treat that entire body of controls as "regulations" and "regulatory activities" even though some of the controls might appear as directives, administrative policy statements and instructions, special language in budget appropriations, and so forth.[1]

Despite widespread assertions, there is little unambiguous, documented evidence that the current regulatory environment has the claimed debilitating effect on acquisition programs. Anecdotes and assertions abound, but hard, quantitative evidence is surprisingly sparse, and the claims of a crisis—either existing or impending—are not fully convincing. Furthermore, despite widespread and long-standing recognition of the inherent difficulty of seeking the optimal balance between accountability and innovation, there has been little formal analysis of this issue in the area of defense procurement. The costs, as well as benefits, to society of other forms of regulatory activity have been explored, but little information on the relationship between the costs and benefits of regulation for the defense sector is available.

This study was designed to provide some quantitative insights into the effects of regulations and controls on management practices and

[1]One important and persistent problem in weapons acquisition is specifically *not* included under our heading of regulatory controls: the issue of year-to-year budget fluctuations. Whereas such instability clearly affects the efficiency of weapons acquisition, it is distinct from the broad problem of "regulatory" controls.

overall outcomes of weapons acquisition projects. There were two primary objectives to the research:

First: To measure the *effects* of regulations on the acquisition process. A broad series of questions immediately comes to mind: Is innovation really being stifled? Are acquisition programs being delayed, or otherwise affected, through the need to comply with the regulatory process?

Second: To measure the changes in the acquisition *process* over time. Has there been an increase in the body of legislation and regulations (which we call "acquisition process controls") over the past one or two decades? If so, how great, and in which kinds of regulations? Has the nature of regulation enforcement changed? If so, in what ways?

The intent of this study was to emphasize quantification: to produce data that would transcend many of the generalizations that seem to abound in acquisition research. There is clearly an abundance of anecdotes and assertions; in this study we wanted to provide facts, however limited in scope, that might contribute to a better understanding of the issues and perhaps might help to find solutions.

EFFECTS OF REGULATION

In the first phase of this research, we attempted to determine the *effects* of regulatory activity on major weapons acquisition programs by interviewing a number of program managers in both industry and the Services, contract officers, and government officials involved in various levels of the acquisition management and review process, together with senior acquisition officials in the Services and in the Office of the Secretary of Defense. In each visit we sought information that would help us to understand how regulations had affected the outcome of programs, measured in terms of overall program cost and schedule and, wherever possible, in terms of system performance. We also interviewed selected managers and administrators of technology base programs. Here we sought information primarily on possible schedule delays, because we were interested in the issue of the timely and effective advancement of technology from the laboratory stage to the fielding of weapon systems.

One finding of this research was the dominant and persistent theme, expressed by those who work in acquisition, that an increasingly troublesome set of administrative obstacles prevents them from accomplishing their program objectives in a timely and efficient manner.

However, we found almost no evidence that regulatory activity had affected the performance or "quality" of the final product, either favorably or adversely. There is some evidence that the length of the acquisition cycle has experienced a marginal level of growth, particularly in the post-1960 time period. There are, of course, several factors that could account for such a trend, including the growing technical complexity of weapon systems. A more definitive analysis of this issue seems desirable but remained beyond the scope of the present study.

Finally, there was persuasive evidence that the imposition of the Competition in Contracting Act (CICA) on technology base projects had delayed the start of many such projects. However, during the course of this study the Congress clarified its intent when it specifically exempted both *Research* and *Exploratory Development* projects from CICA, thereby eliminating some of the regulatory problems that impeded technology base projects.

PRELIMINARY RESEARCH ON ACQUISITION INDICATORS

The second phase of the research was a preliminary investigation into a wide range of acquisition indicators: growth in the staff size of regulatory offices, number of audits conducted, number of new regulations issued, and so forth. Supporting information was collected on several aspects of management and oversight, including the functions, staff sizes, and activities of various organizations. The motivation to collect this basic data was stimulated in part by the paucity of data on the institutions that participate in weapon acquisition. This led us to the conclusion that basic research into these institutional factors will increase the general understanding of weapon acquisition.

Our examination of the structure and activity of regulatory institutions yielded a somewhat mixed picture. There are instances of increasing levels of activity in certain institutions. For example, there has been an increase in the number of Congressional staff who work on procurement issues; the Congress introduces more restrictions in defense authorization and appropriation bills each year; and the number of procurement-related documents published for the Congress by the Government Accounting Office has increased. Conversely, there are other instances in which the structure and activity of the organizations have not changed substantially over time. For example, the staffs of some relevant government agencies have been essentially constant over that same time period. In general, we found no consistent pattern in the data. Thus, our data provide little support for the assertion that

weapon acquisition is subject to increasingly burdensome levels of regulatory controls.

FINDINGS AND OBSERVATIONS

This research had two distinct approaches. One approach was based on selective interviews with individuals involved in the acquisition process and had as its goal the quantification of effects of process controls on program outcomes. The second approach was based on collection of selective data on trends in regulatory activity by various organizations involved in acquisition of weapon systems. The two approaches offered differences in perspective on trends and effects, yet were highly complementary. The ultimate result of both approaches is essentially the same; we cannot draw definitive conclusions regarding the growth of regulatory activity and its effect on program outcomes.

The absence of quantitative evidence supporting the hypothesis that weapon acquisition is afflicted by excessive regulation does not necessarily refute the hypothesis. We acknowledge the widespread frustration of project level personnel who believe they could do their job more rapidly and at less cost with fewer controls. We also acknowledge that important methodological problems are involved in a study of this kind. Most importantly, it is not possible at this time to correlate regulatory activity and program outcomes—no cause and effect relationships can be inferred.

We hope that future researchers can build on the limited base provided here and contribute additional information to help understand the extent of regulations on weapon acquisition and thereby assess the proper balance between controls and progress. Based on our experience and the observations derived from this study, we recommend two broad guidelines for future study. First, careful distinctions should be made among three kinds of regulations and controls:

1. The burden of reporting, support for audits, and the like. Such controls seem likely to incur certain dollar costs, but not to cause serious delays or to affect major program decisions. Furthermore, experience has shown that laxity in financial reporting and auditing sometimes leads to outcomes that are embarrassing for all concerned. We suspect that this is the least important class of controls.
2. The imposition of *shall/shall not* constraints. Requirements for full competitive bidding, purchase of warranty coverage, distribution of business to small firms, etc. make up the bulk of such regulations. In addition to certain dollar costs needed

to administer the programs, these requirements begin to erode the program manager's authority and, in at least some cases, his ability to conduct the program in the most efficient and effective way. We believe this class of regulations warrants further analysis.

3. Decision review process ("micromanagement"). A few detailed case studies should be performed to investigate the possible effects of this class of management controls.

Second, we recommend that the regulations, controls, and review procedures, which are created and implemented by the military services themselves, should be investigated much more thoroughly than was possible in the present study.

CONTENTS

PREFACE iii

SUMMARY v

FIGURES xiii

TABLES xv

Section

I. INTRODUCTION 1
Background 2
Analysis Framework 5
Study Scope, Objectives, and Approach 10

II. EFFECTS OF REGULATORY ACTIVITY ON PROGRAM OUTCOMES 13
Research Approach 13
Regulatory Effects on Major Weapon System Programs 15
Regulatory Effects on Technology Base Programs 20

III. INDICATORS OF REGULATORY ACTIVITY 23
Approach 23
The Congress 26
Department of Defense Agencies 35
Other Government Agencies 40

IV. SUMMARY AND OBSERVATIONS 45
Effects of Regulations 45
Indicators of Regulatory Activity 46
Conclusions 47

Appendix

A. INDICATORS OF REGULATORY ACTIVITY 49
B. GOVERNMENT AGENCIES RELATING TO DEFENSE CONTRACTING 66
C. RESTRICTIONS AND EARMARKINGS IN AUTHORIZATION ACTS 79
D. RESTRICTIONS AND EARMARKINGS IN APPROPRIATIONS ACTS 138
E. FEATURES OF DEFENSE INDUSTRY REGULATION 151

FIGURES

1. Actors and Interactions 7
2. Time from Program Start to First Delivery, with Exponential Fit Line: All Systems 19
3. DoD Obligation Authority 25
4. Professional Staff on Appropriations, Armed Services, and Budget Committees 27
5. Committees Requesting DoD Testimony 28
6. Indicators of Activity in Armed Services Committees 30
7. Congressional Requests for Information from the DoD 31
8. Defense Authorization Acts: Number of Congressional Actions on Specific Weapon Systems 34
9. Defense Appropriations Acts: Number of Congressional Actions 35
10. DoD Directives and Instructions 36
11. Defense Contract Audit Agencies Staff and Activities 38
12. Agency Staffs 39
13. GAO Procurement Documents 41

B.1. Location of Policy Actors for Federal Acquisition 68
B.2. Examples of Contract Management 70
B.3. Examples of Program Management 73
B.4. Elements of Oversight 76
B.5. Overall View of DoD Contracting 78

E.1. A Taxonomy of Defense Regulations 153
E.2. Relative Level of Regulatory Effort 156
E.3. Types of Costs of Regulation: CICA 160

TABLES

A.1 DoD Obligation Authority 49
A.2 Armed Services, Appropriations, and Budget Committees Staff 50
A.3 House and Senate Appropriations Committees: Membership and Staff 52
A.4 House and Senate Armed Services Committees: Membership and Staff 53
A.5 House and Senate Budget Committees: Membership and Staff 54
A.6 Number of Congressional Committees 55
A.7 Chronology of Requirements for DoD Annual Authorization 56
A.8 Armed Services Committees Activity 56
A.9 Size of Committee Reports (Number of Pages) 57
A.10 Congressional Information Requests from DoD 58
A.11 Number of DoD Directives and Instructions 59
A.12 DCAA Appropriations and Staff 60
A.13 DoDIG Appropriations and Staff 61
A.14 GAO Appropriations and Staff 62
A.15 GAO Procurement-Related Documents 63
A.16 CBO Appropriations and Staff 64
A.17 OMB Appropriations and Staff 64
A.18 OFPP Budget and Staff 65
C.1 Restrictions in Authorization Acts 83
D.1 Restrictions in Appropriations Acts 138

I. INTRODUCTION

Many managers and executives responsible for conducting weapons acquisition programs, both in industry and the Department of Defense, argue that the process has become overregulated. More specifically, they argue that a growing tendency toward rigid and undiscriminating enforcement of an expanding body of legislation and regulations governing the weapons acquisition process is seriously inhibiting the timely and economical development of weapon systems and, consequently, is adversely constraining our national defense capabilities. The basic assumption underlying these claims is that the goals of economic efficiency, equitable treatment of all firms and employees, precise accountability of public expenditures, and achievement of broad social goals are being zealously pursued with excessive focus on narrowly defined, short-term effects and without adequate consideration of broader, long-term consequences stemming from delays and lost opportunities in weapons development and procurement.

These are serious challenges, not to be casually dismissed. But efforts to shift the balance, to provide an environment that reformers claim would be more congenial to innovative and timely weapons acquisition, seem to founder on two issues. First, there is little documented evidence that the current environment has the claimed debilitating effect on acquisition programs. Anecdotes and assertions abound, but hard evidence is surprisingly sparse, and the claims of a crisis—either existing or impending—have not been unambiguously supported.

A second and equally important problem is that many of the "reforms" that have been suggested would permit the Services and the defense industry to manage programs as they deem appropriate to the circumstances rather than having to conform to procedural and accountability processes, many of which are related to the prevention of fraud, waste, and mismanagement—the watchwords of government procurement reform for a century. Thus, even if the assertions are credited with a degree of plausibility, appropriate and realistic remedies are far from obvious. It is not clear whether a "hands off" approach to defense acquisition is politically feasible or even desirable in a democracy that values a wide range of social goals in addition to national defense.

This study is a preliminary and partial attempt to address the balance between strict accountability and extensive oversight on the one

hand, and greater freedom for local management on the other hand. Here we look at only one side of this balance sheet: the effects of regulations on the cost, schedule, and performance outcomes of weapon system programs, and the alleged growth in the extent of acquisition process controls.

BACKGROUND

The process of developing and procuring major weapon systems has been studied, criticized, and "reformed" for more than a century. This is not surprising, because weapons acquisition represents an exceedingly challenging management task. Those challenges stem primarily from two broad factors.

First, most major acquisition programs involving modern weapons and new designs are beset by numerous uncertainties. Attempts are made to employ the latest technology advances, so that the developer is typically trying to design and build an item affected by a multitude of technical risks that include technological complexity and the task of integrating those technologies into mature, reliable weapon systems. The buyer, typically one of the military services, faces equally large uncertainties in predicting the need for a particular kind of item some ten to fifteen years in the future, and the level of financial support that will, or should be, provided to that system throughout its acquisition lifetime.

Under these conditions of uncertainty it generally is impossible to predict the cost, schedule, performance, or production quantity of the final product with enough precision to permit the buyer and seller to write a firm contract covering the entire process. Instead, the two parties establish an uneasy alliance, sharing risks and management responsibilities, under the aegis of a contract that at times is little more than a baseline for negotiations over numerous changes in the program. The process is further complicated by the fact that there is turnover in the management personnel for both buyer and seller, which may change several times during the life of a major acquisition program.

The second major factor affecting the process is that classic market forces are largely absent in major weapons acquisition. Conventional business arrangements, involving multiple buyers and multiple sellers who enter into fixed contracts for production and acceptance of rigorously defined goods, simply do not apply to most weapons acquisition projects. In major weapons programs, only a few firms are capable of developing and producing the item, and generally one U.S. military

service is the only buyer. At the beginning of a program, design competition frequently is intense because the program up for bids may represent a company's only near-term opportunity to stay in the defense business. That kind of market force often encourages unrealistically low bids and probably leads to optimistic judgments about the difficulty of developing and integrating new technologies. But after a contractor has been selected to develop a new system, that contractor is frequently the only source technically capable of production, leaving the government with the options of negotiating with a sole source, or adopting a strategy of paying another firm to develop a production capability for the system. The result is a distorted market arrangement that does not resemble in any systematic sense the idealized competitive market structure.

The government strategy for dealing with this complex set of issues has undergone major changes over the past four decades. During the first ten to fifteen years after the Second World War, the individual military services had considerable freedom to initiate and to terminate weapon development programs and to use business strategies that would be deemed remarkably informal by contemporary standards. Major projects were undertaken on the basis of letter contracts, which were little more than authorizations to proceed, in the expectation that a formal contract would be negotiated later. Many contracts, especially for development activities, simply required the government to reimburse the contractor for costs incurred, together with a profit that was determined as a percent of cost. Whereas such arrangements might appear to place inadequate emphasis on cost control, they had the advantage of providing both the contractor and the sponsoring Service with great flexibility in responding to problems and opportunities as they arose.

That period was a time of exceptionally rapid evolution in both technology and military strategy. Guided missiles of several kinds, ranging from small air-to-air missiles up to intercontinental ballistic missiles, were developed; helicopters evolved from technical curiosities into useful military vehicles; supersonic, jet-propelled aircraft were introduced, and nuclear propulsion for naval vessels became commonplace. In most cases, those challenging technical projects were undertaken in a climate of great urgency, driven in large part by changes in the perceived threat. Often several parallel design efforts would be started, with one or more cancelled as the less successful "starts" were weeded out of the competition. Flexible business tactics seemed appropriate to the task of moving forward rapidly on a broad range of challenging projects. The emphasis was on getting the job done without too much attention to the niceties of business administration.

By 1960 a number of important changes began to occur that would change radically the nature and administration of weapons acquisition policy. The Defense Reorganization Act of 1958 was a watershed event because it strengthened the office of the Secretary of Defense. Throughout the 1960s Secretary of Defense Robert McNamara instituted a number of controls over acquisition that, among other things, emphasized more thorough planning before starting a new development program, attempted to avoid high-risk acquisitions, and imposed more stringent contractual controls on both the buyer and seller. Innovative attempts were made to control acquisition costs, including (for instance) the total package procurement concept wherein a single firm-fixed-price contract covered the development and initial production of a new system. While reasonably successful in a few cases, the difficulties of using such a rigid approach were illustrated by the C-5 transport aircraft project.[1] Despite such innovations in management policy and procedures, problems with cost overruns, schedule slips, and performance that was less than promised continued to plague the acquisition of major weapon systems. One major theme in the continuing search for acquisition reform has been the goal to make weapons acquisition more like a traditional business "purchasing activity" in the apparent belief that such an approach would improve overall discipline and accountability.

But, as noted above, the process of developing and procuring major weapon systems does not fit into the classic "free market" economic model. Instead, acquisition management reforms have generally led to a steady expansion of accountability controls and authority for oversight and review by organizations outside the Services themselves. The overseers mostly operate within the Office of the Secretary of Defense and its several agencies (notably the Defense Contract Audit Agency (DCAA) and the DoD Inspector General (IG)) and the Congress. In consequence, some defense managers in the Services and in industry express the view that the Department of Defense and the Congress are inhibiting the freedom of both government and industry program managers alike to move quickly in response to problems and opportunities.

The tension between the project managers, who are motivated to develop and produce a weapon system, and the many officials and legislators who are concerned with public accountability, represents a classic issue in government administration. Frederick Mosher stated the issue concisely during a seminar in 1981:

---

[1]The C-5 aircraft program encountered severe difficulties when the contractor was unable to complete the project under the original contract. The ensuing criticism led to official renunciation of the total package procurement concept, although elements of that concept are being reincorporated in recent acquisitions.

> Accountability is not commonly associated with invention or novelty or serendipity, but rather with carrying out assignments which are more or less specifically defined, honestly, efficiently, effectively, and at minimal cost. Thus at the very outset, there is a conflict between the value associated with accountability and the values of originality, experimentation, inventiveness, and risk taking. New ideas may be wrong or may be judged wrong by superiors or others called upon to judge them; experiments may fail. A person who is held strictly accountable and is punished for a poor idea or a failed experiment is not likely to have much incentive to create or broach new ideas or launch experiments in the future.[2]

Nor is the claim that defense acquisition suffers from "overregulation" a new one. In 1962 a committee of industry officials, serving as advisors to the Director, Bureau of the Budget, stated:

> [In] the considered opinion of experienced contractors, the present system [of regulations] has frustrated maximum effectiveness and added substantially to costs.[3]

Despite widespread and long-standing recognition of the inherent difficulty of seeking the optimal balance between accountability and progress, there has been little formal analysis of this issue in the context of defense procurement. The consequent costs, as well as benefits, to society of other forms of regulatory activity have been explored,[4] but little information on the relationship between the costs and benefits of regulation for the defense sector are available.

ANALYSIS FRAMEWORK

The overall process by which the government manages the acquisition of major weapon systems has evolved into an extremely complex set of laws, regulations, policies, and procedures. Any analysis of this overall management process inevitably will be limited in scope and objectives, primarily because the analysis procedure used will vary depending on the particular focus of the study. With that caveat in mind, it is useful first to outline the key elements of the acquisition process and the relevant organizations.

---

[2]Comment by Frederick Mosher on a paper by Harvey Mansfield, in *Improving the Accountability and Performance of Government*, The Brookings Institution, 1981.

[3]Report to the Director of the Bureau of the Budget on operation and management of research and development facilities and programs, analytical and advisory services, and technical supervision of weapons systems and other programs for the government in-house and by contract, April 17, 1962.

[4]See, for example, Murray L. Weidenbaum, *The Future of Business Regulation: Private Action and Public Demand*, American Management Association, 1979.

The government is a large and complex organization, and the several components of government involved in weapons acquisition frequently have differing motivations, goals, and functions. Thus, it is important to take an institutional perspective when analyzing the effects of management controls and oversight activities on the outcomes of weapon system programs. In highly general terms, there are two basic actors involved in weapons acquisition on the government side: The Congress and the Department of Defense. Figure 1 provides a simplified view of how these two organizations interact with the industrial firm (the seller).[5]

Congress has policy and oversight functions, as well as the more generally well-known legislative, budgeting, authorization, and appropriation roles. Legislation affecting defense is exemplified by the Competition in Contracting Act (CICA) and the Defense Reorganization Act, as well as the annual appropriation and authorization bills. To understand how Congress operates, it is important to consider the goals and motivations of individual members, as well as their function of protecting the interests of their constituents. Congress also is composed of subsets of actors (the committees), who have different goals, motivations, and functions.

The committees have an important influence on acquisition, closely scrutinizing authorization and appropriation bills, gathering information, or conducting investigative hearings. More specifically, some committees have oversight functions (e.g., Governmental Affairs), whereas others set national policy for defense (e.g., Armed Services), and still others appropriate funds to carry out missions (e.g., Appropriations). But there is another set of Congressional actors: the research-oriented agencies, such as the General Accounting Office (GAO), the Congressional Budget Office, and the Congressional Research Service. The reports of these agencies often influence the decisions of the legislators. In addition, the Comptroller General of GAO has authority to mediate certain disputes related to acquisition such as, for instance, source selection protests under CICA.

The Department of Defense, composed of the Office of the Secretary of Defense (OSD) and defense agencies as well as the Services, is the other major institutional actor. Although DoD sometimes seems to act as a monolithic entity, more often it is the various components of DoD which determine the behavior of the system. OSD, for example, has policy and planning functions, with the more general goal of coordinating defense policy. Yet, there are some defense agencies, like the

[5]See App. B for a more detailed review of some elements of the government organizations that participate in the management and oversight of weapons acquisition.

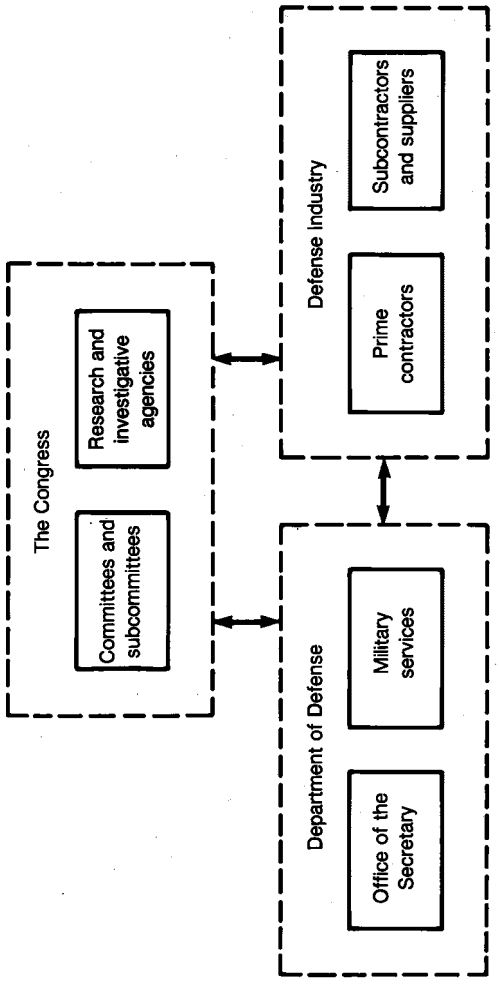


Fig. 1—Actors and interactions

Defense Contract Audit Agency or the Inspector General, which essentially have oversight roles. The Services, seeking for instance to procure a weapon which they believe will be effective against a specified threat, have program management and contract administration roles. The conflicts in goals and functions can often be severe, as for instance when OSD officials are required to make decisions trading off one weapon system for another.

The defense industry often is the focal point for acquisition-related regulations. There is a tendency to view the defense industry as a homogeneous, monolithic entity when, for example, considering the role of the defense industry associations in lobbying for increased total DoD budgets. However, there are distinct sectors within the defense industry with different goals and problems.[6] This is true whether one is comparing aerospace and shipbuilding firms, or prime contractors with subcontractors and parts suppliers. Controls on the acquisition process tend to affect subsets of the defense industry differently, depending on the specific group addressed. For example, CICA is likely to affect technology base contractors working on advanced research and development problems quite differently than it will affect a major producer of aircraft.

When the government acts as a buyer of products and services it inevitably performs differently from a typical commercial firm. All organizations, whether commercial or governmental, that buy quantities of products from other commercial firms have clearly established policies and procedures for conducting those transactions. Furthermore, all such transactions are governed and controlled by a body of laws dealing with contracts and general commerce. In this context, it will be referred to here as commercial contract law, though it may have other names in different contexts. Both government agencies and commercial firms are subject to commercial contract law, and the regulatory provisions to which defense contractors are subject apply because they are written into government development and procurement contracts. Some of these provisions would be seen in agreements between private buyers and sellers.

However, there is an additional set of factors peculiar to doing business with the government. This is particularly important with respect to DoD, which accounted for 59 percent of all federal contracts and 71 percent of all contract dollars in the first quarter of Fiscal Year 1986.[7] All government vendors must deal with the Federal Acquisition

---

[6]See Jacques S. Gansler, *The Defense Industry*, MIT Press, Cambridge, Massachusetts, 1981, p. 162.

[7]*Federal Procurement Data System: Standard Report*, Federal Procurement Data Center, Fiscal Year 1986, 1st Quarter, p. 6.

Regulation (FAR), which was intended to be the uniform set of policies and procedures governing the procurement of goods and services by any federal government agency. It includes social regulation, special government policies for ensuring uniform and equitable treatment of all parties, and special "public interest" policies, such as the encouragement of competition and the use of small business.

In addition to the FAR, there are acquisition rules, policies, and procedures promulgated by the executive agencies that in the case of defense procurement includes both OSD and the Services. In some cases these activities are implementation procedures for the FAR that apply to a specific Service or defense agency, while in other cases they are supplements to the FAR.

Congress also plays a strong and visible role in government transactions, particularly defense acquisitions, due in part to the amount of money involved. In addition to overall budgeting and general legislation, Congressional actions frequently include specific restrictions on individual weapon projects, usually in the form of clauses incorporated in the DoD Authorization and Appropriation Acts. Examples of general legislation include the CICA, the Defense Reorganization Act of 1986, and legislation dealing with warranties and technical data rights, among others.

One must also consider the consequences when multiple agencies of the buyer (Office of Federal Procurement Policy (OFPP), DCAA, DoD IG, Under Secretary of Defense for Acquisition (USD(A)), Service contract administrators) are following different objectives and rules in what often is characterized as the absence of any apparent coordination. Obviously, conflicts between DoD components send conflicting messages to government contractors and other actors in the acquisition process.

How issues are enforced also differs between governmental and commercial transactions. The government has the ability to cloak any acquisition policy or procedure with the force of law. In case of disputes, the government tends to have different resolution criteria than commercial firms. For example, a commercial firm, when wronged, is frequently willing to settle for a financial penalty, whereas the government might be more interested in filing a criminal complaint as a way of gaining redress and broadly guarding the rights of the public.

This report addresses only a small portion of the many interactions between the actors implied by Fig. 1. This study is concerned with the links between Congress and its components, the DoD, and prime contractors. This set of actors provides a framework for considering some of the important interactions among participants in weapons

acquisition, including the implementation of legislation, the mutual influence of Congress and industry on each other, and DoD initiatives. This study does not address the lower tier of defense industry firms and only addresses the Services as a target of acquisition management activity.

STUDY SCOPE, OBJECTIVES, AND APPROACH

This study was designed to provide initial, quantitative insights into the effects of regulations and controls on the managerial procedures and the overall outcomes in the weapons acquisition process. The total set of controls on the defense acquisition process that have accumulated over the past three decades has taken many forms and serve many objectives. They include public law, the formal Federal Acquisition Regulations and the various supplements and extensions found in the Defense Federal Acquisition Regulations, as well as a wide range of procedures extending from management review (incremental reporting, decision layering) and financial auditing (prevention of "waste, fraud, and abuse") to detailed Congressional oversight (referred to as "micromanagement" by its opponents). It is important to note that we will refer to that entire body of controls as "regulations" and "regulatory activities" even though some of the controls might appear as directives, administrative policy statements and instructions, special language in budget appropriations, and so forth. Thus, we use the terms "acquisition process controls," "regulation," and "regulatory activity" interchangeably in a broad sense.[8]

This study had two primary objectives:

First: **To measure the effects of regulatory activity on the acquisition process, specifically on program outcomes.** Is innovation really being stifled? Are acquisition programs being delayed, or otherwise affected, by the need to comply with the regulatory process? Are costs being increased? We focused on the effects directly observable in a particular program.

Second: **To measure the changes in acquisition process controls over time.** Has there been an increase in regulatory activity, especially during the past one or two decades? If so, how great, and what kind of activity? Has the nature of enforcement changed? If so, in what ways? We attempted to

[8]See App. E for a preliminary comparison of defense management regulations with the more typical government regulation of other commercial activities.

include the full range of acquisition process controls, but inevitably the more recent changes and reforms received the most attention.

This study emphasizes quantification. Despite the abundance of anecdotes and assertions, we sought here to provide facts, however preliminary or limited in scope, that might contribute to a better understanding of the issues.

The first issue is an attempt to determine the extent of the effect of regulations on acquisition programs. Our main approach was to visit a number of program managers in both industry and the Services, and senior acquisition officials in the Services and in OSD. In each visit we sought information that would help us to understand how changes in acquisition activity have affected the outcome of programs, measured in terms of overall program cost and schedule and, wherever possible, in terms of system performance. We also interviewed selected managers and administrators of technology base programs. Here we sought information on possible schedule delays, because it is more difficult to measure the other outcomes (cost and performance) in technology base projects in a consistent fashion. Results appear in Sec. II.

The second issue, based on some understanding of the nature of the concerns that are dominant in acquisition today, is to address the extent to which acquisition process controls have evolved. We studied the organizations and procedures that affect the various actors in acquisition, and attempted to measure the growth of regulations and regulatory activity by an inquiry into a wide range of indicators: growth of staff and budget size in various government agencies, number of audits conducted, number of new regulations issued, restrictions enacted into law, and so forth.[9] Results are summarized in Sec. III, with additional details presented in Apps. A, C, and D.

For the reader unfamiliar with the government organizations involved in weapons acquisition, App. B provides an introductory tutorial.

Finally, we were surprised to find as we began this study that there is little discussion in the economics and management sciences literature of the defense acquisition process from a formal regulatory perspective. It has been virtually ignored by individuals whose specialty is regulation. Preliminary attempts were made in this study to search for

[9]One important and persistent problem of weapons acquisition is *not* addressed in this study: the issue of year-to-year budget fluctuations. Although such instability clearly affects the efficiency of weapons acquisition, it is distinct from the problem of specific controls (e.g., earmarking and restrictions) placed on specific weapon system programs in the DoD Authorization and Appropriation Acts.

parallels between defense regulation and traditional regulation of other industries, in the expectation of drawing valuable lessons from those comparisons. Results are described in App. E. However, the topic far exceeded the resources of the present study, and a comparison of the regulation of the defense industry with that of other industries remains an interesting issue for future research.

II. EFFECTS OF REGULATORY ACTIVITY ON PROGRAM OUTCOMES

One objective of this study was to measure at least some of the effects of the changing regulatory environment. Based on a preliminary reading of the literature, and on conversations with senior acquisition executives, we elected to concentrate on two classes of activity: major weapon systems and technology base programs. We did not review regulatory effects on smaller acquisition programs and on the large group of subcontractors and vendors that support the major acquisition programs.

RESEARCH APPROACH

We conducted extensive interviews with both industry and Service program managers (or their immediate deputies) for roughly a dozen major acquisition projects and technology base programs. Those discussions almost always included the senior contracting officer for the project, so that both line management and contracting functions were represented. We also interviewed several dozen officials in the contracting organizations above the project level because many of the regulatory controls seemed to affect the contracting process. We chose this approach, rather than a more broad-ranging but individually less intensive survey, because we suspected that many of the effects of regulatory activity we were searching for might be hard to separate from other factors affecting program outcomes, and we wanted to explore such interpretations with individual program officials.

In each of the interviews we sought information on specific instances where compliance with regulations, or some other aspect of the regulatory institutions or processes, had affected program outcomes in terms of cost, schedule, or product performance. For example, we asked if the program schedule had been affected by delays in the contracting process, by design reviews, or by any number of other milestone decisions. Had costs been increased by additional staff needed for regulation compliance? Had the design process been unreasonably inhibited by excessive reviews outside the immediate project management, by the need to comply with inappropriate military specifications (MILSPECs), or by other aspects of regulation? Broadly defined, our emphasis was on identifying how regulations affected program

outcomes, as distinct from documenting their effects on the processes that led to those outcomes.

This approach has several obvious limitations. First, it might not be to the program manager's advantage to reveal problems or to blame them on regulatory activity.[1] Without detailed knowledge of a program's structure and history, it is impossible to assess the extent to which the reticence of managers to expose shortcomings in their programs may influence the survey results. However, in only two instances was that problem specifically raised. In one case, an industry official acknowledged the existence of certain unspecified problems caused by regulatory activities, but declined to identify them on the grounds that publication of such "accusations" would cause him future problems in dealing with regulatory officials. No further information was obtained in that case. In the other case, a military official made a similar statement, but agreed to provide information on the condition that published results not reveal the program in question. In all other cases, the managers interviewed expressed willingness to cooperate fully in the survey.

The second problem poses more difficult methodological issues. In many cases, compliance with regulations has become an accepted part of doing business and has become so integrated with normal organizations and procedures that it is difficult at best, and perhaps impossible, to identify the separate effects of regulation on acquisition activities. At the very least, full identification of regulatory consequences would require a searching examination of the organizations and operating procedures employed by both government and industry, and construction of a hypothetical counterpart that might be imagined to exist in the absence of at least some regulations. To the best of our knowledge such a heroic study has never been attempted, so we are left with the more practical approach of trying to define the marginal effects of recent changes in regulations.[2] A commonly cited example is the effect of the Competition in Contracting Act (CICA), which clearly calls for procedural steps that might not have been taken before, and whose consequences can be identified with some confidence simply because they represent a new demand on resources. It is the marginal changes imposed by discrete regulations, rather than the broader effects of regulation, that are discussed in this report.

---

[1]One methodological point which we cannot dismiss is that program managers might have exaggerated the effects of regulations. It is difficult to estimate the extent to which this happens.

[2]The lone exception, a recent study by Honeywell, is discussed in the section on cost effects.

REGULATORY EFFECTS ON MAJOR WEAPON SYSTEM PROGRAMS

Major weapon systems are by far the most visible product of the defense acquisition process, and are the primary focus of much of the regulatory process, as well as of this report. Results of our interviews with major system managers were quite uniform, and can be summarized under three headings: (1) administrative and contracting processes, (2) cost effects, and (3) schedule and performance effects.

Administrative and Contracting Processes

As we attempted to identify regulatory effects on aggregate program outcomes, we were often drawn into discussions of the day-to-day problems of coping with the regulatory process. Those conversations are briefly summarized here to provide additional context for the subsequent discussions on outcome effects.

Without exception, every manager and contracting officer cited numerous examples of additional workload imposed by regulations. The program managers dwelled mostly on the extensive review network they had to support, and the management resources consumed in such reviews. This is, in part, a reflection of the "layering" problem commonly cited in studies of defense acquisition: the fact that military program managers are frequently separated from the senior OSD-level acquisition executive by five or six administrative layers.[3] Each layer demands a right to review all progress reports and major program change proposals. Not so apparent from the literature is that some of those layers have an extensive horizontal structure, so that the views of several different offices must be accommodated in order to pass through a particular layer or "gate." Military program managers and their immediate staffs typically devote a lot of time to such reviews.

Contracting officers cited a substantial increase in the administrative workload spawned by recent changes in regulations and their administration. An example of new legislation includes the Competition in Contracting Act (CICA) and its associated requirements to advertise (synopsize) in the Commerce Business Daily, and to conduct extensively structured and documented source selection activities. Additional problems stem from the steady flow of new FAR clauses and interpretations. But perhaps the most interesting theme from the discussions was the frustration and additional workload caused by the

[3]One of the major recommendations of the President's Blue Ribbon Commission on Defense Management (the "Packard Commission") was to streamline the acquisition management structure so as to reduce such layering and the consequent review process.

increasingly strict interpretation and enforcement of procurement regulations, and the consequent reduction in the discretion that managers in each administrative level felt able to exercise in adapting the regulations to the situation at hand.

An extension of this theme is the frequently cited assertion that the increasing administrative burden, together with the fact that contracting officers in both government and industry can be subjected to severe criminal penalties for wrongdoing, is leading to more accent on "style"—the meticulous working to rules to ensure compliance. There is less flexibility to work around administrative and contracting problems in order to get programs started and keep them going on schedule.

However, it was generally acknowledged that the consequences of strict enforcement were felt mostly in terms of an additional contracting workload and, occasionally, delays in contracting procedures, but almost never in terms of the quality or performance of the product. The delays are attributed, in part, to the fact that contracting staffs have not been increased to match the increasing workload, and that increasing turnover rates are tending to reduce the experience level of available personnel.

Cost Effects

The incremental costs of recent regulations are perhaps the most visible aspect of regulatory burden. Despite that fact, reliable data are remarkably sparse. We found only one study in which a contractor had systematically examined the cost consequences of various regulatory elements.[4] In that study, a combination of factors including procurement practices, formal laws, and regulations were judged to have increased costs by roughly five percent over what might be possible under a more "sensible" arrangement, with technical specifications adding another four percent to costs. No other such comprehensive analysis was found, but the estimates of cost effects that were provided by various project offices and industry sources on individual aspects of regulation were generally consistent with those cited in the Honeywell report. Indeed, it is interesting that disparate individuals' notions of the theoretical costs of regulation were so uniform.

Acquisition managers typically cited three sources of cost increase: "excessive" reporting requirements (i.e., any number greater than the organizational level generating the reports considered necessary); compliance with CICA; and compliance with MILSTD 1567A (dealing with

[4]*Defense Acquisition Improvement Study, Final Report*, Honeywell Aerospace and Defense, Minneapolis, Minnesota, June 1986.

work measurement standards).[5] Values for individual programs generally fell into the range of one to two percent of total program cost, for a total of roughly three to five percent from all three sources.

These estimates reflect primarily the incremental costs of recent changes in acquisition regulations. Other reporting and administrative control procedures that have been in effect for many years have become institutionalized and are difficult to identify or quantify. If one were to establish a base line in a much earlier time frame, perhaps 10 to 15 years ago, the incremental change might be substantially larger. Furthermore, these estimates reflect only costs incurred by contractors, and do not include administrative costs on the government side.

We conclude, on the basis of the sparse data available, that the sum of all incremental costs which can reasonably be charged to regulatory controls probably amounts to between five and ten percent of total program costs,[6] depending on what activities are counted as regulatory in nature. That is a considerable sum, equivalent to several billion dollars per year when applied to the entire defense budget for weapons development and procurement.

Two additional caveats: An important aspect of obtaining good cost data is that many of the costs of regulation and administrative practice typically are found in overhead or indirect costs that are not directly chargeable to one contract. Because these costs are spread over the entire business base at a plant, an extremely detailed study—with extensive contractor assistance—would be required just to obtain valid cost data, and even then it is uncertain how valid the data would be. Overhead costs are likely to be much more important than direct costs in understanding the regulatory and administrative burden. Yet, it remains conceivable that the total cost of compliance may be unknowable, or at least unknowable with confidence.

Also, there are almost certainly offsetting benefits that are rarely cited. For example, some managers observed that the information flowing from the MILSTD 1567A reports would be useful in subsequent negotiations for procurement contracts, thereby possibly reducing the contract price. Such offsetting benefits have not, however, been systematically examined and are not quantifiable at this time.

Another aspect of cost-related regulations is that both industry and government officials noted the apparent contradiction of being

[5]MILSTD 1567A, clearly an influential regulation, was generated internally by the Department of Defense.

[6]We recognize that the cost consequences of regulations and controls might vary substantially from one program to another, but our small sample size and the aggregate nature of the estimates prevented identification of such variations.

simultaneously subjected to increased regulation and increased competition. Some industry officials argue that such a combination of policies will eventually result in less company investment in research and advanced technology, although there is no evidence to demonstrate that this is in fact true.

Schedule and Performance Effects

Have the added regulations, and more strict enforcement procedures, had a noticeable effect in terms of delaying program milestones or reducing product quality? At one level, the answer to these questions is relatively straightforward: with respect to the original program plan, our survey revealed almost no evidence of major delays or performance reductions that could be attributed directly to regulatory procedures.

Some elaboration is required if we are to interpret properly that rather surprising outcome. First, when dealing with program schedule, we are talking about major program milestones in major weapon systems. Such milestones represent the aggregate outcomes of many subordinate schedule events, at least some of which we can hypothesize were affected adversely by regulatory compliance. However, in every case we inspected, those subordinate schedule events apparently were not on the critical path of the overall project, or the regulatory delays were masked by delays from other causes. Furthermore, at times potential delays were avoided when the contractor proceeded, with its own corporate funds, with critical work while awaiting formal completion of contract negotiations and the subsequent release of government funds.

It also should be emphasized that the lack of demonstrable schedule slips should not be interpreted as meaning that contracting events proceed smoothly. In one major program, which appeared to be typical in most respects, negotiated changes to a sole source production contract took anywhere from a minimum of seven or eight months up to a maximum of nearly two years, if we count from the date the project office and the contractor informally agreed that a change was needed to the time a contract was signed. Since a major program can typically involve several, and perhaps tens, of such changes every year, it is easy to understand the cumulative effect imposed on managers by contract cycles that extend over years. The fact that serious consequences from such contracting cycles are so infrequent can be considered a tribute to the skill of the managers in government and industry.

One obvious problem with the result stated above is that the reference point against which schedule was measured is the original program plan, which almost certainly was affected by knowledge of the

regulatory process and its influence on program schedule. Can we measure those first-order effects of regulatory process on the original plan? One approach is to observe long-term trends in the length of the overall acquisition cycle. An example of such a survey is shown in Fig. 2. Here we show, for a sample of flight vehicles (aircraft, helicopters, and missiles), the time required to proceed from Milestone I (as defined in DoD Directive 5000.1) to the initial delivery of an operational item.[7] It can be seen that every decade has experienced a wide range of acquisition cycle durations, with little apparent pattern to the data. A line fit to these data does show an upward slope, with an apparent growth in acquisition time of about 15 percent per decade. Although the conclusion of increasing acquisition time is significant at the five percent level, the R-squared statistic is only 12 percent, suggesting that calendar time alone is a weak explanatory variable. A

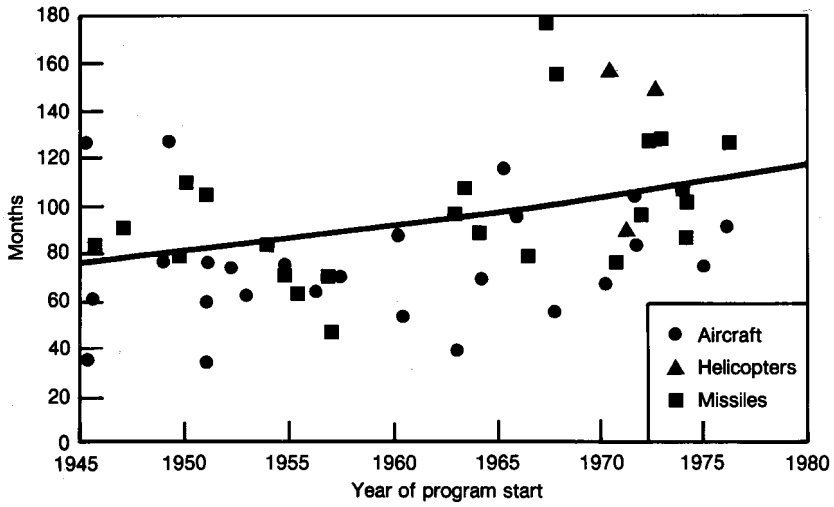


Fig. 2—Time from program start to first delivery, with exponential fit line: all systems

[7]These data are drawn from M. B. Rothman, *Weapon System Acquisition Milestones: A Data Base,* The RAND Corporation, N-2599-ACQ (forthcoming).

more definitive analysis of this issue seems desirable but was beyond the scope of the present study.

A similar caveat is also justified regarding the apparent lack of effects caused by regulatory controls on product design and performance. The problem is that no reference case—a product designed in a less severe environment of regulatory controls—is available for comparison. At the level of design engineering, it is common to hear complaints about the stifling of innovation because of the need to comply with obsolete or inappropriate MILSPECs. However, program managers generally expressed satisfaction with the process of MILSPEC selection. Again, clear evidence of substantial problems was not found.

An underlying difficulty in examining many of these issues is our inability to identify the consequences of things not done. Managers frequently argue that they have to spend too much time coping with regulations rather than solving the "real" problems in their program. However, we are unable to properly evaluate that claim because we can observe only the actual output of the project, not what it might have been with a different allocation of management resources.

REGULATORY EFFECTS ON TECHNOLOGY BASE PROGRAMS

Technology base programs are defined as projects geared to refining and demonstrating a particular improvement or refinement of technology, rather than incorporating those advances into the design of an operational system. In the parlance of DoD budgeting, such projects are funded from RDT&E Program 6.1 (Research), 6.2 (Exploratory Development), and 6.3A (a portion of Advanced Development). Projects funded under these budget programs are different from major weapon systems in several ways that are essential to the issues central to this study:

1. Such projects are smaller and more numerous, so that each individual project does not command the attention of management or the expertise that often is lavished on the major weapon programs.
2. They are shorter in duration, typically lasting a few years, in comparison with the 10 to 15 years that typically are devoted to the development and production of major systems.
3. They involve much higher levels of technical uncertainty because they are essentially research activities, rather than the engineering and production activities that are typical of major

weapon projects. Many are conducted under level-of-effort contracts that do not define a deliverable in terms of a specific design or hardware item.

4. They are more frequently performed by relatively small firms which do not have the financial resources to proceed with work, or perhaps to even survive, while waiting many months for a contract to be completed.

The main consequence of these characteristics, for the present study, is that the effects of regulatory activities are even harder to measure than would normally be the case for major weapon systems.

The end product of most technology base programs is knowledge that advances the state of art. Therefore, a primary metric for evaluating the effects of regulatory activity on a technology base program should be the rate of technological advance. Unfortunately, the measurement of technology levels, or even the rate of technological advance, is not a refined art form. We therefore had to identify a reasonable proxy for rate of technological advance.

From preliminary discussions with managers of technology programs in the Services, we were led to examine the aspect of possible delays in starting new technology base projects. The broad consensus was that regulatory effects were most pronounced in that area, and that once projects were under way, regulatory effects were not so important or troublesome.

That line of inquiry led directly to two interacting issues: CICA and the annual appropriation and authorization process. The new factor here is CICA. Historically, technology base projects have been conducted under sole source negotiated contracts. In many cases that approach was justified because the research topic was highly specialized, based on ideas flowing from one small group of people who seemed uniquely qualified to conduct the research. Furthermore, unsolicited proposals based on truly new and novel ideas have a proprietary character that has traditionally been used to further justify sole source contracting. Such contracts could, if the client deemed it justified, be negotiated and signed in a matter of weeks, allowing the sponsoring agency considerable flexibility in shaping the research program to respond to evolving needs and opportunities.

CICA changed all of that by making it much harder to use sole source contracts, and by introducing noticeable delays into the contracting process. It is frequently asserted that one consequence is that the sponsoring agency's project managers have less discretion to select the contractor they deem best qualified, and instead have to be responsive to a formal list of source selection criteria and procedures.

Although every manager can cite instances in which non-optimal source selection was asserted to have occurred, the evidence is subjective at best. That line of analysis was not pursued in the present study.

It is possible to demonstrate the effect of contracting delays. Starting with publication of a "sources sought" synopsis in the *Commerce Business Daily*, it typically takes about a year to get through the subsequent process of issuing a Request for Proposal (RFP), conducting a source selection, and negotiating a final contract for a technology base project. It seems evident that such a time schedule is not appropriate for projects that typically take only two or three years to conduct, and that frequently result in ideas that require starting a new project.

The problems of administering a technology development program with that kind of contracting schedule are compounded by the annual budget cycle. Unexpected delays in processing a contract sometimes make it impossible to obligate funds from the fiscal year appropriation that had been earmarked for that project, thereby bumping it into the next fiscal year where it is in competition with a new set of alternatives and subject to additional delays. The combination of such factors has reduced the authority of a sponsoring agency's managers to allocate funds in what they consider to be an optimal manner. However, we have not found a way to measure the consequences of losing that flexibility, or even to assess its importance.

Fortunately, the effects of CICA on technology base programs became largely moot by a letter[8] sent from the Congress to Secretary of Defense Weinberger, stating that it was not the intent of the Congress to apply the CICA to research, including work done under RDT&E program 6.2. The Department of Defense had always exempted program 6.1 work from CICA because the act specifically exempted "research." Because program 6.2 is titled "exploratory development," the Department of Defense had judged it subject to CICA. It is expected that removing exploratory development from CICA coverage will eliminate that regulatory problem from the technology base program.[9]

---

[8]Letter dated April 15, 1986, addressed to Secretary Weinberger and signed by the chairmen and, in some cases, the ranking minority members of the House Government Operations Committee, the House Science and Technology Committee, the House Armed Services Committee, and the Senate Armed Services Committee.

[9]This particular interaction between the Congress and the Department of Defense is illustrative of a persistent observation from our survey. In a general environment of mutual distrust, DoD components are behaving in increasingly risk-averse ways. Because Congressional intent was unclear, DoD implemented CICA "by the book." "Exploratory development" was not labeled as "research," so the Department of Defense did not exclude it from CICA coverage.

III. INDICATORS OF REGULATORY ACTIVITY

The basic hypothesis leading to this study was that regulatory activity in defense acquisition has been growing and that its growth during the last decade or so has contributed to inefficiencies in the acquisition process. If true, this hypothesis could explain some of the perceived flaws in weapon acquisition. Evidence for the purported growth is, however, inconclusive. Have regulatory mechanisms increased, and if so, how much and in what directions?

We investigated a wide range of acquisition process indicators: growth in the staff size for regulatory offices, number of audits conducted, and number of new regulations issued, among others. Supporting information was collected on several aspects of management and oversight, including the functions, staff sizes, and activities of various organizations. This second phase of the research was motivated in part by the fact that there is remarkably little data on the institutions that participate in weapon acquisition, and in part by the desire to further the "class knowledge" of acquisition. We concluded that basic research into these institutional factors will increase the general understanding of weapon acquisition.

This section provides a partial catalog of indirect indicators of regulatory activity in acquisition. The indicators do not necessarily reflect actual regulatory activity, and they certainly do not yield direct measurement of the *effects* of regulatory activity. Not all sources of regulation are explored, and no cause and effect relationships between these indicators of regulatory activity and program outcomes can be inferred. However, they do provide useful contextual information that should contribute to the overall assessment of trends in acquisition regulations and controls.

A summary overview of the available data is presented here, mostly in graphical form to highlight trends. Appendix A gives the same data in tabular form, together with additional details and descriptions of sources and derivation methods.

APPROACH

The several organizations controlling the defense acquisition process can each be examined on three levels. First, there is the *structure* of the organization: how it is organized, what are its constituent parts, and how those parts interact. Second, there are the *activities* of the

organization: what the institution does, how it performs its functions, and how its activities might be categorized. Third, there is the set of *products* from each institution. These three levels are in principle distinct but in practice they may overlap and not always be immediately distinguishable.

We next will examine some of the organizations involved in the acquisition process at each of the three levels, although not always in an equally thorough manner. This initial survey is inevitably limited by the usual constraints of time and resources, and much remains to be done before a reasonably complete picture of regulatory activities will emerge.

Institutions Studied

We addressed three categories of institutions. The first is the Congress, which influences the acquisition system through its authorization, appropriation, oversight, and acquisition policy roles. The structure of the Congress (portrayed by the size of the committees and staffs), some of its activities (measured by the magnitude of hearings and testimony), and a very limited set of products (the system-specific directives written into the budget bills) will be examined here.

The second set of institutions includes the Department of Defense and its constituent agencies, such as the Defense Contract Audit Agency (DCAA). Our intent is to determine whether the structure and activities of these DoD institutions have changed over time.

The third group of institutions includes the government agencies that participate in acquisition at the behest of either the Congress or the executive branch of government. Those examined here include the Office of Management and Budget (OMB), the Office of Federal Procurement Policy (OFPP), the Congressional Budget Office (CBO), and the General Accounting Office (GAO).

Although the individual Services themselves are part of the overall regulatory structure, this research addresses only those agencies and organizations outside the Services (e.g., OSD agencies and the Congress). This limitation was due to a somewhat arbitrary allocation of study resources, and should not be construed as implying that regulatory controls within the Services are less extensive or important than those imposed from outside.

Correlation of Regulatory Activity with Defense Expenditures

The concept of "regulating" defense acquisition often is taken to mean that external institutions, such as the Congress, are exercising increasing control over defense. Some measures of regulatory activity described later in this section appear to support the concept of increasing levels of such activity. Such data need to be interpreted in the context of other changes: one prominent change is the growth in the acquisition budget.

Figure 3 shows the trend in total obligational authority (TOA) for defense from 1960 to 1986, adjusted for inflation. The pattern has been neither steady nor unidirectional, but has been marked by definite periods of growth and decline. Most noticeable is the growth of nearly 70 percent over the last decade. It seems plausible that this rapid growth in obligation authority is at least a partial source of the increase in oversight and other regulatory activity over the same time period. Attempts to test that hypothesis by examining statistical correlations between budget levels and regulatory activities were generally

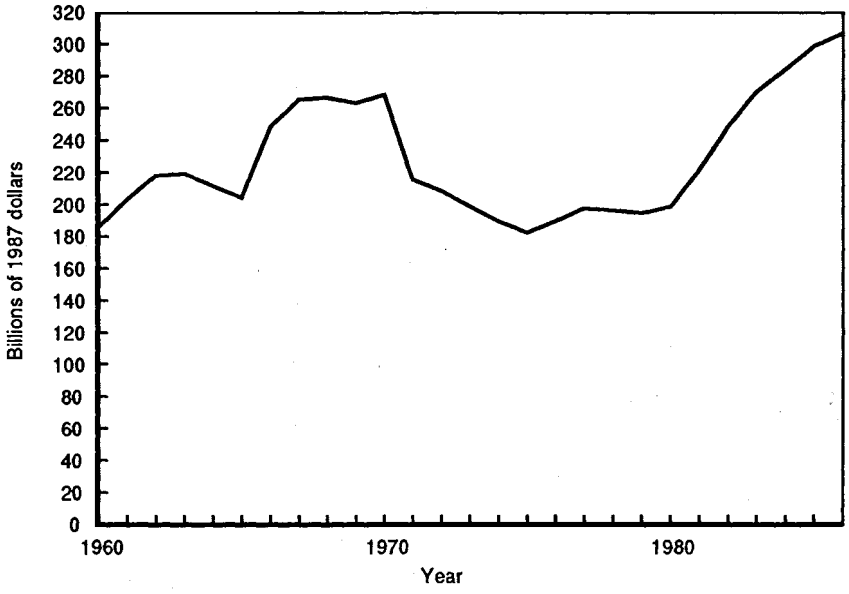


Fig. 3—DoD obligation authority

unsatisfactory, in part because of the sparse data available on many of the regulatory activities. Nevertheless, the reader is urged to keep the budget trends in mind while examining and interpreting the following discussions of regulatory organizations and their activities.

THE CONGRESS

The Congress exercises a major influence on weapons acquisition policy through its authorization, appropriation, and oversight roles.[1] Funding of acquisition programs is controlled through the authorization and appropriation processes. Oversight of government agencies is less easily measured but is possibly as important as funding. Oversight usually is carried out by subcommittees for specific functional areas, and is related in part to the authorization process. For example, both the House and Senate Intelligence Committees oversee executive branch intelligence operations.[2]

Structural Indicators

One indicator of Congressional activity in weapons acquisition is the size of the staffs supporting the committees with major roles in defense acquisition budget and oversight activities. Recent trends in the size of professional staffs for three key committees are shown in Fig. 4.[3]

The Armed Services Committee staffs are devoted entirely to national defense matters, but only partly to weapons acquisition. Staffs of the other committees deal with all government matters, including weapons acquisition. It would have been desirable to identify only the defense-related subcommittees of these committees, but that was not possible from the available data.[4]

While the picture is not completely consistent (little change in Budget Committee staff size), two of the committees do show increasing size over the past decade and a half. Taken in the aggregate, those

[1]We recognize that the term Congressional acquisition policy is extremely broad, and that Congressional "policy" on acquisition (or any subject within its purview) is a product of its authorization and appropriation roles.

[2]For a brief overview of the specific committees and subcommittees having acquisition responsibilities, see Charles W. Cruit, "Congressional Committees and Subcommittees Involved in the Defense Acquisition Process," November 25, 1985, in *Defense Acquisition Background Papers*, Vol. II, Logistics Management Institute, June 1986.

[3]Staff sizes shown in Fig. 4 include only professional personnel assigned full time to the respective committees. In practice, those staffs are frequently augmented by people from the personal staffs of the committee members.

[4]We attempted to estimate the staff size of defense-related subcommittees, as described in App. A, but the results were not satisfactory.

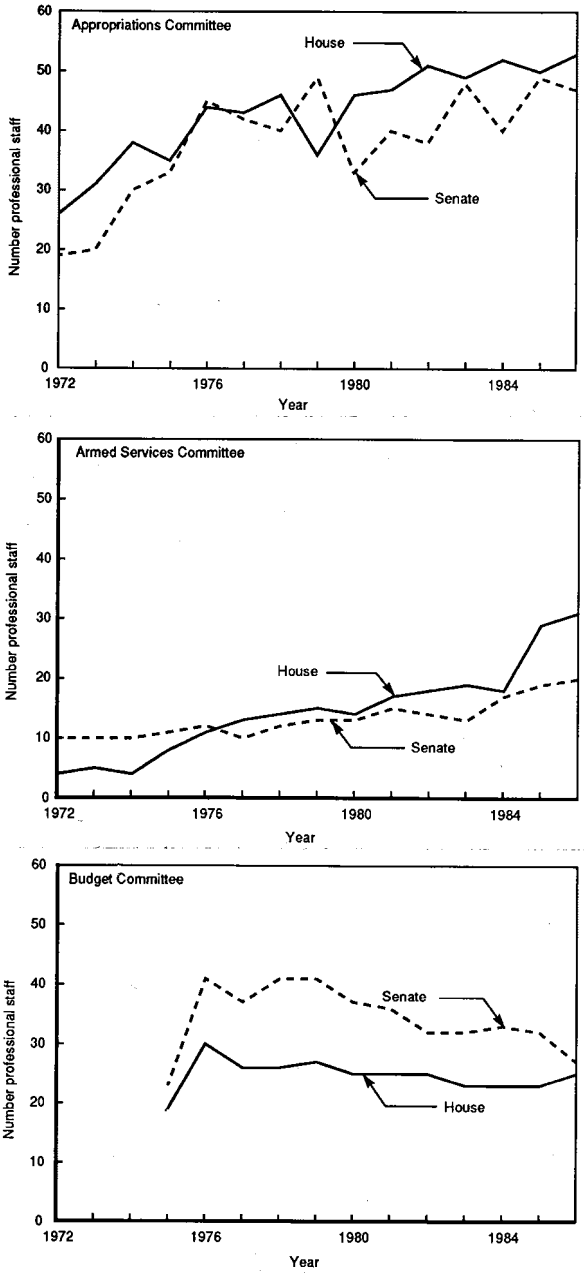


Fig. 4—Professional staff on Appropriations, Armed Services, and Budget Committees

staffs appear to have roughly doubled. There is the clear suggestion that the staff level available to the committees for oversight of defense acquisition has increased, but this information alone tells us little about how that staff effort has been allocated.

Measures of Congressional Activity

We can begin to get some clues about Congressional activities by examining their interactions with the Department of Defense.

Requests for Testimony. Figure 5 shows the number of Congressional committees requesting hearings with DoD witnesses. The data include committees and subcommittees for both the House and Sen-

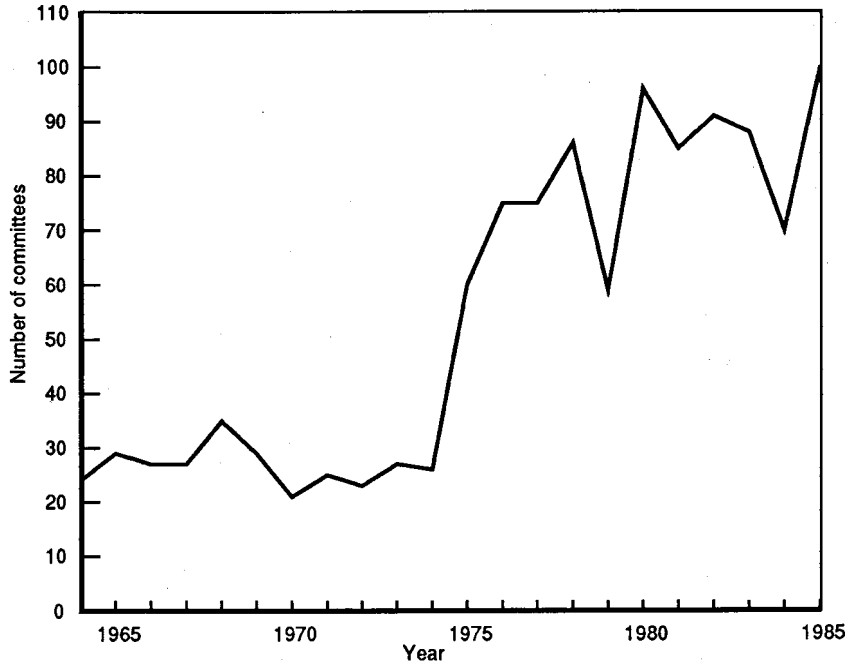


Fig. 5—Committees requesting DoD testimony

ate.[5] Beginning in 1975, there was a noticeable jump in the number of committees requesting hearings, which can be explained in part by the passage of the Budget and Impoundment Control Act of 1974. Not only did this Act give Congress greater responsibility for oversight of the Department of Defense, but it also led to a broader interpretation in Congress of when it is necessary to call hearings.

The committees and subcommittees counted in Fig. 5 deal with all DoD matters, not just weapons acquisition. However, if we assume that the distribution of attention among topics remained roughly constant across that time period, we can infer that the number of hearings dealing with acquisition topics increased by a factor of three or four from the early 1970s to the present time.

Authorization and Appropriation Process. A partial explanation of the perceived growth in Congressional oversight of defense acquisition is the increased level of detail incorporated in the Congressional budgeting, authorization, and appropriation processes.[6] A brief discussion of the overall budget process will place the Authorization and Appropriations Acts in perspective.

The President submits a Current Services Budget for analysis by the Congressional Budget Office (CBO). The President's budget and the CBO analysis are then used by the budget committees, the authorization committees (for defense, the Armed Services Committees), and the appropriation committees to prepare tentative estimates of the budget. These are expressed in the form of Congressional appropriations.[7]

Both the House and Senate Armed Services Committees have increased the amount of authorization activity for the DoD budget request.[8] As shown in Fig. 6, the pages of testimony received by the two committees have increased from 1400 in 1960 to over 11,000 in 1986, and the size of the committee reports has increased substantially over the same time period.

Information Requests. Another indicator of Congressional involvement in defense matters is the type and quantity of information

---

[5]Each committee (or subcommittee) was counted only once for each year.

[6]Robert J. Art, "Congress and the Defense Budget: New Procedures and Old Realities," in Barry M. Blechman and William S. Lind, *Toward a More Effective Defense*, Report of the Defense Organization Project, 1985.

[7]The original intent of the authorization acts was to provide substantive guidance and an overall philosophical sense of direction to individual military programs. It was understood that the authorization acts would not contain restrictions of any kind on the specific amounts to be spent on individual programs. In recent years, however, the opposite has been the case, as the authorization acts contain increasingly detailed restrictions on specific programs both as to conditions on expenditure and the maximum amount to be spent.

[8]D. C. Morrison, "Chaos on Capitol Hill," *National Journal*, September 27, 1986.

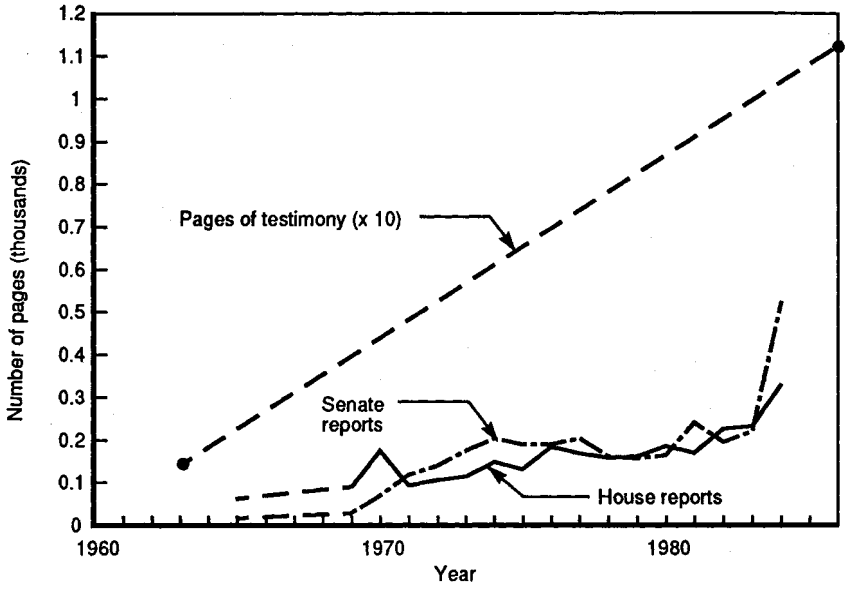


Fig. 6—Indicators of activity in Armed Services Committees

obtained from DoD by the Congress. As shown in Fig. 7, the number of reports and studies requested has increased. Otherwise, there seems to be little pattern. With the exception of occasional upward spikes in the number of hearings called and the number of telephone requests for information (some of which may be errors in the data), there is no indication that such information flows have increased over the past couple of decades. In fact, the number of hours of testimony presented by DoD witnesses appears to have *decreased* over the time period.

Despite the lack of trends, the absolute magnitude of such information flows should be noted. Over four hundred hearings a year, involving over a thousand hours of testimony, represent a substantial load imposed on senior DoD management personnel. Likewise, response to roughly 100,000 written inquiries and 500,000 telephone inquiries each year, and the generation of hundreds of reports and studies, requires many man-years of time from DoD staff and officials. We have no way of comparing the costs and benefits of this information flow and associated investment of management resources.

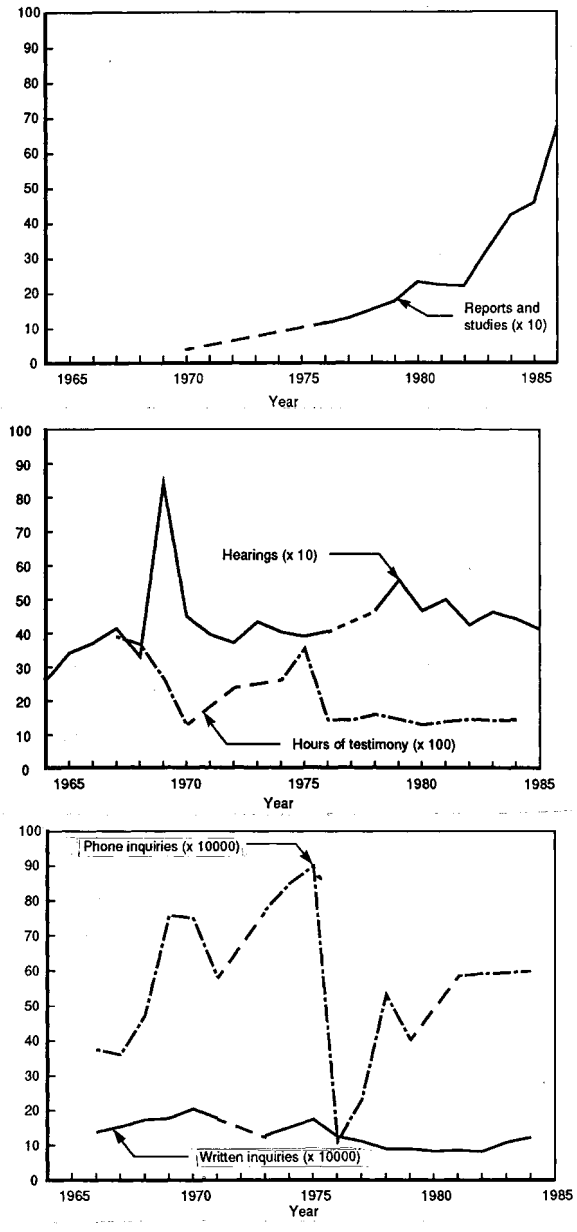


Fig. 7—Congressional requests for information from the DoD

Results and Outcomes of Congressional Activity

A major product of Congressional activity affecting defense acquisition is, of course, the annual budget. Information on the overall allocation of funds to the various weapons programs is widely available and much analyzed. In addition, however, the authorization and appropriation bills reflect a more detailed form of Congressional control over individual weapon systems. Such controls take two forms:

- *Restrictions* on individual weapon system programs, and
- *Designations* (earmarking) of funding for programs that either were not requested by the Department of Defense or were requested at lower funding levels.

Information on these two kinds of Congressional "managerial" actions is much less widely published, nor is it usually incorporated in analyses of acquisition management. We therefore offer a summary of such restrictions and designations enacted into law during the past twenty years.

We consider only those instances in which the restriction or earmarking affects a single program, e.g., the M-1 tank. There is no attempt here to evaluate generic restrictions or regulations related to a specific Service or applicable to all programs equally. In general, only items in the Procurement, Research, Development, Test and Evaluation, and General Provisions sections are included in this review. This means that specific language in sections relating to Military Personnel, Operation and Maintenance, Special Foreign Currency Programs, Revolving and Management Funds, and Related Agencies usually are not considered.

Specific Program Restrictions. Several types of restrictions are included in the acts, and some had widely varying effects on procurement schedules. The final taxonomy suggested here has the following categories of restrictions:

- Funding
- Quantity
- Competition
- Planning
- Certification
- Technical
- Other

Most of the restrictions are of the nature of "thou shalt not" prohibitions of spending, rather than mandates to spend. A more complete definition of each type, together with illustrations, may be found in Apps. C and D.

Earmarking. The earmarking of funds is the reverse of restriction. Whereas a restriction seeks to limit spending, earmarking directs the Department of Defense to obligate or expend funds for specific programs. Such language typically states "of which $$$ shall only be available for" or "not less than $$$ shall be expended for . . . A typical example is:

> . . . of which $15,000,000 shall be available only for integration (including qualification) of the Hellfire missile on the UH-60 helicopter to remain available for obligation until September 30, 1985.[9]

There are several reasons for this type of Congressional action. First, it ensures that specific projects of interest to the Congress are funded, and second, it precludes reallocation of funds by the Department of Defense.[10]

Authorization Acts. In the period between 1966 and 1986 the Congress increased the number of restrictions and earmarking imposed on the Department of Defense in the Authorization Acts. This is illustrated in Fig. 8, which shows a slight increasing trend for both restrictions and earmarkings from 1966 to 1982, and sharp increases from 1982 to 1986.

Certification has become the major instrument of Congressional restriction in Authorization Acts.[11] The total number of certification restrictions is far greater than all other types of restrictions during this 20-year period, with most of them occurring in the 1983–1986 period.

Earmarking is the designation of funds for a particular program. Significant activity occurred from 1967 to 1969, during 1975, and from 1983 to 1986.

One can speculate on reasons for the sharp upswing in certifications and earmarkings that occurred during the 1980s, but we found no record of discussions on this topic by members of the Congress or their

---

[9]Public Law 98–212, Department of Defense Appropriation Act, 1984, December 8, 1983, Title V, Research, Development, Test and Evaluation, Army.

[10]The President and his delegate, the Secretary of Defense, normally have discretion by law to reallocate funds within the Department of Defense budget from one account to another. This process is called either reprogramming or the transfer of funds. There is a considerable difference between reprogramming and transfer. The authority to transfer is explicitly stated in statutes, whereas reprogramming, which is nonstatutory, is viewed as more of a gentlemen's agreement and often not a matter of public record.

[11]A certification is a clause requiring a senior DoD or Service official to certify, or guarantee, that costs or other program goals will be achieved, as a condition to expending specified funds.

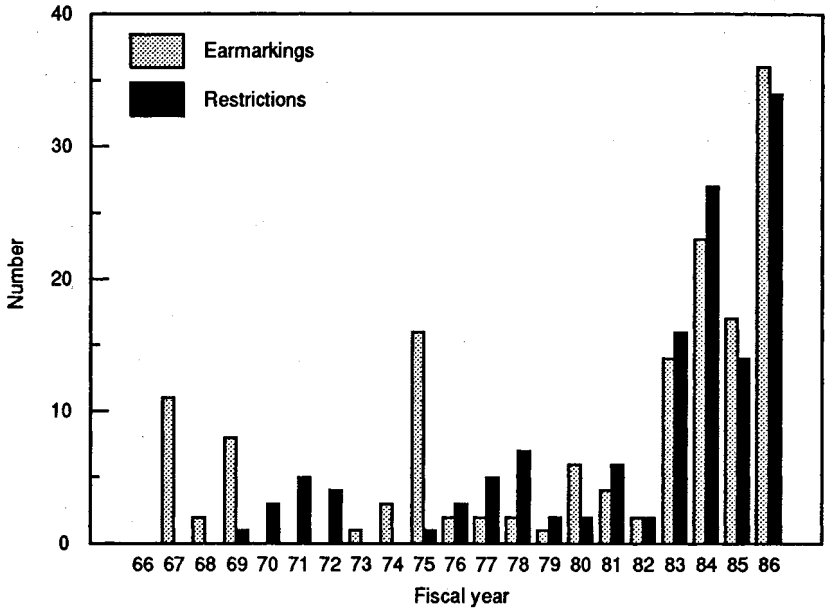


Fig. 8—Defense Authorization Acts: number of Congressional actions on specific weapon systems

staffs.[12] The full text of each restriction and earmarking included in the FY1986 Authorization Act is given in App. C.

Appropriation Acts. Appropriation Acts contain both restrictions and earmarking. The total number of actions during the 1966–1986 time period is shown in Fig. 9. The trends are similar for both restrictions and earmarking, showing very little increase until the 1982–1986 period.

As was the case for restrictions in the Authorization Acts, the largest category of restrictions in the Appropriations Acts is in the *certification* category, which increased between 1981 and 1986, peaking in 1984.

[12]One explanation is that sharp upswings in regulatory activity occur during times of political division over defense policy—notably when the Congress is controlled by Democrats and the White House is Republican. Thus, regulatory activity may reflect substantive controversy over defense policy, not efforts to intervene in the acquisition process.

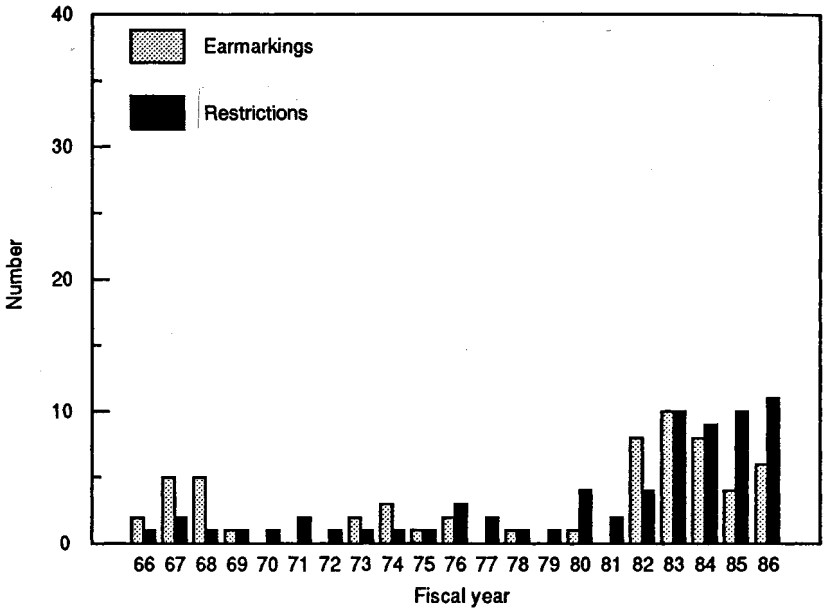


Fig. 9—Defense Appropriations Acts: number of Congressional actions

The trend in *earmarking* designations in the Appropriations Acts is also illustrated in Fig. 9. By definition, earmarking concerns funding. A single additional quantity restriction was taken in conjunction with the funding of the KC-135 in 1984.[13]

The full text of all restrictions and earmarkings in the FY1986 Appropriations Act is given in App. D.

DEPARTMENT OF DEFENSE AGENCIES

In addition to OSD and the individual military services (which we do not address here), several DoD agencies influence acquisition in important ways. After reviewing the evolution of DoD directives and instructions that govern acquisition policy, we examine two key DoD agencies: the Defense Contract Audit Agency (DCAA) and the DoD Inspector General.

[13]Referred to as B.707 in the legislative text.

DoD Instructions and Directives

The Department of Defense, through the Office of the Secretary of Defense, issues directives and instructions which affect defense acquisition. They constitute one measure of trends in management controls. We looked at the change in the number of directives and instructions over time by comparing several cumulative quarterly indices.

A key factor in this effort was identifying those directives and instructions that were relevant to defense contracting or acquisition. The criterion used here is that any directive or instruction which altered the way that a contractor would do business in comparison with its commercial counterpart would count as acquisition-related.

Figure 10 illustrates the changes in total number of both directives and instructions, and in those related to acquisition, over the past eight years. It is seen that the total number of instructions and directives has increased during that time period, as has the number of those affecting acquisition. However, in each case the change has been slight.

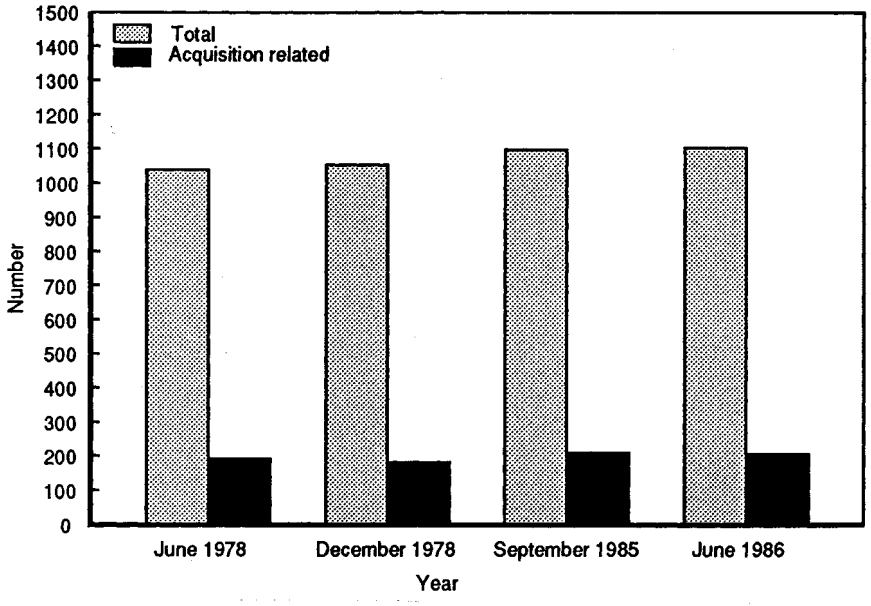


Fig. 10—DoD directives and instructions

A number of caveats accompany these data. In the selection of those instructions and directives affecting the acquisition process, the broadest criteria were used, and were subjective. On the one hand, this means that the number counted is likely to be a maximum. On the other hand, the list certainly includes instructions and directives with only a minor or a peripheral effect. Second, the numbers do not tell the whole story. If a directive having a minor effect is dropped, and another directive having a major effect is adopted, the number of directives will be unchanged but the consequences on the acquisition process will be different. There was no way to include such effects in this analysis.

Defense Contract Audit Agency

The Defense Contract Audit Agency (DCAA) was established in July 1965 as a separate agency of the Department of Defense. It was thought that DoD contract auditing activities would be more efficient if a single agency had responsibility, rather than having each DoD component perform its own audit. Although organizationally independent of contract officials, the DCAA performs audit functions for all DoD procurement and contract administration agencies. Operating under the Assistant Secretary of Defense (Comptroller), the DCAA's major role in the acquisition system is financial oversight.

DCAA also provides contract audit services for other (non-DoD) government agencies—generally for contracts where the Department of Defense represents the dominant government interest, but other agencies are involved.

DCAA staff has grown a modest 21 percent over the life of the agency, as shown in Fig. 11. After some growth in the first few years, there was a fairly steady decline to a low point in 1977. From 1978 to 1982 staff size increased at a moderate rate, followed by a rapid increase after 1982. There are no apparent changes in the scope of DCAA responsibilities that could account for the observed pattern.

Figure 11 also shows two indicators of DCAA activity. One of the DCAA's primary activities is proposal evaluation, which involves auditing a contractor's proposal against the contractor's records of current or past production costs, and examining the basis for costs included in the proposal. The number of proposal evaluations conducted by DCAA trend generally upward, peaking in FY1981 with over 34,000 evaluations. DCAA performed half again as many evaluations in FY1985 as in FY1966.

Another major activity of the DCAA is to audit the incurred costs of contractors (the amount actually billed to the government). Figure 11

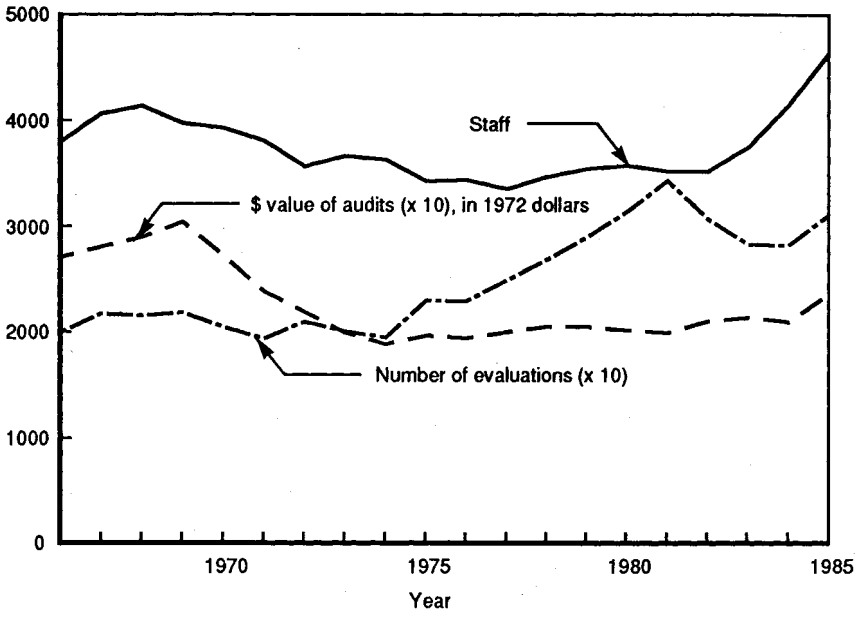


Fig. 11—Defense Contract Audit Agencies staff and activities

shows the dollar value of such audits. That activity shows a slight decrease during the 1969–1975 time period, with no change since then until a small upturn in 1985 (the last year for which information is available).

Department of Defense Inspector General

The Fiscal Year 1983 Defense Authorization Act established a Department of Defense Inspector General (DoDIG), superseding the creation of the Assistant to the Secretary of Defense for Review and Oversight in 1981. The Congress mandated that there be an Inspector General for the Department of Defense, just as there have been IGs for virtually all other government agencies since 1977, to alleviate concerns about the independence of the Assistant Secretary in matters relating

to waste, fraud, and abuse.[14] The DoDIG is organized into three basic groups for auditing, investigations, and inspections, each group headed by an Assistant Inspector General. Although the DoDIG is supervised by the Secretary of Defense, it has the right to audit, investigate, or inspect any programs it desires. The Secretary of Defense, however, can supervise DoDIG activities in selected instances that involve operational, intelligence, counterintelligence, or "other matters . . . which would constitute a serious threat to national security."[15]

Figure 12 plots the staff size for the new IG office for 1983–1986. Since the DoDIG was formally established in 1983, staff size has grown steadily.

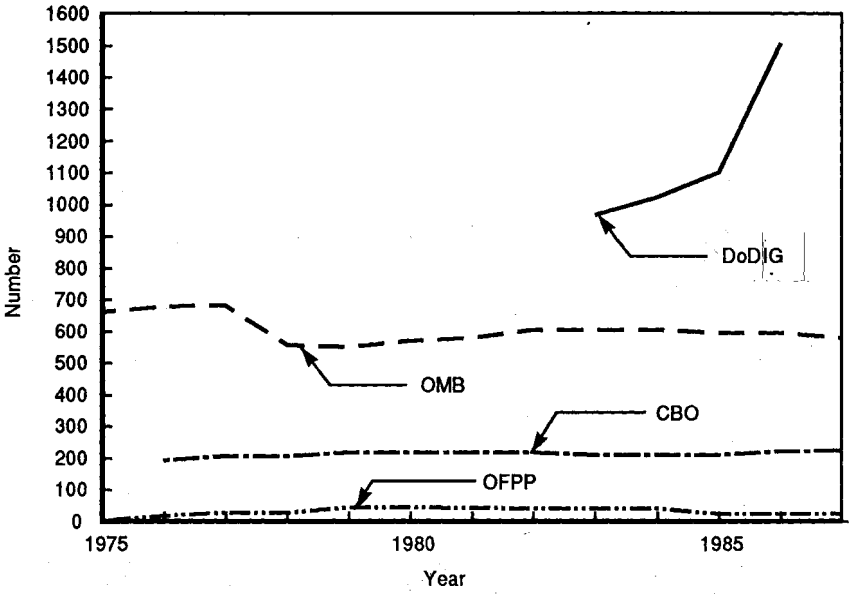


Fig. 12—Agency staffs

[14]See Joseph H. Sherrick, *The DoD Inspector General: Evaluating Defense Management*, Defense/83, December 1983, pp. 24–25.

[15]Sherrick, pp. 22–24.

OTHER GOVERNMENT AGENCIES

Just as the Congress and various DoD agencies participate actively in weapons acquisition, so do several other institutions. In some senses it might be tempting to think of the Department of Defense as an "insider" in the process, and the Congress and agencies as "outsiders." However, some of the agencies clearly exert a major influence on acquisition. Some, such as the CBO and GAO—perhaps more than others—provide a link between the Congress and the Department of Defense, Services, and the defense contractors. At times, their role is as a "watchdog" over the actions of the organizations that procure and build weapons. In other instances, their role is to transmit to the Congress their evaluation of the state of affairs in acquisition.

There are other institutions, however, that report to the executive branch of government. The OMB and OFPP (which is controlled to some extent by the OMB), because they provide information to the executive branch, do not have the same role as guardians as do the agencies that report to the legislature. The structure and activities of four institutions (GAO, CBO, OMB, and OFPP) are examined below.

General Accounting Office

The General Accounting Office was established by the Budget and Accounting Act of 1921 (the same Act that created the Bureau of the Budget, predecessor to today's OMB). The original charter of the GAO was quite broad. The Comptroller General has the authority to conduct investigations that are ordered by the Congress on issues related to revenue, appropriations, or expenditures.

Because the express purpose of the GAO is to serve the Congress, it is part of the legislative branch of government. As such, the GAO provides special assistance to the Congress as well as its committees. For instance, the GAO may respond to Congressional legislation to study a specific matter. It may provide "studies mandated by statute; audits and evaluation . . . requested by committees and members; testimony at hearings; advice at hearings; and accounting, auditing, and advisory services for House and Senate financial and administrative operations."[16] The GAO was created to balance the activities of the OMB, which is responsible for the budget function in the executive branch. The relationship between the GAO and the OMB is troubled by the fact that the functions of the two organizations overlap to some extent.

---

[16]Robert L. Sperry et al., *GAO 1966-1981: An Administrative History*, U.S. General Accounting Office, Washington, D.C., 1981, p. 16.

The overall staff size of the GAO has remained relatively constant at about 5000 people for at least the past decade, fluctuating within a range of only a few percent. Assuming that the fraction of GAO resources allocated to defense acquisition issues has remained constant, it would appear that there has been little change in acquisition-related activity.

GAO Procurement-Related Documents. One measure of the activities of the GAO is the number of procurement-related documents published each year. Trends for two such classes of documents are shown in Fig. 13. The number of "decision" documents has increased substantially, indicating that GAO has been drawn into a growing number of disputes.[17] The output of research reports, letters, and testimony has, however, remained constant.[18]

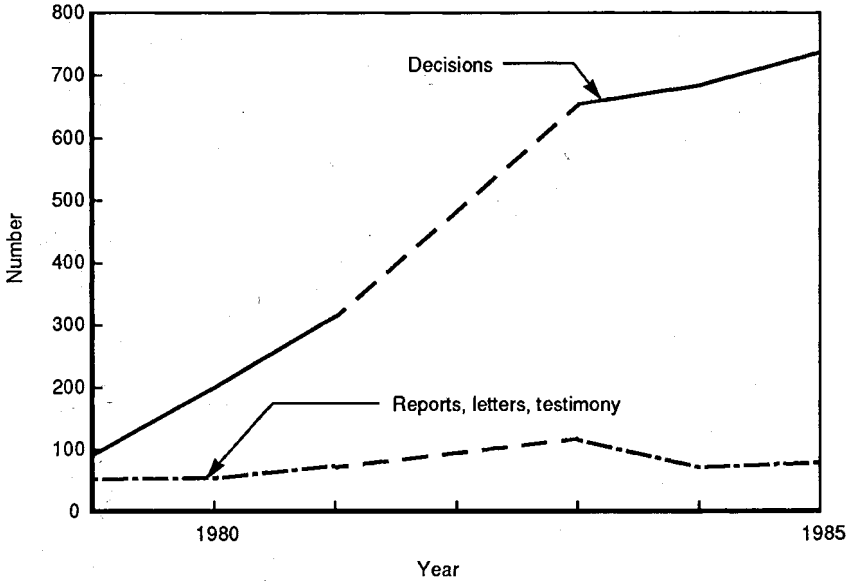


Fig. 13—GAO procurement documents

[17]Decision documents report on rulings from the Comptroller General on a variety of procurement issues.

[18]One hypothesis is that GAO documents motivate the DoD to produce internal regulations, both to prevent past abuses from recurring and in anticipation of future problems.

Congressional Budget Office

Established in 1974 by the Congressional Budget Act, the Congressional Budget Office (CBO) provides independent assessments and analyses of budget matters to the Congress. Just as the OMB exists to advise the Executive Office of the President on budgetary and fiscal issues, the CBO advises the Congress so that it can relate the level of spending and taxation to the budget. In essence, the CBO helps the Congress to formulate a federal budget in the context of how national economic resources are to be allocated among competing demands.

The responsibilities of the CBO can be divided into five areas:[19] economic forecasting and fiscal policy analysis; "scorekeeping" to monitor the effect of Congressional resolutions on the ceilings set for total expenditures; cost projections for public bills or resolutions for a five-year period; annual reports on the budget; and special studies as requested by the Congress.

Although the "jurisdictions," so to speak, of the CBO and the OMB are entirely different—the OMB advises the President, whereas the CBO advises the Congress—in many senses the two organizations function in a similar fashion. Each provides budget forecasts, which in turn allow the executive and legislative branches to make budget decisions with some understanding of tradeoffs among conflicting demands.

A record of CBO staff size is shown in Fig. 12. It is apparent that little change has occurred in recent history.

Office of Management and Budget

In the 1970 Reorganization Plan, the Office of Management and Budget (OMB) was created in the Executive Office of the President. However, the OMB today is a descendent of the Bureau of the Budget (BoB), which was established by the Budget and Accounting Act of 1921. Two years after the 1937 President's Committee on Administrative Management (the Browlow Committee) issued its report, the Executive Reorganization Act made the BoB the central figure in the Executive Office of the President. Initially, the OMB reflected a roughly equal mix of management and budget responsibilities, although eventually the OMB became a dominant figure in the regulatory process. The OFPP was established in the OMB for the explicit purpose of issuing regulations on procurement, although the authority of the OFPP later was diminished so that it could issue directives only with the concurrence of the Director of OMB.

---

[19]*The United States Government Manual, 1986/87*, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, D.C., 1986, pp. 56–57.

As mandated by the 1977 Reorganization Act, the OMB is charged with several functions. Perhaps the most important one is to prepare the President's budget and to supervise the administration of the budget. The OMB also assists the President by "reviewing the organizational structure and management procedures of the executive branch to ensure that they produce the intended results."[20] Moreover, the OMB plays a major role in the coordination of government activities, especially interagency cooperation.

In recent years the OMB has been expected to participate in reform of the federal procurement system. It was for this reason that the OFPP was created in the OMB.

A history of OMB staff size is shown in Fig. 12. Since 1978 there appears to have been almost no change.

Office of Federal Procurement Policy

In 1972 the Commission on Government Procurement recommended the formation of the Office of Federal Procurement Policy (OFPP). In 1974 Public Law 93–400 created the OFPP in the Office of Management and Budget to establish the overall direction of procurement policy, and to recommend policies and standardized regulations for all of the agencies involved in procurement. OFPP was charged with the responsibility for "improving the economy, efficiency, and effectiveness of the procurement of property and services by executive agencies."[21] In 1979 Congress reauthorized the OFPP for an additional four years. At that time the Congress reaffirmed the original objectives of the OFPP. However, it limited the OFPP's future authority by removing its ability to produce regulations on procurement. The rationale for this amendment of OFPP's charter was that procurement regulations can be issued by the existing procurement agencies (e.g., Department of Defense, General Services Administration, and so forth). OFPP retains the authority to issue internal directives on procurement-related matters.

The specific functions of the OFPP are, among others, to develop and implement a uniform procurement system; to review the recommendations of the Commission on Government; and to develop

---

[20]*The United States Government Manual, 1986/87,* p. 84.

[21]"Report to the Congress: Activities of the Office of Federal Procurement Policy, October 1980 – December 1982," in *Reauthorization of the Office of Federal Procurement Policy, Hearing Before Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, U.S. Senate,* 98th Congress, First Session, April 27, 1983, U.S. Government Printing Office, Washington, D.C., 1983, p. 147.

simplified procurement policies.[22] The OFPP also is charged with authority for issuing directives on procurement policy, provided that those directives are issued with the concurrence of the Director of OMB. OFPP is responsible for establishing interagency committees to develop new or revised policies. Finally, the government procurement agencies are required by law to issue regulations for the implementation of OFPP policy directives.[23]

A history of OFPP staff size for the years 1975 to 1985, as well as staff estimates for FY1986–1987, is shown in Fig. 12. As in the case of the other government agencies (with the exception of the DoDIG), there appears to have been little change in recent years. By these measures, however crude, OFPP's participation in acquisition would seem to be constant, if not on the wane. Such a view is buttressed in part by Congress' decision in 1979 to curtail OFPP's authority to issue regulations on procurement.

---

[22]Ibid., pp. 147–148. The document contains a more detailed list of OFPP functions than is given here.

[23]Ibid., p. 148.

IV. SUMMARY AND OBSERVATIONS

The preceding two sections documented the results of two distinct yet complementary approaches. The approaches are related to each other at both the lowest and highest levels—objectives and results. However, each takes its own particular perspective in addressing the issues of regulatory activity and effects on weapon system programs.

EFFECTS OF REGULATIONS

One approach was to interview selected acquisition managers at various levels in both the Department of Defense and industry. The survey had as its goal the identification and quantification of effects on weapon system programs stemming from the purported recent increase in regulatory activity. Because of the small sample size, and because individuals are often biased in their views depending on where they are in the process, the results are likely to be biased in one way or another.

One finding of this research was the dominant and persistent theme, expressed by those who work in acquisition, that an increasingly troublesome set of administrative obstacles prevents them from accomplishing their program objectives in a timely and efficient manner. Part of that perception may concern the relationship between the various institutions. If we hypothesize that the direct involvement of the Congress and other government agencies has grown at a rate that equals or perhaps even exceeds that of other participants, this confluence of participants could be perceived as an additional burden by those who manage acquisition. It also is conceivable that if acquisition management has been operating near its maximum work capacity, then even small, incremental increases in regulation could perturb the system more than one would expect from the size of the incremental increases alone. Another possible explanation lies in the fact that some measures of regulatory activity appear to have increased at an unusually high rate in the past few years, possibly exceeding the capacity of acquisition managers to absorb them. Unfortunately, we were unable to test any of these hypotheses with the data at hand.

It is not at all obvious how we can relate the perception that the effect of regulations (broadly defined) on acquisition is burdensome to the argument that in some instances this change in regulatory activity has had an effect on weapon acquisition. It is clear (or at least intuitive) that some incremental costs can be attributed to regulatory

compliance, possibly as much as five to ten percent of the total cost of a program. However, to sustain an interpretation that all, or even most, of these costs are "wasted" money would require demonstrating that no benefits derive from the reporting and oversight activities that account for the bulk of the cost. The Congress and the regulatory agencies would disagree with this assertion. Unfortunately, there is little hard information on which to judge the validity of those conflicting interpretations.

Surprisingly, we found almost no evidence that regulatory activity had affected the performance or "quality" of the final product, either favorably or adversely. There is some evidence that the length of the acquisition cycle has experienced a marginal level of growth, particularly in the post-1960 time period. There are, of course, several factors that could account for such a trend, including the growing technical complexity of weapon systems. A more definitive analysis of this issue seems desirable but remained beyond the scope of the present study.

Finally, there was persuasive evidence that the imposition of the Competition in Contracting Act (CICA) on technology base projects had delayed the start of many such projects. However, during the course of this study the Congress clarified its intent when it specifically exempted both *research* and *exploratory development* projects from CICA, thereby eliminating some of the regulatory problems that impeded technology base projects.

INDICATORS OF REGULATORY ACTIVITY

The second phase of our research was a preliminary investigation into a wide range of acquisition indicators—growth in the staff size of regulatory offices, number of audits conducted, number of new regulations issued, and so forth. Supporting information was collected on several aspects of management and oversight, including the functions, staff sizes, and activities of various organizations. Our motivation to collect this basic data was stimulated by the paucity of data on the institutions that participate in weapons acquisition. As we learn more about these institutional factors we will increase the general understanding of weapons acquisition.

The picture that emerges from this review is mixed. For instance, there has been an increase in the number of Congressional staff who work on procurement issues; the Congress has introduced more restrictions in defense authorization and appropriation bills since 1980 than ever before; and there has been a rise in the number of procurement-related documents published by the GAO. Conversely, there are

numerous instances in which acquisition-related activity has not changed radically over time. For example, the staff size of some government agencies has remained constant. Finally, we must remember that the acquisition budget has increased over the same time period, and that alone might provide a plausible explanation for at least some of the increases in regulatory activity that we do observe.

We found no consistent theme from this limited sample of indicators of regulatory activity. Yet those who work in acquisition nearly unanimously agree that the effort required to comply with regulations, management reviews, audits, etc. is much greater today than in the past. There are several ways one might account for the apparent disparity. For example, if the acquisition management process is relatively saturated, then even small, incremental increases in regulation could perturb the system more than one would expect the incremental increases alone to cause. One also could argue that certain regulations cause most of this activity. We were unable to test any such hypotheses with the data at hand.

The measurement of trends in regulatory activity tells us only that something is changing. By itself, it tells us neither what the consequences of such activity are nor defines how regulation in general affects the defense acquisition process. Those who are mandating the increasing regulatory activity certainly believe that their actions will have a beneficial effect. They perceive that some of the problems in the existing organizations and processes can be corrected by tighter controls. Acquisition managers, on the other hand, often see such controls as hindrances. The truth that may lie somewhere between these extremes is not apparent from the available literature, which is largely qualitative and nonsystematic.

CONCLUSIONS

The absence of quantitative evidence supporting the hypothesis that weapons acquisition is afflicted by excessive regulation does not necessarily refute the hypothesis. We acknowledge the widespread frustration of project-level personnel who believe they could do their job more rapidly and at less cost with fewer controls. We also acknowledge that important methodological problems are involved in a study of this kind. Nevertheless, we hope that future researchers can build on the limited base provided here and contribute additional information to help understand the extent of regulations in weapons acquisition and thereby assess the proper balance between controls and progress.

We recommend two broad guidelines for future study. First, careful distinctions should be made among three kinds of regulations and controls:

1. The burden of reporting, support for audits, and the like. Such controls seem likely to incur certain dollar costs, but not to cause serious delays nor to affect major program decisions. Furthermore, experience has shown that laxity in financial reporting and auditing sometimes leads to outcomes that are embarrassing for all concerned. We suspect that this is the least important class of controls.
2. The imposition of *shall/shall not* constraints. Requirements for full competitive bidding, purchase of warranty coverage, distribution of business to small firms, and so forth make up the bulk of such regulations. In addition to certain dollar costs needed to administer such programs, these requirements begin to erode the program manager's authority and, in at least some cases, his ability to conduct the program in the most efficient and effective way. We believe this class of regulations warrants further analysis.
3. Decision review process ("micromanagement"). A few detailed case studies should be performed to investigate the possible effects of this class of management controls.

Second, we recommend that those regulations, controls, and review procedures which are created and implemented by the military services themselves should be investigated in depth.

Appendix A

INDICATORS OF REGULATORY ACTIVITY

This appendix provides tabular data supporting the graphical displays presented in Sec. III of the report, together with additional information on regulatory activity indicators, methods of analysis, and source references.

BUDGET

Table A.1 shows DoD total obligation authority, in both current year and constant year (1987) dollars.

Table A.1

DOD OBLIGATION AUTHORITY
(Billions of dollars)

Fiscal Year	Current Year $	1987 Dollars	Fiscal Year	Current Year $	1987 Dollars
1960	40	187	1974	82	190
1961	45	204	1975	86	183
1962	48	219	1976	96	190
1963	49	220	1977	108	198
1964	50	212	1978	116	197
1965	50	205	1979	125	195
1966	65	249	1980	142	199
1967	72	266	1981	176	222
1968	75	267	1982	211	249
1969	78	264	1983	239	271
1970	76	269	1984	258	285
1971	73	216	1985[a]	280	299
1972	77	209	1986[a]	296	307
1973	79	199			

SOURCE: *United States Air Force Summary*, Report HAF-ACC(A)7203, 1986.
[a]Estimate.

THE CONGRESS

Committee Staff

Table A.2 shows the staffs associated with three key committees.[1] It should be noted that the growth of the Armed Services and Appropriations Committees is roughly equivalent to that of other committees in the Congress over the same time period.

The committees shown in Table A.2 have responsibilities other than DoD oversight. For instance, the Defense Subcommittee of the House Appropriations Committee has only four staff members assigned specifically to procurement, and the Defense Subcommittee of the Senate Appropriations Committee has only one such staff member.[2] We therefore attempted to determine what fraction of the staffs represented in Table A.2 could properly be associated with defense acquisition. Many different sets of numbers for such staffs can be found in the literature, and they often conflict—generally as to who is to be included in the count. The following tables attempt to partially resolve that conflict

Table A.2

ARMED SERVICES, APPROPRIATIONS, AND BUDGET COMMITTEES STAFF

Committee	1947	1960	1970	1975	1979	1981	1983
Armed Services							
House	10	15	37	38	48	49	56
Senate	10	23	19	30	31	36	41
Appropriations							
House	29	59	71	98	129	127	160
Senate	23	31	42	72	80	79	82
Budget							
House	—	—	—	67	86	93	97
Senate	—	—	—	90	91	82	79

SOURCE: N. J. Ornstein et al., *Vital Statistics on Congress, 1984-1985 Edition*, American Enterprise Institute for Public Policy Research, 1984, pp. 125, 126.

[1]Here, total staff includes all categories of personnel: professional, assistant, counsel, administration, clerical, and secretarial. For the Appropriations Committees, associate staff (committee members' personal staff assigned to work on committee matters) has also been included.

[2]*Federal Executive Directory*, September/October, 1986.

by applying a simple set of counting protocols to one source of information.[3]

The counting protocols used to construct Tables A.3, A.4, and A.5 are as follows:

- "Total Professional Staff" includes only professional staff members listed in the main office and subcommittee listings. Administrative personnel, clerks, secretaries, research assistants, and others were excluded. Since the Armed Services Committees (ASC) list only "staff assistants," these were used as a proxy. In the Budget Committees, only designated "analysts" or others who obviously are researchers were counted.
- "Defense Related" includes only professional staffers with defense oversight responsibilities who are listed in the subcommittees. The listing of personnel in the main office was excluded.
- "Procurement Related" includes staffers listed in Defense or Procurement subcommittees in the Appropriations and Armed Services Committees, respectively. In the Budget Committees, only defense analysts were counted.

By counting in this manner a consistent set of rules was applied across committees and across time, thus enabling better comparisons. But even with these counting protocols, a considerable amount of discretion is involved, which means that the actual numbers must be viewed with caution. In general, the most valid or objective data probably are for total professional staff. Confidence in the precision of the values decreases with each successive column to the right of total staff because of the increasing number of interpretations that had to be applied to the source material.

Table A.3 shows staffs of the Appropriations Committees for both houses, while Tables A.4 and A.5 show similar information for the other two committees. Subcommittee staffs for the House ASC were not listed, so it was impossible to determine the fraction of total staff related to defense and procurement matters, but the number of such staff in the Senate ASC is relatively small and essentially unchanged over the time period shown.[4]

---

[3]*Congressional Staff Directory*, 1972–1986.

[4]The staff listed in all Senate Armed Services Subcommittees was counted to generate the "Defense Related" data. Only specific procurement subcommittees were counted for the category "Procurement Related" staff.

Table A.3

HOUSE AND SENATE APPROPRIATIONS COMMITTEES: MEMBERSHIP AND STAFF

	Number of Members		Total Professional Staff		Defense Related		Procurement Related	
Year	House	Senate	House	Senate	House	Senate	House	Senate
1972	55	24	26	19	9	—	4	—
1973	55	26	31	20	9	—	4	—
1974	55	26	38	30	10	—	5	—
1975	55	26	35	33	29	—	6	—
1976	55	26	44	45	10	—	7	—
1977	55	25	43	42	11	3	8	1
1978	37	25	46	40	12	3	8	1
1979	54	28	36	49	16	4	8	1
1980	54	28	46	33	19	11	10	6
1981	55	29	47	40	19	12	11	5
1982	55	29	51	38	19	12	11	5
1983	57	29	49	48	20	13	11	6
1984	57	29	52	40	21	13	12	6
1985	57	29	50	49	20	15	11	7
1986	57	29	53	47	22	15	14	7

SOURCE: *Congressional Staff Directory.*

Number of Congressional Committees

The generally upward trend in the size of committee staffs can be contrasted with the trend in the number of standing committees (including subcommittees), which has increased by roughly 50 percent between 1955 and 1975, as shown in Table A.6.

Measures of Congressional Activity

In principle, the authorization process occurs before appropriation.[5] The annual Defense Authorization Act continues to support the Department of Defense and provides authority for the obligation or

[5]However, for FY1987, the Defense Authorization Act was passed after the Continuing Resolution making appropriations for FY1987. This may have some interesting consequences, if the two acts differ. As a matter of law, the latest act is "controlling" (in the case of a conflict between the Appropriation and Authorization Acts, the latest prevails), although only money appropriated can actually be spent.

Table A.4

HOUSE AND SENATE ARMED SERVICES COMMITTEES: MEMBERSHIP AND STAFF

	Number of Members		Total Professional Staff		Defense Related		Procurement Related	
Year	House	Senate	House	Senate	House	Senate	House	Senate
1972	41	16	4	10	—	9	—	3
1973	43	15	5	10	—	6	—	3
1974	44	15	4	10	—	4	—	2
1975	40	16	8	11	—	6	—	—
1976	40	16	11	12	—	7	—	—
1977	40	18	13	10	—	6	—	2
1978	40	18	14	12	—	6	—	2
1979	45	17	15	13	—	9	—	3
1980	45	17	14	13	—	9	—	3
1981	45	17	17	15	—	10	—	—
1982	45	17	18	14	—	7	—	—
1983	45	18	19	13	—	9	—	—
1984	45	18	18	17	—	11	—	—
1985	47	19	29	19	—	10	—	1
1986	47	19	31	20	—	10	—	2

SOURCE: *Congressional Staff Directory.*

Table A.5

HOUSE AND SENATE BUDGET COMMITTEES: MEMBERSHIP AND STAFF

	Number of Members		Total Professional Staff		Defense Related		Procurement Related	
Year	House	Senate	House	Senate	House	Senate	House	Senate
1975	23	16	19	23	4	—	2	—
1976	23	14	30	41	6	—	2	—
1977	25	16	26	37	6	—	2	—
1978	25	16	26	41	—	—	—	—
1979	25	20	27	41	2	—	—	—
1980	25	20	25	37	5	—	—	—
1981	30	22	25	36	4	—	—	—
1982	30	22	25	32	4	2	3	2
1983	30	22	23	32	4	2	3	2
1984	30	22	23	33	4	2	3	2
1985	33	22	23	32	4	2	—	2
1986	33	22	25	27	4	2	—	2

SOURCE: *Congressional Staff Directory.*

expenditure of funds for groups of programs or specific programs within a designated time.

In this country there is a long-standing tradition of keeping the military authorization and appropriation acts separate:

> The original legislators clearly saw the need for separating the authorizing (then called "legislating") function from the appropriating function. In 1789, Congress first established the new Department of War, specifying its offices and responsibilities. Subsequently it passed an appropriation for the Department. This separation of substantive legislation from appropriations existed informally through the early years of the Republic. However, in 1837 the House of Representatives, responding to the growing disregard for the informal rules separating authorizations from appropriations, explicitly adopted a rule carried on to this day (currently as Rule XXI, Clause 2) prohibiting consideration of appropriations bills unless preceded by legislation authorizing the expenditure. The Senate followed suit in 1850, adopting the antecedent of current Rule XVI. Both the House and Senate reinforced this procedural separation by referring the two types of legislation to different committees.[6]

[6]Staff Report to the Committee on Armed Services, United States Senate, *Defense Organization: The Need for Change*, S. Report 99-86, October 16, 1985, p. 574.

However, in 1959 the ways in which the legislature formalized the authorization procedure began to change:

> Prior to 1959, the Armed Services Committees authorized an activity or program on a permanent basis, and let the Appropriations Committees fund it annually. This changed in 1959 with the adoption of the requirement for annual authorizations for procurement of aircraft, missiles, and naval vessels.

The requirement for prior authorization continued apace until virtually all items in the defense budget were included, as illustrated in Table A.7.

The lines between authorization and appropriation have become increasingly blurred. In the original framework, the former was concerned with policy, whereas the latter was concerned with expenditure. But there has been a crossing of the two purposes, as policy legislation has crept into the Appropriation Acts, and expenditure limitations and earmarking appear frequently in the Authorization Acts.

The combined number of hearings and the combined number of pages of testimony published from these hearings is shown in Table A.8.

Another way to measure Congressional activity is the length of the reports that come out of the various committees, as shown in Table A.9.

Information Requests. The information available on Congressional oversight of DoD activities varies in both detail and validity. Although there are considerable number of qualitative complaints, often from OSD or Service officials, about the perceived burden placed on DoD due to "micromanagement," we found few valid quantitative data. Some relevant information is shown in Table A.10. These data, which concern all DoD activities, not just acquisition, provide an interesting overview of the pattern of information requests during the last 20 years.

Table A.6

NUMBER OF CONGRESSIONAL COMMITTEES

	1955–56	1967–68	1971–72	1975–76	1979–80	1981–82	1983–84
House	130	185	175	204	193	174	172
Senate	133	155	181	205	130	136	137

SOURCE: N. J. Ornstein et al., *Vital Statistics on Congress, 1984–1985 Edition*, American Enterprise Institute for Public Policy Research, 1984, p. 108.

Table A.7

CHRONOLOGY OF REQUIREMENTS FOR DOD ANNUAL AUTHORIZATION

Year	Public Law	Requirement for Authorization of Appropriations for:
1962	87-436	Research, Test and Evaluation associated with aircraft, missiles, and naval vessels
1963	88-174	Procurement of tracked vehicles
1967	90-168	Personnel strengths of each of the Selected Reserves
1969	91-121	Procurement of other weapons
1970	91-441	Procurement of torpedoes, related support equipment, and active duty personnel strengths of each component of the armed forces
1973	92-436	Average military training student loads of each component of the armed forces
1973	93-155	Civilian end strengths
1975	94-106	Military construction of ammunition facilities
1977	95-91	National defense programs of Department of Energy
1980	96-342	Operations and Maintenance of the Department of Defense and all its components
1982	97-86	Procurement of ammunition and so-called "other" procurement
1983	98-94	Working capital funds

Table A.8

ARMED SERVICES COMMITTEES ACTIVITY

Activity	1963	1986
Number of hearings	27	80
Pages of testimony	1400	11246

SOURCE: D. C. Morrison, "Chaos on Capitol Hill," *National Journal*, September 27, 1986, p. 2302.

NOTE: Figures include both the House and Senate Armed Services Committees.

Table A.9

SIZE OF COMMITTEE REPORTS
(Number of pages)

	Appropriations		Armed Services	
Fiscal Year	House	Senate	House	Senate
1960	83	31	—	—
1961	74	47	—	—
1962	—	—	—	—
1963	—	—	—	—
1964	70	69	—	—
1965	51	52	63	17
1966	—	—	—	—
1967	—	—	—	—
1968	67	71	—	—
1969	68	56	91	31
1970	102	141	176	70
1971	119	221	95	121
1972	139	210	107	140
1973	256	204	115	177
1974	239	173	150	205
1975	171	207	132	190
1976	358	302	185	191
1977	226	277	169	204
1978	387	295	160	163
1979	446	217	163	158
1980	493	219	186	166
1981	398	227	171	242
1982	315	137	228	197
1983	259	157	233	222
1984	298	205	332	526

SOURCE: Robert J. Art, "Congress and the Defense Budget: New Procedures and Old Realities," in Barry M. Blechman and William S. Lind (eds.), *Toward a More Effective Defense*, Report of the Defense Reorganization Project, 1985, pp. 136–137.

Table A.10

CONGRESSIONAL INFORMATION REQUESTS FROM DOD

Year	Number of Hearings	Number of Witnesses	Hours of Testimony	Written Inquiries	Telephone Inquiries
1964	260	630	650	—	—
1965	341	632	—	—	—
1966	369	753	—	140000	375000
1967	411	805	3800	155649	360771
1968	330	688	3660	174238	471996
1969	840	3361	2671	178000	759000
1970	448	2567	1274	206000	752000
1971	394	1045	—	179218	583310
1972	370	960	2376	—	—
1973	432	927	—	130000	774000
1974	402	870	2582	152000	855000
1975	389	1165	3538	175000	900000
1976	404	1721	1425	126762	112539
1977	—	1789	1427	112136	229089
1978	465	1429	1590	91815	532818
1979	556	2268	1459	90872	406100
1980	466	1491	1296	85916	—
1981	497	1372	1378	87096	586200
1982	425	1266	1453	84148	592150
1983	461	1288	1415	110844	595300
1984	441	1297	1434	123130	599000
1985	412	—	—	—	—

SOURCE: *Legislative Oversight: Congressional Requests for Information on Defense Activities*, GAO/NSIAD-86-65BR, February 1986, pp. 9-10.

DEPARTMENT OF DEFENSE AGENCIES

DoD Instructions and Directives

Table A.11 shows the changes in DoD directives and instructions from June 1978 through June 1986. Although the directives and instructions can directly or indirectly affect a contractor, we addressed the only question of how the number of directives and instructions changes over time. We compared several cumulative quarterly indices.

After first reviewing one index and coding each directive or instruction as to whether it affected defense acquisition, we screened other cumulative indices to locate and code additional directives and instructions. Finally, the directives and instructions were summed according to category. Seven quarterly indices were reviewed, and detailed results were prepared for four of these since they adequately illustrate the trends.

Table A.11 shows that the largest absolute number of directives and instructions are in the categories of Planning and Readiness, Logistics and Resource Management, and Health and Medical. The largest changes are also found in these categories.

Two important caveats accompany these data. In the selection of those instructions and directives that affect the acquisition process, the broadest criteria were used, and were subjective. On the one hand, the number counted is likely to be a maximum. On the other hand, the list certainly includes instructions and directives with only a minor or peripheral effect. Second, the numbers do not tell the whole story. If a directive having a minor effect is dropped, and another directive having a major effect is adopted, the number of directives will be unchanged but the consequences on the acquisition process will be different. There was no way to include this effect in this analysis.

Table A.11

NUMBER OF DOD DIRECTIVES AND INSTRUCTIONS

	Total Number				Acquisition Related			
Category	6/78	12/78	9/85	6/86	6/78	12/78	9/85	6/86
1000-1999 (Manpower, Personnel and Reserve)	235	250	241	242	5	5	2	2
2000-2999 (International Programs)	32	32	34	34	5	5	9	9
3000-3999 (Planning and Readiness)	39	40	57	58	6	6	6	6
4000-4999 (Logistics and Resource Management)	187	182	205	204	74	68	75	73
5000-5999 (General Administration)	383	383	371	377	69	66	72	73
6000-6999 (Health and Medical)	40	41	69	68	0	0	0	0
7000-7999 (Comptrollership)	127	129	124	123	36	35	49	48
Subtotal	1043	1056	1101	1106	195	185	213	211

SOURCE: *DoD Directives System Quarterly Index*, various dates.

Defense Contract Audit Agency

DCAA budget and staff, together with additional indicators of DCAA activity, are shown in Table A.12.

Department of Defense Inspector General

Table A.13 summarizes the DoDIG appropriations for 1985–1987 and staff for 1983–1986. Since the DoDIG was established in 1983, both the appropriations and staff have grown steadily. The most noticeable feature is the growth in the personnel ceiling in 1986. Although the IG still is adding personnel, the ceiling represents an almost one-half increase in the number of personnel. By comparison, growth in the appropriation for the IG seems considerably smaller, averaging under 15 percent per year since 1985.

Table A.12

DCAA APPROPRIATIONS AND STAFF

Fiscal Year	Staff Size	Budget (1972 $M)	Number of Proposal Evaluations	Value (1972 $M)	
				Evaluations	Audits
1966	3798	29.0	20,000	52,994	27,083
1967	4063	58.0	21,734	65,500	28,033
1968	4136	59.5	21,590	61,000	28,958
1969	3971	60.5	21,880	71,911	30,394
1970	3925	66.4	20,456	91,249	27,209
1971	3807	64.5	19,370	48,019	23,830
1972	3568	64.6	21,021	50,822	21,910
1973	3663	63.4	20,098	50,273	19,934
1974	3630	61.2	19,455	47,197	18,886
1975	3431	60.1	22,973	57,953	19,622
1976	3441	60.2	22,957	55,105	19,427
1977	3354	61.9	24,875	68,849	20,042
1978	3470	62.8	26,876	59,320	20,523
1979	3542	62.0	28,985	59,798	20,534
1980	3575	61.4	31,380	62,823	20,171
1981	3520	62.1	34,359	104,589	19,956
1982	3520	63.4	30,672	84,501	21,056
1983	3748	65.6	28,313	109,109	21,417
1984	4147	70.6	28,266	121,989	21,019
1985	4632	78.3	31,100	110,117	23,629

SOURCE: *The Defense Contract Audit Agency: A Report on Activities,* March 1986.

Table A.13

DODIG APPROPRIATIONS AND STAFF

	1983	1984	1985	1986	1987[a]
Appropriation[b]			59.2	67.9	77.3
Staff	968	1023	1100	1505[c]	—

SOURCE: Budget of the United States, FY1987; Personnel Office at DoDIG.

[a]Estimated, for appropriations only.

[b]In millions of dollars.

[c]The current ceiling of 1505 personnel is still being filled. In addition, there are 38 military personnel in the DoDIG.

GOVERNMENT AGENCIES

General Accounting Office

Table A.14 provides a summary of the appropriations and staff size of the GAO from FY1975 to FY1985, and estimates for FY1986 and FY1987.

One measure of the activities of the GAO is the number of procurement-related documents published each year. The compilation in Table A.15 includes formal reports, decisions, letters, testimony, and "other" miscellaneous documents (such as studies, speeches, and so forth). The data are organized into one category for the Department of Defense that is exclusive of the three military services, and into three separate categories for the Services. The six-year period from 1979 to 1985 (with the exception of 1982) is shown.

There are several noteworthy patterns that emerge. The first is that the increase in the number of GAO "documents" during this six-year period is substantial—considering that we are looking only at procurement-related documents. Overall, the GAO during this period issued annually more than five times (from 146 to 816) more documents in 1985 than it did in 1979. There was a two-fold jump from 1981 to 1983 alone. The second interesting observation concerns the distribution of reports among the Services. Of the more than 2600 Service-related documents (excluding the 400+ DoD documents) published during this period, roughly 44 percent concerned Army programs. Documents that were related to Navy and Air Force procurement activities accounted for 31 percent and 25 percent, respectively. It is difficult to extrapolate beyond the magnitude of the numbers

Table A.14

GAO APPROPRIATIONS AND STAFF
(Appropriations in $M)

	75	76	77	78	79	80	81	82	83	84	85	86	87[a]
Appropriation	125	135	157	175	185	204	220	236	252	271	299	301	349
Procurement, Logistics, Readiness							7.5	7.6	8.1				
Mission Analysis, Systems Acquisition							5.3	5.4	5.9				
National Security/ International Affairs										22.4	23.4	24.5	26.9
Staff[b]	5451	5126	5332	5257	5225	5352	5262	5123	5051	5095	5055	5150	5250

SOURCE: Budget of the United States, various editions.
[a]Estimated.
[b]Permanent staff positions for the entire GAO.

Table A.15

GAO PROCUREMENT-RELATED DOCUMENTS

Category	1979	1980	1981	1983	1984	1985
DoD						
Decisions	8	17	17	75	91	85
Reports	14	22	21	29	19	17
Letters	3	2	1	7	1	3
Testimony	2	1	4	9	5	4
Other	3	1		8	3	
Total	30	43	44	128	119	109
Air Force						
Decisions	21	41	83	130	133	168
Reports	12	9	9	21	11	7
Letters			1	2	3	5
Testimony	1			1		3
Total	34	50	93	154	147	183
Army						
Decisions	27	88	127	274	276	262
Reports	6	9	12	20	13	12
Letters	1	3	4	5	5	16
Testimony			1	3	2	
Other					1	
Total	34	100	144	302	297	290
Navy						
Decisions	35	54	87	175	184	222
Reports	9	7	18	19	11	6
Letters	1	1	3		2	4
Testimony	3					2
Total	48	62	108	194	197	234
Grand Total	146	255	389	778	760	816

SOURCE: Indexes to GAO documents.

NOTES: Definitions of the document categories are as follows:

Decisions: "Rulings from the Comptroller General on a variety of government matters including personnel and procurement issues."

Reports: "Audit of government agencies and other organizations—their programs and activities."

Letters: "Correspondence addressed to Congressional committees or members, federal agencies, or other recipients."

Testimony: "Presentations to Congressional committees or state and other governmental bodies."

Other: "Miscellaneous documents" such as studies, speeches, symposia, and guidelines.

about the nature of the procurement processes within the Services. One factor, however, that accounts in part for such a large number of documents on Army procurement programs is that this period coincides with the period of troubled Army acquisition projects.

Congressional Budget Office

Table A.16 summarizes annual appropriations and staff size for the CBO for the fiscal years 1976 to 1985, and estimates for FY1986–1987.

Office of Management and Budget

Table A.17 summarizes the appropriations and staff of the OMB from FY1975 to 1985, and estimates for FY1986 and 1987.

Table A.16

CBO APPROPRIATIONS AND STAFF
(Appropriations in $M)

	Fiscal Year											
	76	77	78	79	80	81	82	83	84	85	86[a]	87[a]
Appropriation	4.8	9.6	10.4	11.4	12.4	12.5	13.2	15.1	16.7	17.5	16.9	18.5
Staff[b]	193	208	208	218	218	218	218	211	210	211	222	224

SOURCE: Budget of the United States, various editions.
[a]Estimated.
[b]Permanent staff positions.

Table A.17

OMB APPROPRIATIONS AND STAFF
(Appropriations in $M)

	Fiscal Year												
	75	76	77	78	79	80	81	82	83	84	85	86[a]	87[a]
Appropriation	21.2	24.2	27.5	27.5	29.0	33.4	33.5	33.5	35.0	37.3	38.8	37.3	39.7
Staff[b]	661	679	682	556	551	571	580	604	604	604	594	594	580

SOURCE: Budget of the United States, various editions.
[a]Estimated.
[b]Permanent staff positions for the entire OMB.

Office of Federal Procurement Policy

Table A.18 summarizes the OFPP budget and staff for the years 1975 to 1985, as well as budgetary and staff estimates for FY1986–1987.

Table A.18

OFPP BUDGET AND STAFF

	Fiscal Year												
	75	76	77	78	79	80	81	82	83	84	85	86[a]	87[a]
Appropriation[b]	0.2	0.9	1.5	1.6	2.6	2.9	2.6	2.4	2.5	2.7	1.6	1.6	1.6
Staff[c]	4	20	27	28	45	45	42	41	41	41	25	25	25

SOURCE: "Report to the Congress: Activities of the Office of Federal Procurement Policy, October 1980 - December 1982," in *Reauthorization of the Office of Federal Procurement Policy, Hearing Before Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, U.S. Senate,* 98th Congress, First Session, April 27, 1983, U.S. Government Printing Office, Washington, D.C., 1983.

[a]Estimated.

[b]The figures are rounded to the nearest decimal. For reference, the figures for 1985–1987 are 1.63 million, 1.611 million, and 1.66 million dollars, respectively.

[c]Full time, permanent.

Appendix B

GOVERNMENT AGENCIES RELATING TO DEFENSE CONTRACTING[1]

A defense contract for goods, equipment, or services is subject to several governmental systems that are designed to ensure the successful completion of the contract. An understanding of these organizations, the functions they perform, and how they interact, is essential to an understanding of the regulatory process. This appendix summarizes some key elements of acquisition policy, with emphasis on the origins of defense contracting policy and the actors who develop and update policy. We then discuss contract management, project management, and governmental oversight.

POLICY

The Congress has passed legislation granting authority to the executive agencies to promulgate regulations controlling acquisition policy. In the past, there were specific regulations for defense. First, there were the Armed Services Procurement Regulations (ASPR), which were followed by Defense Acquisition Regulations (DAR). Most recently, Federal Acquisition Regulations (FAR) were created to supersede earlier regulations. The important difference is that the FAR apply to all federal government procurement, which means that they are the basic policy instrument governing defense contracting.

The FAR are administered by the Executive Office of the President, through the Office of Management and Budget (OMB). Each governmental department, in turn, has a designated office concerned with the administration of the FAR; in the case of the Defense Department it is the Assistant Secretary of Defense for Acquisition and Logistics (ASD(A&L)).

Because the FAR deal with government acquisition by all of the executive departments, they are a general set of regulations that must be tailored to the specific needs of the user. As a result, supplements

[1]This appendix does not incorporate recent changes stemming from recommendations made by the Packard Commission. Those changes, when fully implemented, will affect the structure and interactions of many government agencies relating to defense contracting.

to the FAR are issued for each defense agency, Service, and Service command. There is a FAR council that is chaired by OMB, which has members designated to represent the users. The presumption is that this council produces the supplements that are necessary for specific users, while keeping the supplements in conformance with the FAR itself.

ASD(A&L) develops DoD supplements to the FAR. Each Service then develops regulations oriented specifically to its own needs, based on the FAR. Throughout each layer of the bureaucracy the regulations move closer to practical implementation. Ultimately, the commands within each Service develop rules for implementing the regulations.

ASD(A&L) delegates FAR administration to each of the Services and to each defense agency. In the Services, administration is at the Assistant Secretary level, which (for example) in the Air Force involves the Assistant Secretaries for Acquisition and for Logistics. In the defense agencies, administration is at the Assistant Director level.

The policy relevant offices are shown in Fig. B.1.

CONTRACT MANAGEMENT

The acquisition of goods and services by the government, and the signing and management of governmental contracts, are activities reserved for a special category of government employees known as contracting officers. Contracting officers have the power to commit the government to purchase virtually any kind of product, within the funding appropriations provided by the Congress. This power is reserved to them alone, a fact which will become important later in understanding program management and oversight.

There are generally two types of contracting officers: the Procurement Contracting Officer (PCO) and the Administrative Contracting Officer (ACO). The PCO usually works in the organization which wants the goods or services. In the Air Force, for example, the PCOs for major weapon systems acquisition are located in the technical divisions of the Air Force Systems Command (AFSC), such as the Aeronautical Systems Division (ASD), the Electronic Systems Division (ESD), or the Space Systems Division (SSD). The PCOs for major purchases of spare parts for weapon systems and for other logistical supplies are located in the Acquisition Logistics Center (AFALC) of the Air Force Logistics Command. In the Defense Logistics Agency (DLA), the PCOs are located in major supply centers, such as the Defense Fuel Supply Center (DFSC) or the Defense General Supply Center (DGSC). They are found in many other places as well. For

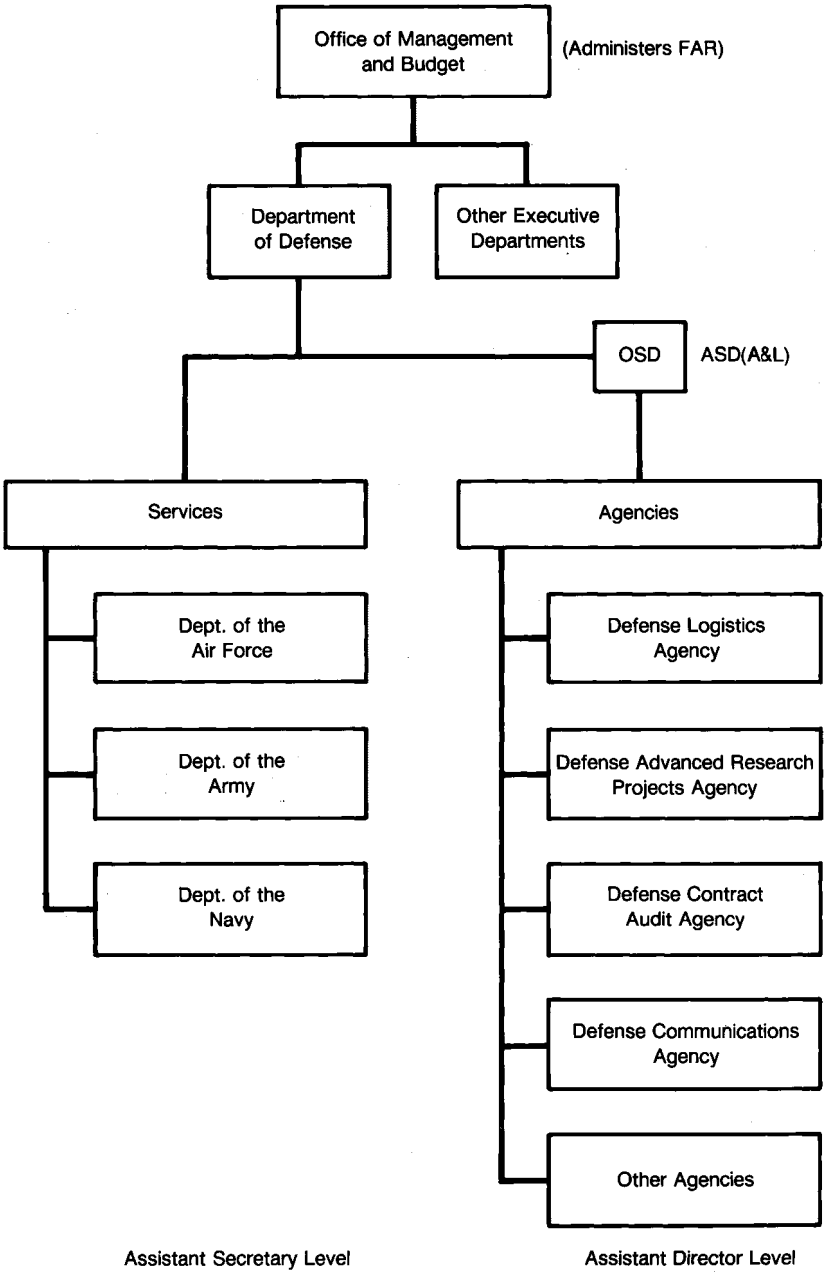


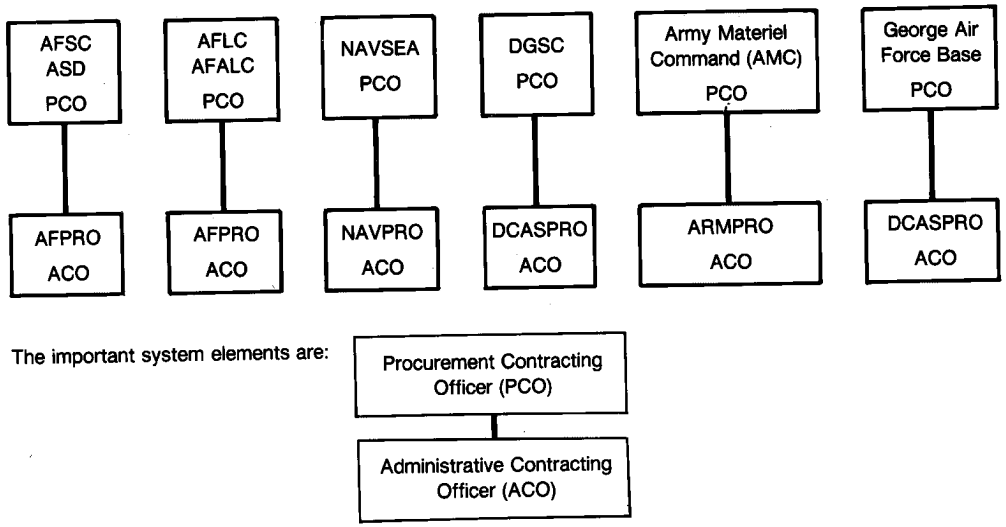
Fig. B.1—Location of policy actors for federal acquisition

example, every military base must be able to contract for and purchase items locally, and consequently PCOs can be found at every base, no matter how small, or for what purpose it exists.

Once a PCO has signed a contract, the execution of the contract is delegated to the ACO, who monitors the contractor performance, inspects and accepts the finished product or service, and approves payment to the contractor. The PCO and the ACO become the team for contract management and administration, in which no other organizations participate. The relationship is shown in Fig. B.2.

The ACO usually is physically distant from the PCO, and in many instances may not know, or have ever been in prior contact with the PCO. Once the ACO receives the contract, he has the responsibility to administer it according to its terms and conditions in the best interests of the government. For instance, the PCOs for Air Force major weapon systems are in the responsible technical division of AFSC. Typically, the ACOs would be located near, or at, the location where work under the contract is being performed, such as at Boeing in Seattle, or General Dynamics in Fort Worth, or Northrop in Los Angeles. When the ACO is located at a contractor's facility, the office in which he is located is called a Plant Representative Office (PRO). It has become traditional to preface the PRO acronym with the affiliation of the ACO. Thus, there are AFPROs for the Air Force and NAVPROs for the Navy, Contracting Officer's Representatives (CORs) for the Army, and for the Defense Logistics Agency major supply center contracts, there are DCASPROS, where DCAS is the Defense Contract Administration Service, which is the parent organization for all DLA ACOs. Just as all AFPROs are part of the Contract Management Division (CMD) of the Air Force Systems Command, NAVPROs are part of NAVSEA and NAVAIR, and CORs are part of the Army Materiel Command.

The responsibilities of the PCO and ACO are more important rather than their affiliation. It is the PCO who signs the contract, whereas it is the ACO who sees that it is carried out satisfactorily and according to the terms and conditions of the contract. The PCO always is part of the Service or agency that is making the purchase or contract. Thus, it would always be a Navy PCO who contracted for submarines, or an Air Force PCO who contracted for bombers. Prior to the 1960s, the ACO always was affiliated with the same Service or agency as the PCO, with a confusing and inefficient result when a defense contractor had contracts with several Services or agencies, because there would be several PROs and ACOs on the premises. This situation was rectified by the issuance of DoD Instruction 4105.59, which allows only one PRO at a contractor's facility, and consequently only one ACO. Now



NOTE: Examples of PCO-ACO combinations. In addition, any ACO may administer a contract for any PCO.

Fig. B.2—Examples of contract management

when a defense contractor has contracts with several Services or agencies, they are all administered by the same ACO. This ACO, in turn, may be working for several PCOs, each of whom may be in different Services or agencies, or in different branches of the same Service or agency. Again, the important feature of the system is the PCO-ACO relationship, and specifically what each is responsible for doing.

With this type of arrangement, one might wonder about the organizational affiliation of the ACO. DoD Instruction 4105.59 takes care of this neatly. Basically, the PRO at any contractor facility is attached to the Service or agency with which the contractor has the largest contract volume. Thus, large airframe manufacturers have AFPROs, submarine makers have NAVPROs, fuel suppliers have DCASPROs, etc. And if a large Air Force contractor should also be under a smaller contract to the Navy, the AFPRO ACO would administer the Navy contract for the Navy PCO. Similarly, if an airframe manufacturer was under one contract to make fighters, and under another to make spare parts for these fighters, the AFPRO ACO would administer both contracts, one for a PCO at CMD, and the other for a PCO at AFALC.

This DoD Instruction also provides that if the balance of a defense contractor's business should shift from one Service to another, the PRO affiliation changes accordingly. Consequently, an AFPRO could change to a NAVPRO, for example. When this happens, personnel are not necessarily moved, but their organizational affiliation is changed.

PROGRAM MANAGEMENT

This system of contract management is basically straightforward when the contract is for simple items, such as fuel, food, towels, bullets, or the like. But the emergence of highly complex weapons and other defense equipment has transcended the requirements for pure contract management, especially when the contract is for development or research. For these specialized types of contracts, the program manager (PM) is an important part of the process. In theory, the program manager has the technical responsibility for developing and producing a successful weapon system (or project) within a specified budget, and according to a predetermined time schedule. On many complex or developmental projects, the PM must work closely with the contractor to resolve technical problems or to make decisions that will result in the production of a satisfactory end-product.

The program manager usually is affiliated with a product division of the Service. This could be, for example, the Army Tank Automotive Command, the Surface Ships Division of the Naval Sea Systems

Command, or the Air Force Electronic Systems Division of the Air Force Systems Command. Typically, the program manager and staff would be located at the Division Headquarters. The office containing the program manager is known as a Program Management Office or System Program Office (SPO). The organization is shown in Fig. B.3.

The program manager is located in the product division, but there may be representatives of his office at the location where the contractor is performing the work. The SPO representatives are on hand to work with the contractor and to handle technical problems as they arise and require resolution. Not surprisingly, this arrangement closely parallels the PCO-ACO situation.

Even though the program manager and his representatives at the contractor location are in physically different locations, they are both part of the same organization and thus are always part of the Service for which the contract is being performed. This condition is in marked contrast to contract management, in which the ACO and PCO may belong to different organizations.

In situations where the contract deals with a complex project and there is a program manager, the government has two managerial systems working in parallel with the contractor. One is *program* management, and the other is *contract* management. Each of these systems has different responsibilities, and with two complementary systems it requires careful coordination to minimize confusion. This coordination usually takes place between the PCO and the PM. The program manager is concerned with the technical aspects of the weapon system being developed or produced, and when technical changes are required, he works with the PCO to bring about the appropriate contract modifications. These, in turn, are sent to the ACO, who in turn ensures that the contractor complies.

The relationship between the PM and the PCO is of great importance to the success of a major contract. As noted above, the PCO can be located almost anywhere in any organization. Because major contracts sometimes have a dedicated PCO who is physically resident in the program manager's organization, it may give the impression that the PCO works for the program manager, which to a limited degree is correct. However, the PCO must comply with regulations that have the force of law, and the program manager cannot require the PCO to act contrary to those regulations. Thus, while the key person in a weapons system contract is the program manager, the program manager must deal with the PCO regardless of the PCO's organizational location.

This system usually works fairly well because both management organizations have much the same objectives. There are, however,

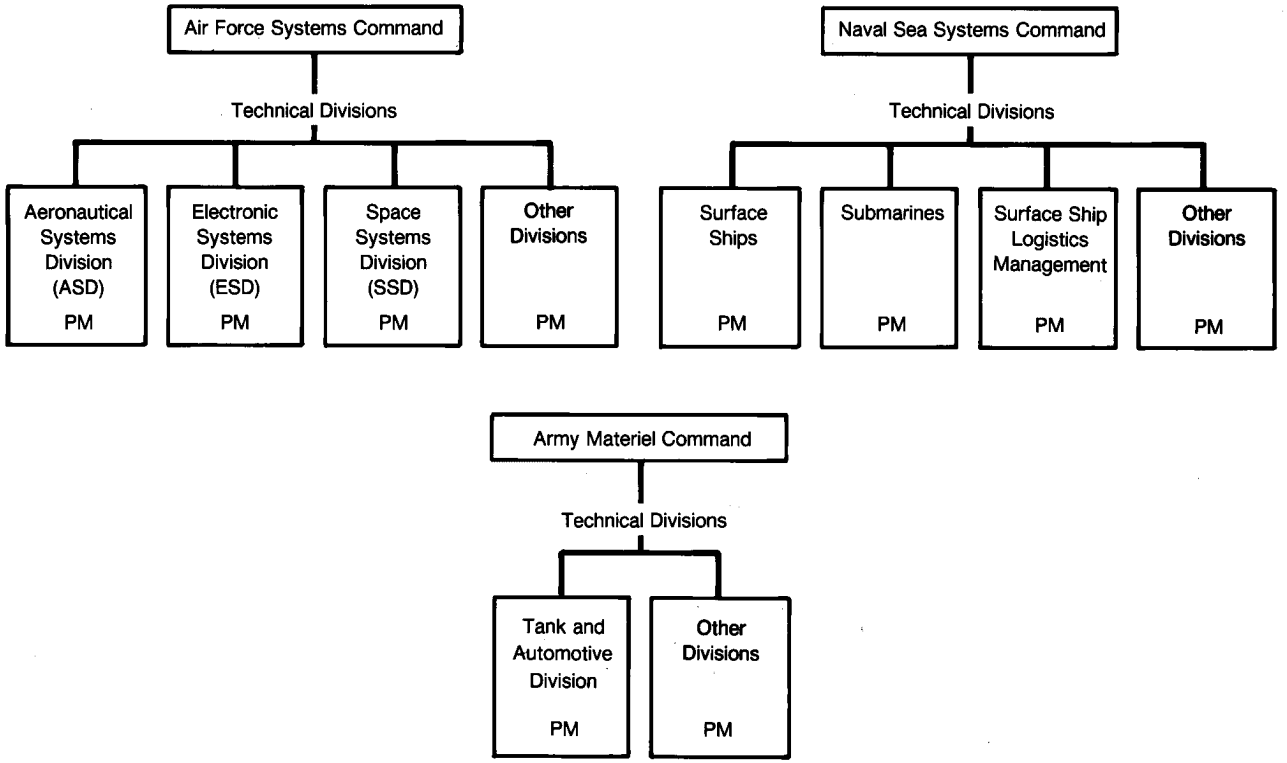


Fig. B.3—Examples of program management

occasional instances in which the system leads to differences that can confuse the contractor. Because of the close working relationship between the program manager's staff and the contractor, there are apparently times when the program manager's staff asks the contractor to take some action which requires a contract change without going "through channels" with the contracting officer. This can confuse the contractor and cause friction between the program manager and the contracting officer. But we have found no evidence that such occasions are frequent or cause serious problems.

OVERSIGHT

In the world of competitive business activity, oversight is exercised regularly. For example, every public corporation has an independent auditor who is elected by the shareholders and who is not under the control of corporate management. This auditor examines the financial dealings and books of the company and certifies to the shareholders (company owners) that everything is in order.

The situation is no different in the United States government, where established practice is to have defense contractors routinely subjected to independent audit. This routine audit is performed by the Defense Contract Audit Agency (DCAA), which has an auditor on the premises of every major defense contractor. DCAA reports directly to the Office of the Secretary of Defense through the Assistant Secretary of Defense—Comptroller (ASD(C)). This direct reporting bypasses the Services or other defense agencies, which means that the DCAA can perform a truly independent audit.

DCAA performs other functions in addition to that of independent audits. Because of DCAA's expertise on matters of cost and accounting, the PCO or ACO on a contract may request that DCAA analyze the cost aspects of a proposed contract or may ask for DCAA's opinion on cost models. This is not a DCAA oversight function, but rather a contracting officer function performed by DCAA in a nonoversight role. DCAA often makes suggestions to the contractor as a result of examining the books, records, and procedures. But since DCAA is not in the contract management loop, there is no direct way to implement these without going through the contract officer. Apparently, in the past some contracting officers took exception to DCAA recommendations, creating a conflict between the contract management and oversight functions. The problem was solved by DoD Directive 7640.2 dated December 29, 1982, which requires that the contracting officer justify deviations from DCAA recommendations. In effect this action

moves DCAA into contract management in addition to its oversight role. The arrangement probably would work more smoothly if DCAA had the same general objectives as the contracting officer, but this is not always the case. As discussed above, the program manager and the contracting officer have the same broad objectives with regard to the completion of the contract, but the DCAA's objectives are more narrowly focused, dealing with financial and cost information and its treatment. Consequently, the intrusion of a DCAA recommendation into the management system may be beneficial to the government as a whole, but it also may create disagreements and delays within specific programs.

There are organizations other than DCAA involved in oversight that can affect how the contractor operates. The most visible of these organizations is the GAO, which at the request of the Congress can conduct investigations and issue reports on virtually any aspect of any contract. GAO personnel who visit a contractor's facility must be provided all of the information and data they request. GAO reports or recommendations must be put into effect through the contracting officer, if they are to be implemented, and consequently any such action probably originates with the Secretary of Defense, to whom Congress would direct the study results.

The OSD Inspector General (IG) may also look into the way that government organizations are functioning. The IG does not become involved with the contractor, although it can suggest changes in the organization or procedures used by the contracting officer, the program manager, or the DCAA auditor.

Two other DoD organizations may also be concerned with oversight. The Defense Criminal Investigative Service (DCIS) can be involved in fraud investigations, either at the request of DCAA or on its own, and the Defense Investigative Service (DIS) is responsible for facility security clearances. Figure B.4 illustrates the oversight system.

It is easy to form the idea that important problems could arise from oversight activities. Anecdotal evidence supports this, together with the observation that while the program manager and the contracting officer occasionally have disputes, they have the same general objectives and thus usually can resolve their differences quickly in the interests of completing the contract. In contrast, the objectives of oversight organizations may be totally different, and consequently can divert project management personnel in other directions.

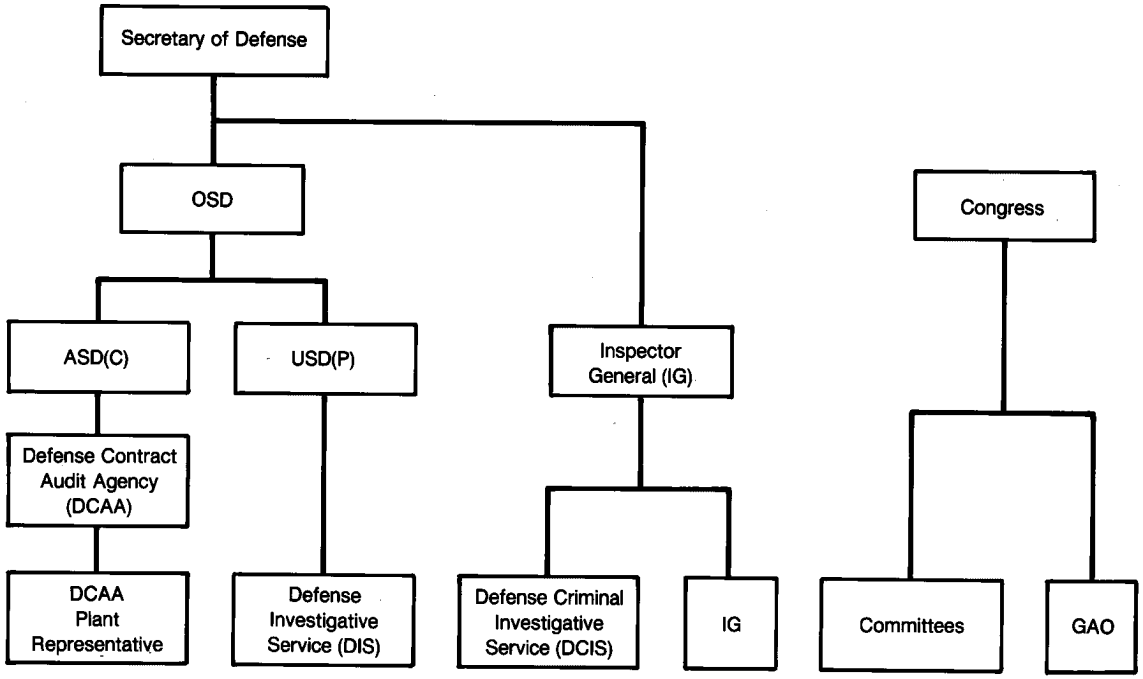


Fig. B.4—Elements of oversight

SUMMARY

The various elements of government contracting are put into context in Fig. B.5. Because of the complexity of the illustration, the PCO-ACO combinations shown are of the simplest type. However, as shown in Fig. B.2, any ACO can administer a contract for any PCO.

Oversight, while shown diagrammatically separate from contract management and program management, can impinge directly on these functions. The DCAA auditor, who resides at the contractor's plant, is likely to be involved on a regular basis with the people in the PRO, as well as with program manager representatives and the contractor himself. The Defense Investigative Service is responsible for security clearances and the monitoring of classified information and documents, and thus is often in close contact with the contractor. And, in those instances when either the DoD Inspector General or the GAO want to look into some matter, their presence must be added to the total of individuals who are concerned with oversight.

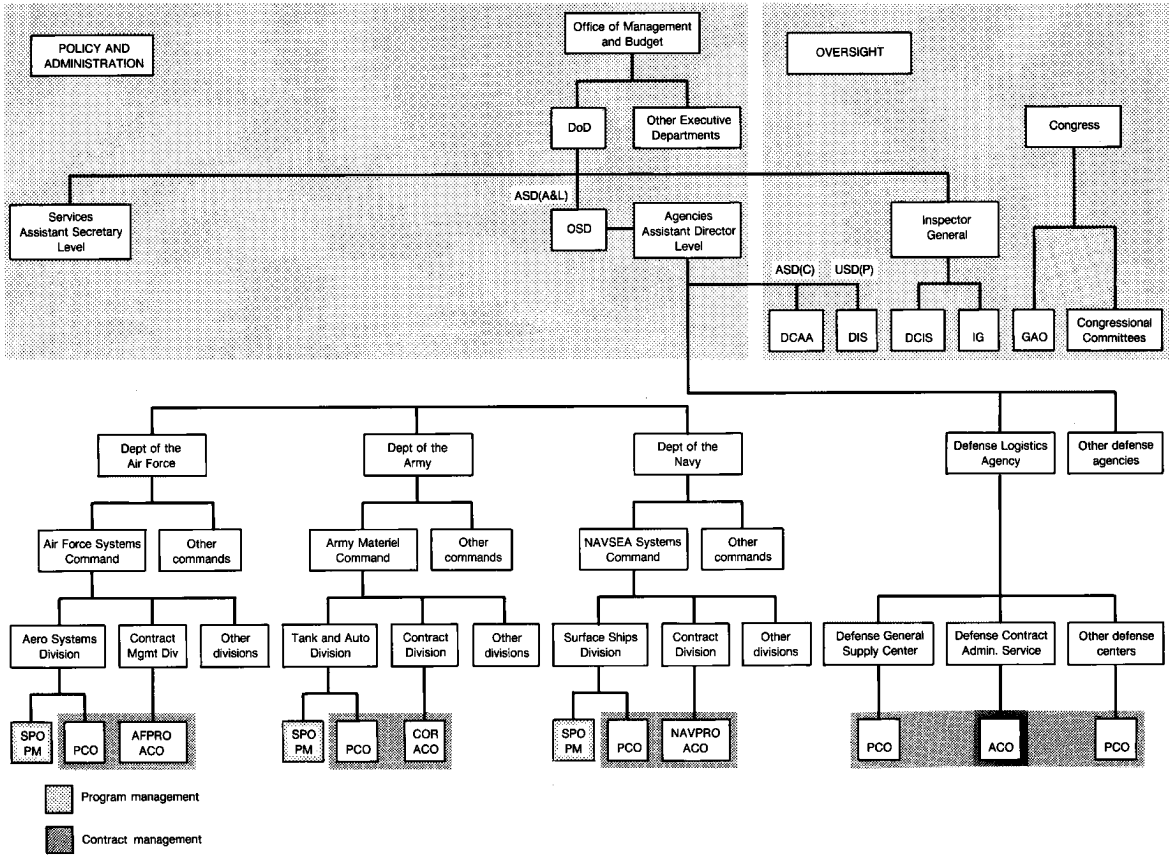


Fig. B.5—Overall view of DoD contracting

Appendix C

RESTRICTIONS AND EARMARKINGS IN AUTHORIZATION ACTS

The Congress sometimes inserts into Authorization Acts certain language dealing with specific weapon systems. These special clauses take two forms:

- *Restrictions* on individual weapon system programs, and
- *Designations* (earmarking) of funding for programs that either were not requested by the Department of Defense or that had been requested at lower funding levels.

RESTRICTIONS

Several types of restrictions are included in the acts, and some have had widely varying effects on the procurement schedule for an individual program. The final taxonomy used here proposes the following categories of restrictions:

- Funding
- Quantity
- Competition
- Planning
- Certification
- Technical
- Other

Most of the restrictions are of the nature of "thou shalt not" prohibitions on spending, rather than mandates to spend. The seven categories are described below and are illustrated by specific examples.[1]

Funding restrictions, which appear in both the Authorization and Appropriation Acts, place a ceiling or limit on the amounts to be obligated or expended for a particular program. The language of a funding restriction typically includes phrases such as "not to exceed" or "no more than." Very rarely, a total prohibition is specified by the phrase

[1]The language in the acts may refer to several categories simultaneously. In the analysis that follows, those instances have been counted twice because each such reference does in fact count as a reference to a specific weapon system.

"no part of the funds." An example of the funding restriction is as follows:

> Provided, that no funds provided in this act shall be available for the procurement of F-111B aircraft, but this proviso shall not apply to advance procurement of equipment the total cost of which shall not exceed $7,800,000.[2]

Congressional staff members frequently suggest that such actions can result from overall budget limits, or that they represent a warning that Congress considers a program flawed in terms of its performance, timeliness, or cost control. Funding restrictions also can be used to preclude (or ensure) spending for programs which the Congress decides are undesirable (or desirable).

Quantity restrictions in both the Authorization and Appropriations Acts include phrases such as "not more than." It is typically used only for major program buys, such as the MX or B-1B, when the Congress intends to require conformity with existing treaty commitments or policies that have an overriding geopolitical objective, such as arms control. A typical example is:

> Not more than 12 MX missiles may be procured with funds appropriated or otherwise made available in an appropriation law for fiscal year 1986 for the procurement of missiles for the Air Force.[3]

The *competition* restriction prohibits multisource procurement. If the noncompetitive requirement of the procurement is not met, the expenditure of funds is prohibited. The language is usually in the form "none of the funds." An example of this category of restriction is:

> None of the funds in this act may be obligated for procurement of 120mm mortars or 120mm mortar ammunition manufactured outside the United States.[4]

Competitive restrictions have been justified on the grounds that the prevention of unfair and predatory competition is necessary to maintain the U.S. industrial base. In other instances, competitive restrictions are in response to purely local economic pressures.

The *planning* restriction generally prohibits multiyear contracting, procurement, or obligation of funds. The language is usually of the

---

[2]Public Law 89–687, Department of Defense Appropriation Act, 1967, October 15, 1966, Title III, Procurement, Procurement of Aircraft and Missiles, Navy.

[3]Public Law 99–145, Department of Defense Authorization Act, 1986, Title I, Procurement, Part D: Air Force Program Limitations; Sec. 141, MX Missile Program, Sec. (a) (1).

[4]Public Law 99–190, Department of Defense Appropriation Act, 1986, Title VII, General Provisions, Section 8095.

form "multiyear contracting is not authorized for" or "the Secretary may not contract for multiyear procurement of." Congressional staffers often indicate that such restrictions reflect the view of the Congress that the particular program is in difficulty, and that it wishes to ensure that the program is evaluated in the next fiscal year. A typical example of this category of restriction is:

> Provided that multiyear contracting authority provided in Public Law 98–212 for the Armored Combat Earthmover is rescinded.[5]

The *certification* restriction includes actions which must be taken by the President or appropriate cabinet secretary before funds can be expended. This may be a requirement to certify that allies have been consulted as to the system's future deployment; a particular weapon system works according to specification; the action is in response to an actual threat; such an action is not in violation of a treaty; or an overall technical or strategic plan has been prepared.

The restriction may be worded so that funds may not be expended until some time after the certification is made, to give time for Congressional review. This is an increasingly popular strategy because it allows Congress to express reservations about specific programs. Congress also may wish to make a designated official take personal (public) responsibility for the potential failure of a program. A typical example is:

> Provided, that none of the funds appropriated by this Act for the new design attack submarine may be obligated or expended until the Secretary of the Navy provides to the Committees on Appropriations and Armed Services of the Senate and House of Representatives that, based on current national intelligence estimates approved by the Director of Central Intelligence, the new design attack submarine shall be capable under operational conditions of engaging the known Soviet submarine threat.[6]

Technical restrictions are quite rare. They can reflect the reservations of a single member of Congress or committee staff. An example of this restriction is:

> None of the funds appropriated pursuant to the authorization of appropriation in subsection (c) for the DDG-51 guided missile destroyer program may be obligated or expended until the Secretary of the Navy certifies to the Committee on Armed Services and on Appropriations of the Senate and the House of Representatives that

[5]Public Law 98–473, Department of Defense Appropriation Act, 1985, Title III, Procurement.

[6]Public Law 98–473, Department of Defense Appropriation Act, 1985, Title IV, Research, Development, Test and Evaluation, Navy.

> the lead ship in that program is capable of being equipped with a Rankine-Cycle Energy Recovery (RACER) system without rearrangement of ship spaces and equipment or other major modifications to the ship.[7]

The category of *other* includes restrictions which do not fit elsewhere. An example is:

> The Secretary of the Air Force may not make a contract for the procurement of aircraft engines unless the amount under the contract for any warranty required by Section 797 of the Department of Defense Appropriation Act, 1983 (as contained in Section 101(c) of Public Law 97–377), Section 794 of the Department of Defense Appropriations Act, 1984 (Public Law 98–212) or Section 2403 of Title 10, United States Code (as added by Section 1234), does not exceed 10 percent of the total contract price.[8]

The number of each kind of restriction imposed by the Congress on the Department of Defense in the Authorization Acts during the period from 1966 to 1986 is shown in Table C.1.[9]

EARMARKING

The earmarking of funds is the reverse of restriction. Whereas a restriction seeks to limit spending, earmarking directs the Department of Defense to obligate or expend funds for specific programs. Such language typically states "of which $$$ shall only be available for" or "not less than $$$ shall be expended for. . . ". A typical example is:

> . . . of which $15,000,000 shall be available only for integration (including qualification) of the Hellfire missile on the UH-60 helicopter to remain available for obligation until September 30, 1985.[10]

For example, there might be a designation to enforce a minimum spending level for a particular program:

---

[7]Public 98–525, Department of Defense Authorization Act, 1985, Title I, Procurement, Authorization of Appropriations, Navy and Marine Corps, Sec. 102 (h).

[8]Public Law 98–525, Department of Defense Authorization Act, 1985, Title I, Procurement, Authorization of Appropriations, Air Force, Sec. 103(b).

[9]Note that Fig. 7 in Sec. II of the report shows the number of weapon systems affected by restrictions, whereas Table A.1 shows the number of categories of restrictions. Since one weapon system can be subjected to more than one category of restriction, the totals on Table A.1 for any year can be greater than the number of systems shown in Fig. 7 for that year.

[10]Public Law 98–212, Department of Defense Appropriation Act, 1984, December 8, 1983, Title V, Research, Development, Test and Evaluation, Army.

Table C.1

RESTRICTIONS IN AUTHORIZATION ACTS

	Type of Restriction							
Year	Funding	Quantity	Competition	Planning	Certification	Technical	Other	Total
1966	—	—	—	—	—	—	—	—
1967	—	—	—	—	—	—	—	—
1968	—	—	—	—	—	—	—	—
1969	1	0	0	0	0	0	0	1
1970	3	0	0	0	1	0	0	4
1971	3	0	0	0	4	0	0	7
1972	3	1	0	0	0	0	3	7
1973	2	1	0	0	1	0	1	5
1974	2	0	0	0	0	0	1	3
1975	0	0	0	0	1	0	0	1
1976	3	0	0	0	1	0	0	4
1977	2	0	0	0	4	0	0	6
1978	5	0	0	0	4	0	1	10
1979	0	0	0	0	2	0	0	2
1980	0	0	0	0	2	0	0	2
1981	4	2	0	0	3	1	0	10
1982	2	0	0	0	0	0	0	2
1983	3	0	1	0	12	0	1	17
1984	6	3	1	6	8	1	2	27
1985	5	2	1	0	8	2	5	23
1986	4	4	3	3	19	2	7	42
Total	48	13	6	9	70	6	21	173

> . . . of which not less than $72,953,000 shall be available only for the Mark 92 fire control system which includes the phased array program, . . .[11]

These types of Congressional action (1) insure that specific projects of interest to the Congress are funded, and (2) preclude reallocation of funds by the Department of Defense. It should be noted that the President and his delegate, the Secretary of Defense, have discretion by law to reallocate funds within the Department of Defense budget from

[11]Public Law 98–212, Department of Defense Appropriation Act, 1984, December 8, 1983, Title V, Research, Development, Test and Evaluation, Navy.

one account to another. The process is called reprogramming or the transfer of funds.[12]

The full text of each restriction in the FY1986 Authorization Act is shown below.

---

[12]There is a considerable difference between reprogramming and transfer. The authority to transfer is explicitly stated in statutes, whereas reprogramming, which is nonstatutory, is viewed as more of a gentlemen's agreement and often not a matter of public record.

Act: Authorization
Action: Restriction
Effect: Planning

Title: I - Procurement
Part A - Funding Authorization

Section: 101 c 2

Service: Army
System ID: Armored Combat Earthmover

Amount: Other Amount: Quantity:

(2) The Secretary of the Army may not enter into a multiyear contract for procurement of the Armored Combat Earthmover.

Act: Authorization
Action: Restriction
Effect: Planning

Title: I - Procurement
Part A Funding Authorization

Section: 102 f 2

Service: Navy
System ID: P-3C (Orion)

Amount: Other Amount: Quantity:

(2) Secretary of the Navy may not enter into a multiyear contract for the procurement of the P-3C Orion antisubmarine warfare patrol aircraft.

Act: Authorization Action: Restriction
Effect: Certification

Title: I - Procurement
Part A - Funding Authorization

Section: 106 a 2

Service: NATO
System ID: Point air defense

Amount: 75,000,000 Other Amount: Quantity:

(2) None of the amounts appropriated pursuant to the authorizations in paragraph (1) may be obligated—

(A) for implementation of a cooperative program until the Secretary of Defense submits to the Committees on Armed Services of the Senate and House of Representatives a copy of each government-to-government agreement relating to that program; or

(B) for acquisitions in connection with a NATO cooperative defense program in which the financial obligations of the United States exceed the collective financial obligations of European countries in connection with such program.

Act: Authorization Action: Restriction
Effect: Certification

Title: I - Procurement
Part B - Army Program Limitations

Section: 121 a, b

Service: Army
System ID: DIVAD (Division Air Defense System - Sergeant York)

Amount: Other Amount: Quantity:

(a) LIMITATION ON FURTHER PROCUREMENT.—The Secretary of the Army may not obligate funds to execute option III of the production contract for procurement of fire units of the Sergeant York Division Air Defense (DIVAD) Gun system or to enter into a new contract for production and assembly of that system until—

(1) the initial production testing and the follow-on evaluation I are completed and the results of the testing and evaluation demonstrate that the Sergeant York System meets or exceeds the pass/fail criteria of the tests established jointly by the Secretary of the Army and the Secretary of Defense;

(2) the Director of Operational Test and Evaluation of the Department of Defense submits to the Secretary of Defense and Committees on Armed Services of the Senate and House of Representatives a report giving the Director's evaluation of the results of such testing and evaluation;

(3) the Secretary of Defense reports to those committees on the results of such testing and evaluation and certifies that such testing reliably demonstrates that the operational capabilities of the Sergeant York system meet or exceed the performance specifications of the contract;

(4) the Secretary of the Army submits to those committees a report describing a contractor guarantee of the performance of the system described in subsection (b)(1).

(b) PERFORMANCE GUARANTEE.—The guarantee of the contractor under subsection (a)(4) shall provide that each fire unit of the system shall operate in accordance with the performance specifications of the contract for the system for the maximum feasible duration and in any event for not less than one year.

(2) The terms of a guarantee under this subsection shall be in addition to terms of any previous guarantee or warranty of the system by the contractor required under section 2403 of title 10, United States Code, or any predecessor provision.

(3) A guarantee under this subsection shall apply to contracts for fiscal years after fiscal year 1985.

Act: Authorization Action: Restriction
Effect: Competition, Other

Title: I - Procurement
Part B - Army Program Limitations

Section: 122 a, b, c, d

Service: Army
System ID: M2-IFV (Infantry Fighting Vehicle)

Amount: Other Amount: Quantity:

(a) REQUIREMENT FOR REPORTS ON TESTING.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives two reports with respect to the Bradley Fighting Vehicle. The reports shall describe the results of the first and second phases, respectively, of the live-fire survivability testing program being carried out with respect to such vehicle. The reports shall be submitted in both classified and unclassified versions.

(b) REQUIRED ELEMENTS OF TESTING PROGRAM.—In phase 1 of the testing program referred to in subsection (a), at least 10 live-fire tests using antiarmor weapons of the Soviet Union shall be conducted against such vehicle in its current configuration. In phase 2 of the testing program, similar tests shall be conducted against such vehicle in a configuration with enhanced survivability features.

(c) CONTENT OF REPORTS.—The reports required by this section shall include the following:

(1) A complete analysis of the results of the testing program referred to in subsection (a), including an accounting of all the test shots which were fired at the test vehicle, the distances from which the shots were fired, and the effects of such shots.

(2) A description and justification for the measures of merit and the pass/fail criterion used in the testing program.

(3) A justification for exempting from the testing program any overmatch or undermatch weapon which would likely be encountered in combat conditions.

(4) Potential problems that were revealed by the tests and a proposed design modification for remedying such problems.

(5) The estimated unit cost of each proposed survivability modification and the overall program costs for the modifications.

(6) A comparison of the estimated unit cost of the Bradley Fighting Vehicle in both the configuration used in phase 1 of the testing program and the configuration in phase 2 of the testing program.

(d) DATE FOR SUBMISSION OF REPORTS.—The reports required by this section shall be submitted as follows:

(1) The report regarding the results of phase 1 of the testing

program shall be submitted by December 1, 1985.

(2) The report regarding the results of phase 2 of the testing program shall be submitted by June 1, 1986.

Act: Authorization Action: Restriction
Effect: Certification, Technical

Title: I - Procurement
Part B - Army Program Limitations

Section: 125 a 1, 2, 3

Service: Army
System ID: 5-ton truck engines

Amount: Other Amount: Quantity:

(a) TESTING OF COMPETING ENGINES BEFORE CONTRACT AWARD.—

(1) Except as provided in subsection (b), the Secretary of the Army may not enter into a new contract for the procurement of 5-ton trucks for the Army until the Secretary certifies to the Committees of Armed Services of the Senate and House of Representatives that each truck engine described in paragraph (2) has been tested as provided in paragraph (3).

(2) The truck engines referred to in paragraph (1) are engines that—

(A) meet the specifications of the Army for engines for 5-ton trucks; and

(B) are commercially available from sources competing for the award of a contract for the supply of engines to the Army for the 5-ton trucks that are to be procured under a multiyear contract that is to succeed the multiyear contract referred to in subsection (b).

(3) The testing referred to in paragraph (1) shall be carried out in 5-ton trucks configured in the M939 validated technical data package of the Army and shall include tests to determine—

(A) whether the engine is durable after testing in a mission profile for at least 20,000 miles; and

(B) whether the performance reliability of the engine for high ambient temperature cooling, cold starting, deep water fording, grade climbing, and noise is acceptable.

Act: Authorization Action: Restriction
Effect: Planning

Title: I - Procurement
Part B - Army Program Limitations

Section: 125 c 2

Service: Army
System ID: 5-ton truck engines

Amount: Other Amount: Quantity:

(2) A contract under paragraph (1) may not be entered into unless the anticipated cost over the period of the contract is no more than 90 percent of the anticipated cost of carrying out the same program through annual contracts.

Act: Authorization Action: Restriction
Effect: Funding, Certification

Title: I - Procurement
Part B - Army Program Limitations

Section: 126 a

Service: Army
System ID: Copperhead Missile

Amount: 200,000,000 Other Amount: Quantity:

(a) Not more than $200,000,000 may be obligated or expended for that projectile from funds appropriated or otherwise made available to the Army for fiscal year 1986, after the date of the enactment of this Act, until the Secretary of Defense submits to Congress a written plan to establish a second production source for the Copperhead projectile.

Act: Authorization Action: Restriction
Effect: Competition

Title: I - Procurement
Part B - Army Program Limitations

Section: 126 b 2

Service: Army
System ID: Pershing II

Amount: Other Amount: Quantity:

(2) The Secretary shall not obligate any funds for the safety modifications authorized by paragraph (1) until the Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a report providing a detailed plan for the purchase of such safety modifications.

Act: Authorization Action: Restriction
Effect: Competition, Other

Title: I - Procurement
Part B - Army Program Limitations

Section: 126 c

Service: Army
System ID: AH-64 helicopter (Apache)

Amount: Other Amount: Quantity:

(c) AH-64 APACHE HELICOPTERS.—The Secretary of the Army may not obligate funds appropriated or otherwise made available for a fiscal year after fiscal year 1985 for procurement of AH-64 Apache attack helicopters until the Director of the Defense Contract Audit Agency reports to the Secretary that the contractor for such helicopters has demonstrated to the satisfaction of the Director—

(1) that the contractor has implemented an effective and reliable system of internal accounting controls; and

(2) that the contractor has accumulated documentation (including journals, vouchers, invoices, and expense data) to support the contractor's final submission for settlement of indirect expenses for calendar years 1979 through 1983 and that such documentation is available to the Director.

Act: Authorization Action: Restriction
Effect: Funding, Other

Title: I - Procurement
Part C - Navy Procurement Limitations

Section: 1 b

Service: Navy
System ID: A-6 aircraft (Intruder)

Amount: 240,000,000 Other Amount: Quantity:

(a) AUTHORIZED PROGRAM.—The Secretary of the Navy is authorized to carry out a program to replace the wings of the A6 aircraft.The amount obligated to carry out such program during fiscal year 1985 may not exceed $240,000,000.

(b) REQUIRED WARRANTY.—Funds may be obligated for the program authorized by subsection (a) only under a firm fixed-price contract which includes a warranty guaranteeing a wing fatigue life of at least 8,800 hours.

Act: Authorization Action: Restriction
Effect: Certification

Title: I - Procurement
Part C - Navy Program Limitations

Section: 132 1

Service: Navy
System ID: A-6E aircraft (Intruder)

Amount: Other Amount: Quantity:

(1) may not be obligated for procurement of A6E aircraft until the Secretary of the Navy certifies to the Committees on Armed Services of the Senate and House of Representatives that the wing for the A6E aircraft to be procured is warranted for at least a 4,000-hour test-equivalent fatigue life.

Act: Authorization Action: Restriction
Effect: Technical

Title: I - Procurement
Part C - Navy Program Limitations

Section: 132 2

Service: Navy
System ID: F-14 aircraft (Tomcat)

Amount: Other Amount: Quantity:

(2) may be obligated for procurement of F14 aircraft only for aircraft that are configured so as to incorporate the F110 engine.

Act: Authorization Action: Restriction
Effect: Quantity

Title: I - Procurement
Part D - Air Force Procurement Limitations

Section: 141 a 1

Service: Air Force
System ID: MX ICBM (Peacekeeper)

Amount: Other Amount: Quantity: 12

(a) LIMITATIONS ON FY86 MX PROGRAM.—(1) Not more than 12 MX missiles may be procured with funds appropriated or otherwise made available in an appropriation law for fiscal year 1986 for the procurement of missiles for the Air Force.

Act: Authorization Action: Restriction
Effect: Quantity

Title: I - Procurement
Part D - Air Force Procurement Limitations

Section: 141 b, c

Service: Air Force
System ID: MX ICBM (Peacekeeper)

Amount: Other Amount: Quantity: 50

(b) LIMITATIONS ON DEPLOYMENT AND BASING OF MX MISSILES.—

(1) The number of MX missiles deployed at any time in existing Minuteman silos may not exceed 50.

(2) Funds appropriated pursuant to this or any other Act may not be used—

(A) to modify, or prepare for modification, more than 50 existing Minuteman silos for the deployment of MX missiles;

(B) to acquire basing sets to modify more than 50 existing Minuteman silos for the deployment of MX missiles; or

(C) to procure long-lead items for the deployment of more than 50 MX missiles.

(c) ADDITIONAL LIMITATIONS ON THE DEPLOYMENT AND BASING OF MX MISSILES.—Unless a basing mode for the MX missile other than existing Minuteman silos is specifically authorized by legislation enacted after the date of the enactment of this Act, after procurement of 50 MX missiles for deployment in existing Minuteman silos—

(1) further procurement of MX missiles shall be limited to those missiles necessary to support the operational test program and for the MX missile reliability testing program; and

(2) during the fiscal year 1987, depending upon the most efficient production rate, from 12 to 21 MX missiles should be procured for such purposes.

Act: Authorization Action: Restriction
Effect: Certification

Title: I - Procurement
Part D - Air Force Program Limitations

Section: 143 a, b

Service: Air Force
System ID: Stealth Bomber (Advanced Technology Bomber)

Amount: Other Amount: Quantity:

(a) REPORT ON TOTAL PROGRAM COST.—Not later than February 1, 1986, the Secretary of Defense shall transmit to Congress a report setting forth the total program cost for the advanced technology bomber program. The Secretary shall include in the report the Secretary's evaluation of the reliability of the cost estimates for the program.

(b) LIMITATION ON EXPENDITURE OF PROCUREMENT FUNDS.—No funds appropriated pursuant to the authorizations of appropriations in this title may be obligated or expended for the advanced technology bomber program until the report required by subsection (a) is transmitted to Congress.

Act: Authorization Action: Restriction
Effect: Certification

Title: I - Procurement
Part D - Air Force Program Limitations

Section: 144 a, b

Service: Air Force
System ID: HH-53 (PAVE LOW)

Amount: Other Amount: Quantity:

(a) AIR FORCE AIRCRAFT FUNDS.—Of the amount authorized in section 103(a) for procurement of aircraft for the Air Force, $50,000,000 is available only for modification of HH-53 helicopters to the PAVE LOW mission configuration.

(b) CERTIFICATION REQUIREMENT.—None of the amount described in subsection (a) may be obligated or expended until the Secretary of the Air Force certifies that sufficient funds have been budgeted in the fiscal year 1987 five-year defense plan to meet, at the earliest practicable date, and sustain the highest readiness level prescribed for all PAVE LOW HH-53 helicopters in the Joint Chiefs of Staff Unit Status Report System.

Act: Authorization
Action: Restriction
Effect: Other

Title: I - Procurement
Part E - Other Limitations

Section: 151

Service: Air Force
System ID: C-12 aircraft

Amount:
Other Amount:
Quantity:

(151) None of the funds appropriated pursuant to authorizations in this title may be obligated or expended for procurement of C-12 aircraft unless such aircraft are procured through competitive procedures (as defined in section 2302(2) of title 10, United States Code), which shall be restricted to turboprop aircraft.

Act: Authorization
Action: Restriction
Effect: Certification

Title: I - Procurement
Part E - Other Limitations

Section: 152

Service: Other
System ID: Special operations aircraft

Amount:
Other Amount:
Quantity:

(152) . . . None of the funds appropriated pursuant to authorizations in this title may be obligated or expended for the procurement of MC-130 aircraft or the modification of HH-53 or CH-47 helicopters until the Secretary of Defense—

(1) submits, in consultation with the Chairman of the Joint Chiefs, to the Committees on Armed Services of the Senate and House of Representatives a plan for meeting the immediate airlift requirements of the Joint Special Operations Command and a second plan for meeting, by 1991, the airlift requirements of the Joint Special Operations

Command and the special operations forces of unified commanders-in-chief; and

(2) certifies that the plans required by paragraph (1) are funded in the Fiscal Year 1987 Five-Year Defense Plan.

Act: Authorization Action: Restriction
Effect: Other

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 205 c 1, 2, 3, 4

Service: Navy
System ID: SUBACS (Submarine Advanced Combat System)

Amount: Other Amount: Quantity:

(1) None of such amount may be obligated or expended for the Submarine Advanced Combat System (SUBACS) program unless the Secretary of the Navy submits to the Committees on Armed Services of the Senate and House of Representatives written certification that—

(A) the Secretary has initiated action to negotiate and sign prior to February 1, 1986, a modification to the full-scale engineering development contract which would provide for—

(i) a cost ceiling for such development with no liability of the United States for cost growth above such ceiling; and

(ii) penalties for late delivery of equipment and failure to meet performance criteria;

(B) before completion of full-scale engineering development for the SUBACS Basic system under such program, such contractor will provide to the United States a complete technical data package—

(i) at no additional cost to the Government;

(ii) containing no manufacturing or proprietary data rights;

(iii) of such quality as to allow production of such system by a second source;

(C) the Secretary has begun action to provide, to the maximum extent possible, competition for procurement of components for production of the SUBACS Basic system; and

(D) the Secretary has begun action to establish competition in development and production of the follow-on systems to the SUBACS Basic system.

(2) During the period of any negotiations for a contract modification referred to in paragraph (1)(A), the monthly rate of expenditure for the SUBACS program may not exceed the rate of expenditure for such program.

(3) The Secretary shall also provide, within the amount of funds provided for the SSN-21 Combat System Advanced Engineering Program, that one or more firms that are potential competitors for the attack submarine combat system for fiscal year 1989 be established as

associate contractors for the SUBACS Basic program with full access to all SUBACS development information.

(4) If the Secretary determines that it is not possible to make a certification under paragraph (1), the Secretary may obligate and expend funds necessary to develop an advanced combat system (other than SUBACS) for the SSN-21 submarine and other applicable platforms.

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and
Program Limitations

Section: 205 d

Service: Navy
System ID: Rolling Airframe Missile program

Amount: Other Amount: Quantity:

(d) ROLLING AIRFRAME MISSILE PROGRAM.—Funds appropriated for fiscal year 1986 for research, development, test and evaluation for the Navy may not be obligated for the Rolling Airframe Missile program or the NATO Sea Sparrow program unless the Secretary of the Navy certifies to the Committees on Armed Services of the Senate and House of Representatives that—

(1) the Secretary has entered into a firm fixed-price production contract for the Rolling Airframe Missile program;

(2) that such contract includes options of the United States for procurement under such program for fiscal years after fiscal year 1986 with maximum prices established for such options; and

(3) the contractor for such contract has provided a complete data package to the Navy—

(A) at no additional cost to the United States; and

(B) containing no manufacturing or proprietary data rights of the contractor.

Act: Authorization Action: Restriction
Effect: Other

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 205 e

Service: Navy
System ID: LAMPS Mark I
Anti-submarine warfare shipboard training system

Amount: Other Amount: Quantity:

(e) ACQUISITION OF ANTI-SUBMARINE WARFARE TRAINING SYSTEMS.—The Secretary of the Navy shall initiate a competitive procurement of three service test models of the LAMPS Mark I anti-submarine warfare shipboard training system for the Naval Reserve during fiscal year 1986. Of the funds appropriated pursuant to the authorizations of appropriations in section 201(a)(2), $6,800,000 may not be obligated before such test models are procured.

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 207 b

Service: Other
System ID: JTIDS (Joint Tactical Information Distribution System)

Amount: Other Amount: Quantity:

(b) None of such amount may be obligated or expended until the Secretary of Defense selects a single JTIDS program to meet the operational

requirements of both the Navy and the Air Force. If the Secretary of Defense determines that such a selection is not feasible or is not practicable, the Secretary shall submit to the Committees on Armed Services of the Senate and House of Representatives a report in writing setting forth the specific reasons for not proceeding with a common JTIDS program.

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 208 a, b

Service: Air Force
System ID: MHV (Miniature Homing Vehicle for F-15)

Amount: Other Amount: Quantity:

(a) REQUIREMENT REGARDING THE USE OF FUNDS.—None of the funds appropriated pursuant to an authorization in this or any other Act may be obligated or expended to test against an object in space the miniature homing vehicle (MHV) anti-satellite warhead launched from an F-15 aircraft unless the President has made a determination and a certification to the Congress as provided in section 8100 of the Department of Defense Appropriations Act, 1985 (as contained in section 101(h) of Public Law 98–473 (98 Stat. 1941)).

(b) LIMITATION ON NUMBER OF TESTS.—Not more than three tests described in subsection (a) may be conducted before October 1, 1986.

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 209 c 1, 2, 3, 4

Service: Air Force
System ID: Small ICBM

Amount: Other Amount: Quantity:

(c) PROCEDURES REQUIRED BEFORE DECISIONS ON FULL-SCALE DEVELOPMENT AND BASING SITE SELECTION FOR SMALL ICBM.—

(1) Before any decision may be made by the President or the Secretary of Defense with regard to the full-scale development of a small intercontinental ballistic missile or the selection of basing areas for the deployment of such missile, the Secretary of the Air Force shall prepare and submit to the appropriate committees of Congress a legislative environmental impact statement with respect to such development and such selection. In making any such decision, the President and the Secretary of Defense shall take into consideration the findings and conclusions contained in any such report.

(2) The legislative environmental impact statement required by paragraph (1) shall be prepared in accordance with the requirements applicable to such statements prepared under section 1506.8 of title 40 of the Code of Federal Regulations (as in effect on May 16, 1985).

(3) A legislative environmental impact statement prepared and submitted to the appropriate committees pursuant to paragraph (1) shall be deemed to meet all the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) with respect to all aspects of the full-scale development of a small intercontinental ballistic missile and the selection of basing areas for the deployment of such missile.

(4) Preparation of a legislative environmental impact statement pursuant to paragraph (1) shall not relieve the Secretary of Defense from any obligation for the subsequent preparation of administrative environmental impact statements with respect to the environmental impact on specifically selected sites within the chosen areas for the deployment and peacetime operation of small intercontinental ballistic missiles.

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 210 a, b, c (2)

Service: Air Force
System ID: AMRAAM missile (Advanced Medium-Range Air-to-Air Missile)

Amount: 556,580,480 Other Amount: 5,200,000,000 Quantity: 17000

(2) Of the amount appropriated pursuant to the authorization in section 201 for the Air Force, $54,382,000 may not be obligated or expended until the Secretary of Defense submits to the Committees on Armed Services of the Senate and House of Representatives a certification as described in subsection (b).

(b) CERTIFICATION.—A certification under subsection (a) shall be in writing and shall include confirmation by the Secretary of the following:

(1) That (A) the design of the AMRAAM system has been completed, (B) system performance has not been degraded from the original development specification (DS 32050–000, as amended by the draft Development Concept Paper (DCP) of June 14, 1985), and (C) the flight test program has been revised to incorporate the maximum practicable number of selected changes in the design of the AMRAAM system that reduce the costs of the system and that are qualified and flight tested before production.

(2) That a fixed-price type contract for an amount not more than $556,580,480 has been entered into with the development contractor for research, development, test, and evaluation for such program.

(3) That the total production cost for the program, for a minimum of 17,000 missiles, will not exceed $5,200,000,000 (in fiscal year 1984 dollars) and that the missiles procured will perform in accordance with the development specification referred to in paragraph (1).

(c) NONCERTIFICATION.—If the Secretary of Defense cannot make a certification under subsection (a) by March 1, 1986, the AMRAAM program shall be terminated as of that date with no subsequent Government liability.

Act: Authorization Action: Restriction
Effect: Funding, Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 211 a, c, d, e

Service: Navy
System ID: HARM (High Speed Anti-Radiation Missile)

Amount: 100,000,000 Other Amount: Quantity:

(a) LIMITATION ON NAVY FUNDING.—Of the amount appropriated pursuant to the authorization in section 201 for the Navy (including the Marine Corps), $100,000,000 may not be obligated or expended until the Secretary of the Navy submits to Congress a certification as described in subsection (c) or a report as described in subsection (d).

(c) CERTIFICATION.—A certification under subsection (a) or (b) shall be in writing and shall include a certification by the Secretary concerned of the following:

(1) That the test and evaluation of the High-Speed Anti-Radiation Missile (HARM) shows conclusively that the missile system meets all performance specifications and objectives delineated in the HARM weapon system specification—AS 3400 Revision A, dated August 6, 1982.

(2) That a current production missile has been disassembled and that there is complete correlation with such missile and the current technical-data package (including the engineering drawings and software) and that HARM production missiles are being constructed to these drawings.

(3) That the HARM missile system is capable of engaging the intended threat as approved by the Director of Central Intelligence.

(4) That the program to develop the HARM low-cost seeker is structured to meet an intended Initial Operational Capability (IOC) date during 1991.

(d) REPORT ON DEFICIENCIES.—

(1) If the Secretary of the Navy cannot make a certification under subsection (c) because of deficiencies in the HARM system, then the Secretary may obligate and expend funds without regard to the limitation in subsection (a) after submitting to Congress a written report described in paragraph (3).

(2) If the Secretary of the Air Force cannot make a certification under subsection (c) because of deficiencies in the HARM system, then the Secretary may obligate and expend funds without regard to the limitation in subsection (b) after submitting to Congress a written report

described in paragraph (3).

(3) A report under paragraph (1) or 2) shall include—

(A) a detailed list of the deficiencies in the HARM system; and

(B) a plan to correct such deficiencies, including milestones and required levels of funding, and a request to Congress to reprogram funds for the purpose of correcting such deficiencies.

(e) PROHIBITION ON EXPENDITURES TO CORRECT SPECIFIED DEFICIENCIES.—The Secretary of the Navy and the Secretary of the Air Force may not obligate or expend any funds to correct deficiencies in the HARM system in order to meet the weapons system performance specification described in subsection (c)(1).

Act: Authorization Action: Restriction
Effect: Funding, Certification

Title: II - Research, Development, Test and Evaluation
Part A - Authorization of Appropriations and Program Limitations

Section: 211 b, c, d, e

Service: Air Force
System ID: HARM (High Speed Anti-Radiation Missile)

Amount: 50,000,000 Other Amount: Quantity:

(b) LIMITATION OF AIR FORCE FUNDING.—Of the amount appropriated pursuant to the authorization in section 301 for the Air Force, $50,000,000 may not be obligated or expended until the Secretary of the Air Force submits to Congress a certification as described in subsection (c) or a report as described in subsection (d).

(c) CERTIFICATION.—A certification under subsection (a) or (b) shall be in writing and shall include a certification by the Secretary concerned of the following:

(1) That the test and evaluation of the High-Speed Anti-Radiation Missile (HARM) shows conclusively that the missile system meets all performance specifications and objectives delineated in the HARM weapon system specification—AS 3400 Revision A, dated August 6, 1982.

(2) That a current production missile has been disassembled and that there is complete correlation with such missile and the current technical-data package (including the engineering drawings and software) and that HARM production missiles are being constructed to these drawings.

(3) That the HARM missile system is capable of engaging the intended threat as approved by the Director of Central Intelligence.

(4) That the program to develop the HARM low-cost seeker is structured to meet an intended Initial Operational Capability (IOC) date during 1991.

(d) REPORT ON DEFICIENCIES.—

(1) If the Secretary of the Navy cannot make a certification under subsection (c) because of deficiencies in the HARM system, then the Secretary may obligate and expend funds without regard to the limitation in subsection (a) after submitting to Congress a written report described in paragraph (3).

(2) If the Secretary of the Air Force cannot make a certification under subsection (c) because of deficiencies in the HARM system, then the Secretary may obligate and expend funds without regard to the limitation in subsection (b) after submitting to Congress a written report

described in paragraph (3).

(3) A report under paragraph (1) or 2) shall include—

(A) a detailed list of the deficiencies in the HARM system; and

(B) a plan to correct such deficiencies, including milestones and required levels of funding, and a request to Congress to reprogram funds for the purpose of correcting such deficiencies.

(e) PROHIBITION ON EXPENDITURES TO CORRECT SPECIFIED DEFICIENCIES.—The Secretary of the Navy and the Secretary of the Air Force may not obligate or expend any funds to correct deficiencies in the HARM system in order to meet the weapons system performance specification described in subsection (c)(1).

Act: Authorization Action: Restriction
Effect: Certification

Title: II - Research, Development, Test and Evaluation
Part B - Strategic Defense Initiative

Section: 222

Service: Other
System ID: SDI (Strategic Defense Initiative)

Amount: Other Amount: Quantity:

(222) A strategic defense system developed as a consequence of research, development, test and evaluation conducted on the Strategic Defense Initiative program may not be deployed in whole or in part unless—

(1) the President determines and certifies to Congress in writing that—

(A) the system is survivable (that is, the system is able to maintain a sufficient degree of effectiveness to fulfill its mission, even in the face of determined attacks against it); and

(B) the system is cost effective at the margin to the extent that the system is able to maintain its effectiveness against the offense at less cost than it would take to develop offensive countermeasures and proliferate the ballistic missiles necessary to overcome it; and

(2) funding for the deployment of such system has been specifically authorized by legislation enacted after the date on which the President makes the certification to Congress.

Act: Authorization
Action: Restriction
Effect: Certification, Other

Title: XIV - General Provisions
Part B - Chemical Weapons

Section: 1411 a, b, c

Service: ?
System ID: Chemical weapons

Amount:
Other Amount:
Quantity:

(a) LIMITATION ON FY86 FUNDS.—Funds appropriated pursuant to authorizations of appropriations in title I may not be used—

(1) for procurement or assembly of binary chemical munitions (or components of such munitions); or

(2) for establishment of production facilities necessary for procurement or assembly of binary chemical munitions (or components of such munitions), except in accordance with subsections (b) and (c).

(b) NATO CONSULTATION.—Subject to subsection (c), funds referred to in subsection (a) may be used for procurement or assembly of binary chemical munitions or for the establishment of production facilities necessary for the procurement or assembly of binary chemical munitions (or components of such munitions) if the President certifies to Congress that the United States—

(1) has developed a plan under which United States binary chemical munitions can be deployed under appropriate contingency plans to deter chemical weapons attacks against the United States and its allies; and

(2) has consulted with other member nations of the North Atlantic Treaty Organization (NATO) on that plan. A plan under clause (1) shall be developed in cooperation with the Supreme Allied Commander, Europe.

(c) CONDITION FOR FINAL ASSEMBLY.—Funds referred to in subsection (a) may not be used for the final assembly of complete binary chemical munitions before October 1, 1987, and may only be used for such purpose on or after that date if—

(1) a mutually verifiable international agreement concerning binary and other similar chemical munitions has not been entered into by the United States by that date;

(2) the President, after that date, transmits to Congress a certification that—

(A) final assembly of such complete munitions is necessitated by national security interests of the United States and the interests of other NATO member nations;

(B) performance specifications and handling and storage safety specifications established by the Department of Defense with respect to such munitions will be met or exceeded;

(C) applicable Federal safety requirements will be met or exceeded in the handling, storage, and other use of such munitions; and

(D) the plan of the Secretary of Defense for destruction of existing United States chemical warfare stocks developed pursuant to section 1412 (which shall, if not sooner transmitted to Congress, accompany such certification) is ready to be implemented;

(3) final assembly is carried out only after the end of the 60-day period beginning on the date such certification is received by the Congress;

(4) the plan of the Secretary of Defense for land-based storage of such munitions within the United States during peacetime provides that the two components that constitute a binary chemical munition are to be stored in separate States; and

(5) the plan of the Secretary of Defense for the transportation of such munitions within the United States during peacetime provides that the two components that constitute a binary munition are transported separately.

Act: Authorization Action: Restriction
Effect: Quantity

Title: XIV - General Provisions
Part C - Drug Interdiction, Law Enforcement, and Other Specific Programs

Section: 1425 c,d

Service: Air Force
System ID: B-1B bomber

Amount: Other Amount: Quantity: 100

(c) SENSE OF CONGRESS ON B-1B BOMBER PROGRAM.—It is the sense of Congress that, consistent with the stated policy of the Department of Defense, the B-1B bomber aircraft procurement program should be terminated after acquisition under such program of 100 aircraft.

(d) LIMITATION ON NUMBER OF B-1B AIRCRAFT TO BE PROCURED.—None of the funds appropriated pursuant to an authorization contained in this Act may be obligated or expended for the conduct of research, design, demonstration, development, or procurement of more than 100 B-1B aircraft (including any derivative or modified version of such aircraft).

Act: Authorization Action: Restriction
Effect: Quantity

Title: XIV - General Provisions
Part C - Drug Interdiction, Law Enforcement, and Other Specific Programs

Section: 1426 a

Service: Air Force
System ID: W-87 (Warhead for MX missile)

Amount: Other Amount: Quantity: All

(a) RESTRICTION ON FUNDING FOR MX MISSILE WARHEAD.—None of the funds appropriated pursuant to an authorization provided in this or any other Act may be obligated or expended for the production of W-87

warheads for the MX missile program in excess of the numbers of warheads required to arm the number of such missiles authorized by the Congress to be deployed and determined by the President to be necessary for quality assurance and reliability testing.

Act: Authorization Action: Restriction
Effect: Certification

Title: XIV - General Provisions
Part C - Drug Interdiction, Law Enforcement, and Other Specific Programs

Section: 1426 b

Service: Navy
System ID: SM-2(A) (Standard missile)

Amount: Other Amount: Quantity:

(b) EMPLOYMENT OF THE STANDARD MISSILE (SM-2(N)).—Except for the studies and report required by this section, none of the funds authorized to be appropriated by this Act may be expended for research, development, test, or procurement associated with a nuclear variant of the Standard Missile (SM-2(N)) or any associated nuclear warhead until 30 calendar days after the Secretary of the Navy submits to the Committees on Armed Services of the Senate and House of Representatives a report which includes the following information:

(1) A description of the circumstances under which the SM-2(N) would be used and an assessment of likely enemy response (including countermeasures).

(2) A description of the release procedures and circumstances under which release would be authorized for employment of the SM-2(N).

(3) An analysis of conventional alternatives to the SM-2(N), including any necessary modification to the SM-2 or alternative to the Standard Missile or warhead, and the associated costs of those alternatives.

(4) A summary of all studies previously conducted analyzing the impact of the use of nuclear naval surface-to-air missiles on our own vessels and electronics.

(5) A list of all United States ships which may receive the SM-2(N).

(6) The number of additional conventional armed missiles which could be carried by United States ships if the SM-2(N) were not deployed and the impact on fleet air defense from that reduced conventional load.

(7) Any plans or programs for the development of a nuclear naval surface-to-air or air-to-air missile for fleet defense other than the SM-2(N).

Act: Authorization Action: Restriction
Effect: Certification

Title: XIV - General Provision
Part D - Miscellaneous Reporting Requirements

Section: 1433

Service: Navy
System ID: SSN-21

Amount: Other Amount: Quantity:

(1433) Not more than one-half of the funds appropriated pursuant to authorizations of appropriations in this Act for the design or construction of nuclear reactor components for the SSN-21 class submarine may be obligated until the Secretary of the Navy submits to the Committees on Armed Services of the Senate and House of Representatives a report on the industrial base for the design and construction of nuclear components for the SSN-21 class submarine. The report shall evaluate the cost effectiveness of increasing the number of firms actively employed in the design of nuclear reactor components and the construction of nuclear reactor components.

Act: Authorization Action: Earmarking
Effect: Funding

Title: I - Procurement
Navy and Marine Corps

Section: 102 d B, 2, A

Service: Navy
System ID: Ship Support Equipment

Amount: 935,000,000 Other Amount: Quantity:

(A) $935,000,000 is available only for the ship support equipment program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: I - Procurement
Navy and Marine Corps

Section: 102 d B, 2, B

Service: Navy
System ID: Communications and electronics

Amount: 2,134,500,000 Other Amount: Quantity:

(B) $2,134,500,000 is available only for the communications and electronics equipment program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: I - Procurement
Navy and Marine Corps

Section: 102 d B, 2, C

Service: Navy
System ID: Aviation Support Equipment

Amount: 1,206,800,000 Other Amount: Quantity:

(C) $1,206,800,000 is available only for aviation support equipment.

Act: Authorization Action: Earmarking
Effect: Funding

Title: I - Procurement
Navy and Marine Corps

Section: 102 d B, 2, D

Service: Navy
System ID: Ordnance Support Equipment

Amount: 1,396,500,000 Other Amount: Quantity:

(D) $1,396,500,000 is available only for ordnance support equipment program.

Act: Authorization Action: Earmarking
Effect: Funding, Quantity

Title: I - Procurement
Part D - Air Force Program Limitations

Section: 141 a 2, A

Service: Air Force
System ID: MX ICBM (Peacekeeper)

Amount: 1,746,000,000O Other Amount: Quantity: 12

(A) $1,746,000,000 shall be available only for the procurement of 12 MX missiles and related weapons system and support costs.

Act: Authorization Action: Earmarking
Effect: Funding

Title: I - Procurement
Part D - Air Force Program Limitations

Section: 141 a 2,B

Service: Air Force
System ID: MX spares

Amount: 105,000,000 Other Amount: Quantity:

(B) $105,000,000 shall be available only for the procurement of initial spares for the MX missile program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 1

Service: Army
System ID: Missile/Rocket Components program

Amount: 52,836,000 Other Amount: Quantity:

(1) $52,836,000 is available only for the Missile/Rocket Components program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 1 A

Service: Army
System ID: Fiber Optics Guided Missile

Amount: 10,000,000 Other Amount: Quantity:

(A) $10,000,000 is available only for the development of the Fiber Optics Guided Missile.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 1 B

Service: Army
System ID: Hypervelocity Missile

Amount: 10,000,000 Other Amount: Quantity:

(B) $10,000,000 is available only for development of the Hypervelocity Missile.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 2

Service: Army
System ID: Stinger Missile

Amount: 23,583,000 Other Amount: Quantity:

(2) $23,583,000 is available only for the Stinger Missile Program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 3

Service: Army
System ID: AGT-1500 Tank Engine (for M1)

Amount: 15,000,000 Other Amount: Quantity:

(3) $15,000,000 is available only for a fuel-efficient modification for the AGT-1500 tank engine.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 3

Service: Army
System ID: M1-E1 Tank Development (Abrams tank)

Amount: 18,898,000 Other Amount: Quantity:

(3) $18,898,000 is available only for the M1-E1 Tank Development program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 4

Service: Army
System ID: Hellfire/UH-60 (Hellfire/Blackhawk)

Amount: 20,000,000 Other Amount: Quantity:

(4) $20,000,000 is available only for the development, test, integration, and evaluation of the Hellfire Missile for the Blackhawk helicopter.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Army

Section: 204 a 5

Service: Army
System ID: STARS (Software Initiative program)

Amount: 42,000,000 Other Amount: Quantity:

(5) $42,000,000 is available only for the Software Initiative (STARS) program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 1

Service: Navy
System ID: Low-Cost Anti-Radiation Seeker

Amount: 17,500,000 Other Amount: Quantity:

(1) $17,500,000 is available only for the Low-Cost Anti-Radiation Seeker program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 2

Service: Navy
System ID: Advanced Mine Development Program

Amount: 4,464,000 Other Amount: Quantity:

(2) $4,464,000 is available only for the Advanced Mine Development program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 3

Service: Navy
System ID: Naval Oceanography Program

Amount: 5,900,000 Other Amount: Quantity:

(3) $5,900,000 is available only for the Naval Oceanography program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 4

Service: Navy
System ID: Battlegroup Quick Reaction Surveillance System

Amount: 12,000,000 Other Amount: Quantity:

(4) $12,000,000 is available only for the Battlegroup Quick Reaction Surveillance System program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 5

Service: Navy
System ID: Wallops Island Test Range activity

Amount: 4,000,000 Other Amount: Quantity:

(5) $4,000,000 is available only for unique Wallops Island Test Range activity.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 6

Service: Navy
System ID: Skipper/Practice Bomb

Amount: 10,000,000 Other Amount: Quantity:

(6) $10,000,000 is available only for the Skipper/Practice Bomb program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 7

Service: Navy
System ID: Classified sensor program

Amount: 1,500,000 Other Amount: Quantity:

(7) $1,500,000 is available only for a classified sensor development program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II – Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 a 8

Service: Navy
System ID: Guided projectile system (5-in./155mm)

Amount: 2,500,000 Other Amount: Quantity:

(8) $2,500,000 is available only to establish a second source for the competitive procurement of the Navy Five-Inch and Army 155-Millimeter Guided Projectile systems.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Navy (Including the Marine Corps)

Section: 205 c 1

Service: Navy
System ID: SSN-21 Combat System Advanced & Engineering Program

Amount: 200,000,000 Other Amount: Quantity:

(1) Of the amount authorized in section 201 for the Navy, $200,000,000 is available only for the SSN-21 Combat System Advanced and Engineering program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Air Force

Section: 206 1

Service: Air Force
System ID: INEWS/ICNIA

Amount: 60,000,000 Other Amount: Quantity:

(1) $60,000,000 is available only for reserch, development, test, and evaluation for Integrated Electronic Warfare Systems (INEWS) and the Integrated Communication, Navigation, Identification Avionics (ICNIA) system.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Air Force

Section: 206 2

Service: Air Force
System ID: F-4 aircraft air defense role

Amount: 22,000,000 Other Amount: Quantity:

(2) $22,000,000 is available only for the research, development, test and evaluation to modify the F-4 aircraft to satisfy the Air Force air defense mission.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Air Force

Section: 206 3

Service: Air Force
System ID: Classified reconnaissance system

Amount: 19,570,000 Other Amount: Quantity:

(3) $19,570,000 is available only for a classified reconnaissance system.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Air Force

Section: 206 4

Service: Air Force
System ID: VHSIC (Very High Speed Integrated Circuit Program)

Amount: 211,276,000 Other Amount: Quantity:

(4) $211,276,000 is available only for the Very High Speed Integrated Circuits (VHSIC) program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Air Force

Section: 206 5

Service: Air Force
System ID: Pave Tiger

Amount: 15,000,000 Other Amount: Quantity:

(5) $15,000,000 is available only for the Pave Tiger system.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Defense Agencies

Section: 207 a 1

Service: Other
System ID: Joint Advanced Systems program

Amount: 300,000,000 Other Amount: Quantity:

(1) $300,000,000 is available only for the Joint Advanced Systems program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Defense Agencies

Section: 207 a 5

Service: Other
System ID: Strategic Computing Initiative

Amount: 142,000,000 Other Amount: Quantity:

(5) $142,000,000 is available only for the Strategic Computing Initiative.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Limitations on Funds for the Defense Agencies

Section: 207 b

Service: Other
System ID: JTIDS (Joint Tactical Information Distribution System)

Amount: 200,000,000 Other Amount: Quantity:

(b) $200,000,000 is available only for research and development of a common Joint Tactical Information Distribution System (JTIDS) program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Testing of Anti-Satellite Weapons and Space Survivability Programs

Section: 208 c

Service: Air Force
System ID: Space Survivability Program

Amount: 15,000,000 Other Amount: Quantity:

(c) $15,000,000 is available only for the satellite survivability project of the Air Force Space Survivability Program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: II - Research, Development, Test and Evaluation
Small Intercontinental Ballistic Missile Program

Section: 209 a

Service: Air Force
System ID: Small Mobile Intercontinental Ballistic Missile

Amount: 724,500,000 Other Amount: Quantity:

(a) $724,500,000 is available only for research, development, test and evaluation carried out with respect to the small mobile intercontinental ballistic missile within the intercontinental ballistic missile modernization program.

Act: Authorization Action: Earmarking
Effect: Funding

Title: XIV - General Provisions
Part C - Drug Interdiction, Law Enforcement, and Other Specific Programs

Section: 1425 b

Service: Air Force
System ID: ATB/ACM (Advanced Technology Bomber/Advanced Cruise Missile)

Amount: All Other Amount: Quantity:

(b) PROHIBITION ON USE OF FUNDS FOR ATB AND ACM FOR ANY OTHER PURPOSE.—None of the funds appropriated pursuant to an authorization of appropriations in this Act to carry out the Advanced Technology Bomber program or the Advanced Cruise Missile program may be used for any other purpose.

Act: Authorization Action: Earmarking
Effect: Funding

Title: Matters Relating to NATO
NATO Cooperative Research and Development

Section: 1103 c 1

Service: Other
System ID: NATO Cooperative Research and Development

Amount: 200,000,000 Other Amount: Quantity:

(1) Of the funds appropriated pursuant to the authorizations in section 201(a), $200,000,000 shall be available, in equal amounts, to the Army, Navy, Air Force, and Defense Agencies only for NATO cooperative research and development projects as provided in this section.

Appendix D

RESTRICTIONS AND EARMARKINGS IN APPROPRIATIONS ACTS

Restrictions and earmarkings were defined and categorized in Sec. III and App. C. This appendix addresses the extent of restrictions and earmarkings that have appeared in the Appropriations Acts.

The data on *restrictions* in Appropriations Acts are given in Table D.1. Only certification shows a marked increase over the past two decades. All other categories remain relatively constant.

Table D.1

RESTRICTIONS IN APPROPRIATIONS ACTS

	Type of Restriction							
Year	Funding	Quantity	Competition	Planning	Certification	Technical	Other	Total
1966	0	0	1	0	0	0	0	1
1967	1	0	1	0	0	0	1	3
1968	0	0	1	0	0	0	0	1
1969	0	0	1	0	0	0	0	1
1970	0	0	1	0	0	0	0	1
1971	0	0	2	0	0	0	0	2
1972	0	0	1	0	0	0	0	1
1973	0	0	1	0	0	0	0	1
1974	0	0	1	0	0	0	0	1
1975	0	0	1	0	0	0	0	1
1976	1	0	1	0	2	0	0	4
1977	1	0	1	0	0	0	0	2
1978	—	—	—	—	—	—	—	—
1979	0	0	1	0	0	0	0	1
1980	2	0	1	0	2	0	1	6
1981	1	0	1	0	0	0	0	2
1982	1	1	1	0	3	0	0	6
1983	1	0	3	0	5	1	1	11
1984	2	0	1	1	6	0	1	11
1985	2	2	1	1	4	1	0	11
1986	3	0	2	0	4	0	2	11
Total	15	3	24	2	26	2	6	78

Funding restrictions were infrequent from 1980 to 1986, ranging from only one to three occurrences per year. There were rare instances of funding restrictions in 1967, 1976, and 1977.

Only three quality restrictions were enacted during the period of 1966 to 1986: one in 1982 and two in 1985. However, these affected major programs—B1 bomber, MX missile, and F-15 fighter aircraft.

The number of competition restrictions has been fairly constant. This picture is biased somewhat, however, by the annual restriction which prevents building of ships in foreign shipyards. Excluding this restriction, only four other competition restrictions have been enacted.

Two planning restrictions have been enacted in the Appropriations Acts: the Defense Satellite Communication System in 1982 and the Armored Combat Earthmover in 1985.

The most significant increase in Congressional restrictions in the Appropriations Acts is in the certification category, which increased between 1981 and to 1986, peaking in 1984. The two remaining restriction categories, technical and other, have not shown much Congressional activity.

The full text of all restrictions and earmarkings in the FY1986 Appropriations Act is shown below.

Act: Appropriation Action: Restriction
Effect: Other

Title: III - Procurement
Shipbuilding and Conversion - Navy

Section:

Service: Navy
System ID: CG-47/DDG-51 components

Amount: Other Amount: Quantity:

DDG-51 destroyer program, $74,000,000: Provided, that the Secretary of the Navy shall select a second source, by the most expeditious means available, for the CG-47 and DDG-51 SPY-1 radar; AEGIS production test center, shipyard and shipboard combat system integration; AEGIS color graphic display systems; solid state frequency converters; and propellers in order to begin competition between the current contractors and the second source contractors in fiscal year 1988: Provided further, that any such selection shall not adversely affect the CG-47 and DDG-51 shipbuilding program schedule and costs.

Act: Appropriation Action: Restriction
Effect: Competition

Title: III - Procurement
Shipbuilding and Conversion - Navy

Section:

Service: Navy
System ID: Ships

Amount: Other Amount: Quantity:

Provided further, that none of the funds herein provided for the construction or conversion of any naval vessel to be constructed in shipyards in the United States shall be expended in foreign shipyards for the construction of major components of the hull or superstructure of such vessel: Provided further, that none of the funds herein provided shall be used for the construction of any naval vessel in foreign shipyards.

Act: Appropriation Action: Restriction
Effect: Funding

Title: III - Procurement
Aircraft Procurement - Air Force

Section:

Service: Air Force
System ID: B-1B bomber

Amount: 20,500,000,000 Other Amount: Quantity:

Provided further, that none of the funds in this Act may be obligated on B-1B bomber production contracts if such contracts would cause the production portion of the Air Force's $20,500,000,000 estimate for the B-1B bomber baseline costs expressed in fiscal year 1981 constant dollars to be exceeded.

Act: Appropriation Action: Restriction
Effect: Certification

Title: III - Procurement
Other Procurement - Air Force

Section:

Service: Air Force
System ID: 30-mm ammunition

Amount: Other Amount: Quantity:

Provided further, that no obligation may be incurred for the procurement of 30mm armor piercing ammunition unless there is component breakout for the depleted uranium penetrator.

Act: Appropriation Action: Restriction
Effect: Funding

Title: VIII - General Provisions

Section: 8082

Service: Other
System ID: JTACMS (Joint Tactical Missile System)

Amount: Other Amount: Quantity:

Sec. 8082. Notwithstanding any other provision of this Act, no funds appropriated by this Act shall be expended for the research, development, test evaluation or procurement for integration of a nuclear warhead into the Joint Tactical Missile System (JTACMS).

Act: Appropriation Action: Restriction
Effect: Certification

Title: VIII - General Provisions

Section: 8093

Service: Army
System ID: Binary Chemical Munitions

Amount: Other Amount: Quantity:

Section 1411 of the Department of Defense Authorization Act, 1986, (Public Law 99–145) is amended to read as follows:

SEC. 1411. CONDITIONS ON SPENDING FUNDS FOR BINARY CHEMICAL MUNITIONS

(a) LIMITATIONS ON FISCAL YEAR 1986 FUNDS.—Funds appropriated pursuant to authorizations of appropriations in title I may not be used—

(1) for procurement or assembly of binary chemical munitions (or components of such munitions); or

(2) for establishment of production facilities necessary for procurement or assembly of binary chemical munitions (or components of such munitions), except in accordance with subsections (b), (c), (d), and (e).

(b) NATO CONSULTATION.—Subject to subsections (c), (d), and (e), funds referred to in subsection (a) may be used for procurement or assembly of binary chemical munitions or for the establishment of production facilities necessary for the procurement or assembly of binary chemical munitions (or components of such munitions) if the President certifies to Congress that the United States—

(1) has submitted to the North Atlantic Treaty Organization, a force goal stating the requirement for modernization of the United States proportional share of the NATO chemical deterrent with binary munitions and said force goal has been formally adopted by the North Atlantic Council;

(2) has developed in coordination with the Supreme Allied Commander, Europe, a plan under which United States binary chemical munitions can be deployed under appropriate contingency plans to deter chemical weapons attacks against the United States and its allies; and

(3) has consulted with other member nations of the North Atlantic Treaty Organization (NATO) on that plan.

(c) CONDITIONS FOR FINAL ASSEMBLY.—Funds referred to in subsection (a) may not be used for the final assembly of complete binary chemical munitions before October 1, 1987, and, subject to subsections (d) and (e), may only be used for such purpose on or after that date if—

(1) a mutually verifiable international agreement concerning binary and other similar chemical munitions has not been entered into by the

United States by that date;

(2) the President, after that date, transmits to Congress a certification that—

(A) final assembly of such complete munitions is necessitated by national security interests of the United States and the interests of other NATO member nations;

(B) handling and storage safety specifications established by the Department of Defense with respect to such munitions will be met or exceeded;

(C) applicable Federal safety requirements will be met or exceeded in the handling, storage, and other use of such munitions; and

(D) the plan of the Secretary of Defense for destruction of existing United States chemical warfare stocks developed pursuant to section 1412 (which shall, if not sooner transmitted to Congress, accompany such certification) is ready to be implemented;

(3) final assembly is carried out only after the end of the 60-day period beginning on the date such certification is received by the Congress;

(4) the plan of the Secretary of Defense for land-based storage of such munitions within the United States during peacetime provides that the two components that constitute a binary chemical munition are to be stored in separate States; and

(5) the plan of the Secretary of Defense for the transportation of such munitions within the United States during peacetime provides that the two components that constitute a binary munition are transported separately.

Act: Appropriation Action: Restriction
Effect: Certification

Title: VIII - General Provisions

Section: 8093 d 1, 2, 3

Service: Air Force
System ID: BIGEYE (Chemical Warfare Weapon)

Amount: Other Amount: Quantity:

(d) RESTRICTIONS ON PRODUCTION OF THE BIGEYE BOMB.—Except as provided below, none of the funds appropriated pursuant to authorizations of appropriations in title I may be used for procurement or assembly of the BIGEYE binary chemical bomb or for procurement of components for the BIGEYE bomb until 60 days after the Secretary of Defense has submitted a report describing—

(1) the specific operational requirements which must be achieved by the BIGEYE system; and

(2) the actual performance of the system during operational testing with respect to each of the operational test criteria; and

(3) any exceptions to the operational criteria deemed acceptable by the Department of Defense.

Act: Appropriation Action: Restriction
Effect: Funding

Title: VIII - General Provisions

Section: 8093 e

Service: Army
System ID: GB-2 artillery projectile

Amount: Other Amount: Quantity:

(e) RESTRICTION ON PRODUCTION OF THE GB-2 ARTILLERY PROJECTILE.—None of the funds appropriated pursuant to authorizations in title I for procurement or assembly of the GB-2 artillery projectile may be obligated or expended before October 1, 1986.

Act: Appropriation Action: Restriction
Effect: Other

Title: VIII - General Provisions

Section: 8094

Service: Air Force
System ID: C-12 aircraft

Amount: Other Amount: Quantity:

Sec. 8094. None of the funds appropriated in this Act may be obligated or expended for procurement of C-12 aircraft unless such aircraft are procured through competitive procedures (as defined in section 2302(2) of title 10, United States Code), which shall be restricted to turboprop aircraft.

Act: Appropriation Action: Restriction
Effect: Competition

Title: VIII - General Provisions

Section: 8095

Service: Army
System ID: 120mm mortar ammunition

Amount: Other Amount: Quantity:

Sec. 8095. None of the funds in this Act may be obligated for procurement of 120mm mortars or 120mm mortar ammunition manufactured outside of the United States: Provided, that this limitation shall not apply to procurement of such mortars or ammunition required for testing, evaluation, type classification or equipping the Army's Ninth Infantry Division (Motorized).

Act: Appropriation Action: Restriction
Effect: Certification

Title: VIII - General Provisions

Section: 8097

Service: Army, Air Force
System ID: Space Defense System

Amount: Other Amount: Quantity:

Sec. 8097. None of the funds appropriated by this Act or any other Act may be obligated or expended to carry out a test of the Space Defense System (anti-satellite weapon) against an object in space until the President certifies to Congress that the Soviet Union has conducted, after October 3, 1985, a test against an object in space of a dedicated anti-satellite weapon.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: III - Procurement
Aircraft Procurement - Navy

Section:

Service: Navy
System ID: P-3C (Orion)

Amount: 322,871,000 Other Amount: Quantity: 9

Provided, that $322,871,000 shall be available only for the procurement of nine new PC-3 anti-submarine warfare aircraft.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: III - Procurement
Aircraft Procurement - Air Force

Section:

Service: Air Force
System ID: Air defense aircraft competition

Amount: 200,000,000 Other Amount: Quantity:

of which $200,000,000 shall be available only to initiate the air defense aircraft competition authorized by law.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: IV - Research, Development, Test and Evaluation
Limitation on Funds for the Army

Section:

Service: Army
System ID: Hellfire/UH-60

Amount: 17,000,000 Other Amount: Quantity:

of which $17,000,000 is available only for completing development, transitioning into low-rate initial production, and initial procurement of shipsets required to arm UH-60 Blackhawk helicopters with Hellfire missiles, to remain available for obligation until September 30, 1987.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: IV - Research, Development, Test and Evaluation
Limitation on Funds for the Navy

Section:

Service: Navy
System ID: Low Cost Anti-Radiation Seeker

Amount: 17,523,000 Other Amount: Quantity:

of which $17,523,000 is available only for the Low Cost Anti-Radiation Seeker Program.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: IV - Research, Development, Test and Evaluation
Limitation on Funds for the Navy

Section:

Service: Navy
System ID: Laser Articulating Robotic System

Amount: 5,500,000 Other Amount: Quantity:

$5,500,000 is available only for the Laser Articulating Robotic System.

Act: Appropriation Action: Earmarking
Effect: Funding

Title: Research, Development, Test and Evaluation
Limitation on Funds for Defense Agencies

Section:

Service: Other
System ID: Conventional Munitions Technology Development

Amount: 8,287,000 Other Amount: Quantity:

$8,287,000 shall be available only for the joint Department of Defense-Department of Energy Conventional Munitions Technology Development Program.

Appendix E

FEATURES OF DEFENSE INDUSTRY REGULATION[1]

Despite widespread and long-standing recognition of the inherent difficulty of seeking the optimal balance between accountability and the freedom to pursue technological opportunities in defense acquisition, there has been little formal analysis of regulation in area of defense procurement. The consequent social costs, as well as benefits, of other forms of regulatory activity have been assessed,[2] but there is little information—either theoretical or applied—on the relationship between the costs and benefits of regulation for the defense sector. We found virtually no discussion in the economics and management sciences literature of the defense acquisition process from a regulatory perspective. Not only has this domain been virtually ignored by individuals whose speciality is regulation,[3] but the deregulation movement, which touched several industrial sectors in the 1970s, has bypassed defense.

This brief introductory discussion of the regulation and administration of defense acquisition will cover three topics: first, a taxonomy of the regulatory process; second, an examination of how defense regulation differs from other regulatory processes; and third, a classification of how regulation affects the acquisition process.

A TAXONOMY OF DEFENSE REGULATIONS

The term "regulation" covers a wide variety of instruments and policies of government. Broadly defined, regulation covers the whole range of government requirements directed toward private industry. Some regulations involve working conditions and social objectives; others delve into what are fundamentally commercial decisions, such as what to produce and how to produce it. A taxonomy of the different types of

[1]This appendix was prepared by K. W. Tyson and J. R. Nelson at the Institute for Defense Analyses.

[2]See, for example, Murray L. Weidenbaum, *The Future of Business Regulation: Private Action and Public Demand*, American Management Association, 1979.

[3]The classic work, Alfred Kahn, *The Economics of Regulation: Principles and Institutions* (John Wiley and Sons, New York, 1970) mentions defense procurement only in two footnotes. Within the defense sector, many studies have addressed issues of acquisition policy or individual regulations, from which we have drawn for background.

regulations is useful to help organize and bound the area for subsequent analysis. The following discussion is summarized in Fig. E.1.

Objectives of Regulations

Regulations can have either social or industrial objectives. *Social* regulations are generated to benefit society. The objective may be creating an equitable or fair society, providing for clean air and water, or ensuring a safe workplace. *Industrial* regulations are designed to encourage efficiency and effectiveness and generally focus on pricing policies and development and production processes.

Many industries are subject to social regulations. The Environmental Protection Agency and Occupational Safety and Health Administration regulations, for example, affect virtually all industrial concerns. Government contractors, including defense, must comply with additional social regulations, such as the Davis-Bacon Act[4] and fair employment legislation.

Industrial regulations usually involve a single industry and are put in place because the free market fails to achieve efficiency, effectiveness, or product availability to the degree society wants. Industrial regulations deal with fundamental decisions usually made by individual companies: what to produce, entering or leaving the marketplace, the quality of the product, and the price of the product. In this study, we are concerned almost exclusively with industrial regulations as applied to the defense industry.

Sources of Regulation

Many institutions are involved in the regulation and administration of weapons acquisition, including the Congress and its related agencies, the Office of the Secretary of Defense, the individual Armed Services, other defense agencies, and related Executive agencies. In the traditionally regulated industries, there are agencies which specialize in the administration of regulations. For example, the Interstate Commerce Commission's primary function is the regulation of transportation. However, in the weapons acquisition process the nature and roles of the institutions differ. In some instances defense acquisition institutions have both regulatory and administrative functions (such as the DCAA), in other cases the processes of regulation and administration are fulfilled by individuals, such as the procurement contracting officer (PCO), the administrative contracting officer (ACO), and the program

[4]The Davis-Bacon Act ensures that union wage rates are used on most federal construction projects.

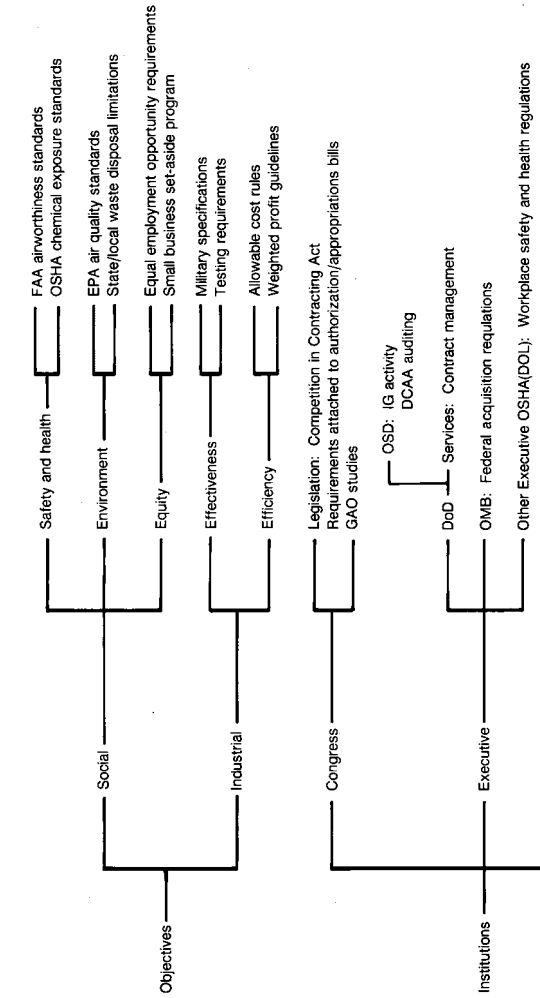


Fig. E.1—A taxonomy of defense regulations

manager (PM). Such officials are "dual hatted" in the sense that they are both buyers of products and regulators of the firms that produce the products they procure, but they typically have little or no influence on the creation of regulations. This is but one of the unique features of the DoD regulatory process.

Instruments of Regulation

The instruments of regulation are diverse. Legislation plays an important role, but that is frequently expanded by items written into individual contracts issued by government agencies. Furthermore, the Department of Defense and its various agencies issue many regulations and directives of their own. Finally, the body of effective regulation tends to grow over time through an accumulation of the audit and oversight procedures that are instituted by the various agencies. Thus, the body of "regulations" controlling defense acquisition comprises all the laws and directives written to date, with the exception only of those that have been explicitly cancelled or superseded.

Enforcement Mechanisms

Formal penalties include termination of the contract, debarment (inability to get a government contract for a period of time), or criminal penalties against the officers of the company. Informal penalties also include additional regulation and public scrutiny. By comparison, in the free-market the typical private buyer does not have the power to exact criminal penalties.

Defense Industry Regulation Compared With Other Types of Regulation

All industries are subject to at least some regulation. To get an idea of how defense industries rank in comparison with other industries, a relative level of regulatory effort (low, medium, or high) was applied for each element in the taxonomy shown in Fig. E.1 to four industry groupings. For this preliminary discussion, contract provisions are included in the general category of "defense regulation."

1. All industry (the universe of commercial industry);
2. Regulated industries (such as electric and gas utilities which are subject to a regulatory board that sets prices and quality standards);

3. Government contractors (companies selling goods or services to the government);
4. Defense contractors (in this sample, mainly large prime contractors for major weapon systems)

Results are shown in Fig. E.2.

The criteria included judgments about and, where possible, rough measures of the following four conditions: (1) the amount of legislation and other regulation to which each industry grouping is subject; (2) the proportion of total industry transactions covered by regulation; (3) the extent to which regulation constrains routine business decisions; and (4) government spending on monitoring relative to industry sales. It is, of course, true that individual judgments about items in the matrix are open to debate, but the broad trend seems to be that in comparison with industry in general, defense contractors face a higher level of regulation from a wider variety of sources.

Many private industries must operate under a high degree of regulation that influences what they produce and how it is priced; for example, electric utilities face regulation of prices, quality and conditions of service, and an obligation to provide service. While utility commissions have the power to regulate both price and quality of service, in practice they have devoted much more attention to price than to quality.[5] By contrast, the government monitors both price and quality of weapon systems. Moreover, there is a perception that the defense industry is subject to a higher level of social regulation by virtue of the dominance of the government contracting process, which by most standards is considered quite restrictive compared with the contractual constraints that are placed upon firms doing business in the nongovernment world.[6] Therefore, it seems plausible to observe that, on the basis of this preliminary research, the level of effort devoted to the regulation of the defense industry is greater than that of private firms which are engaged in selling products to nongovernmental entities. Whether the defense industry is more regulated than, say, the public utilities cannot be resolved with any fidelity at this stage.

Government contractors are subject to more regulations that have equity objectives (such as Davis-Bacon, Buy American, and EEO

[5]Alfred A. Kahn, *The Economics of Regulation: Principles and Institutions*, John Wiley and Sons, New York, 1970.

[6]See Barry L. Shillito, "How to Implement Our Sound Weapons Acquisition Policies," *Defense Management Journal*, Fall 1971, who compared the few pages of public utility guidelines he found with the several hundred pounds of defense regulations and concluded: "The reality is that there are infinitely more controls in the so-called free enterprise environment of the major weapons systems contractor than there are in the controlled environment of the public utility."

	All Industry	Regulated Industries	Government Contractors	Defense Contractors
Objectives				
Revenue	H	H	H	H
Social				
Health and safety	M	M	M	H
Environment	L	M	M	M
Equity	L	M	H	H
Industrial				
Effectiveness	—	H	H	H
Efficiency	—	H	H	H
Institutional sources				
Congress	M	M	H	H
Judiciary	L	M	H	H
Executive	L	H	H	H
Instruments				
Laws	M	M	H	H
Contracts	L-M	L-M	H	H
Warranties	L-M	L-M	M	H
Regulations	L	M	M	H
Directives	L	M	M	H
Inspections	L	M	M-H	H
Investigations	L	M	M-H	H
Administrative practices	L	M-H	M-H	H
Enforcement mechanisms				
Formal	L	M	H	H
Informal	M	M	M	H

NOTE: L = low, M = medium, H = high.

Fig. E.2—Relative level of regulatory effort

regulations) than either private industry in general or public utilities. It also should be noted that within the overall group of government contractors, defense contractors have the additional requirement of dealing with Federal Acquisition Regulations (FAR), the Defense FAR supplement, and the whole range of military specifications and standards.

From this discussion, we could say that to some extent defense contractors are subject to a higher degree of regulation than private firms. But this says little about whether such regulations are appropriate or for that matter inevitable. The regulatory provisions to which defense contractors are subject apply because they are written into government development and procurement contracts. Some of these provisions might be seen in agreements between private buyers and sellers, but any company can escape much of the burden by choosing not to sell to the government.

Since defense contractors face a high degree of regulation for all objectives except perhaps for environmental concerns, there is more opportunity for regulatory objectives to be in conflict. For the Department of Defense, charged with the task of enforcing these regulations, opportunities for confusion abound.

There are also distinctive features of the defense regulatory process that are not noted in Fig. E.2. First, in a traditional regulated industry, a single agency typically administers the regulatory process. For example, until airline deregulation, the Civil Aeronautics Board controlled commercial airline routings and fares, whereas Congress paid relatively little attention to how the airlines functioned. Congress is, however, involved in regulation of defense contractors in considerable detail, setting specific rules and procedures.

Second, since the traditional regulatory process involves fewer actors, in theory the principal regulatory agency can attempt to pursue a coherent strategy, which might involve for instance, trading off higher prices for higher quality service. Because the defense regulatory process is so fragmented, regulations are diffuse and sometimes contradictory. For example, while DoD is encouraged to "Buy American," it also sometimes buys parts or development expertise from foreign countries as part of the foreign offset sales program. Regulations are often imposed without consideration of how they will interact with other regulations and without provisions for evaluation or "sunset" rules.

Third, in traditional regulation, different products—airline transportation, trucking, electric power, and banking services—are regulated separately. Each of these industries responds to different regulatory agencies which take into account the distinctive features of the

industry. In defense regulation, however, the only regulations tailored to the product are performance specifications. Allowable cost regulations and many other regulations are uniform regardless of what is being acquired and regardless of the characteristics of the industry producing it.

EFFECTS OF REGULATION ON WEAPONS ACQUISITION

The effects of weapon system acquisition regulation and administration may be examined on three broad categories of the potential costs of regulation.[7] We wish only to identify these classes of regulatory costs and to leave any detailed consideration of their effect on defense acquisition to future studies.

Government Administrative Costs include what one could call "direct" costs, such as the costs of the audit and investigation agencies in the Department of Defense and the military services. These costs probably represent the smallest portion of the total costs and are the easiest to measure.

Industry Compliance Costs are larger and more difficult to measure. For social regulations, there is a substantial literature on measurement of these costs for commercial industry, which might be used to develop methods for measuring such costs in the defense industry. The compliance cost for industrial regulations is harder to measure, and there has been less methodological work done. We found little information on this type of costs in the available literature.

Incentive Structure Effects are the most difficult to quantify. Yet it is important to understand that the body of acquisition regulations as well as each incremental change in regulations or administration alters the incentive structure of the defense industry. For example, in a cost-based environment, there is no particular incentive to use the lowest-cost modes of production. Moreover, when profits are constrained, there may be less incentive to take risks and use innovative approaches. Thus, regulations may have long-term effects on the cost and pace of programs, the availability of innovative new technologies, and the overall structure of the defense industry.

Who pays these costs? It seems reasonable to speculate that most of the costs are paid for by the government—this is certainly true for administrative costs and perhaps for other costs to the extent that they can be charged to the government as part of a contract (known as allowable costs). As an example of how these types of effects can be

[7]This discussion follows the organizing scheme in Murray L. Weidenbaum, "The High Cost of Government Regulation," *Challenge*, November/December 1979.

embodied in a particular regulation, Fig. E.3 classifies some (but by no means all) of the potential effects of the new Competition in Contracting Act (CICA). From the Services' point of view, this legislation has resulted in considerable administrative burden. Despite its purpose of creating more competition (and simultaneously it was hoped to reduce regulation), the general perception among government administrators and program managers is that CICA is "just another regulation." From the program manager's point of view, the procedures required for, among other things, a determination of the availability of multiple sources or the justification for using noncompetitive procurements, are seen as yet another set of obstacles to getting the program going.

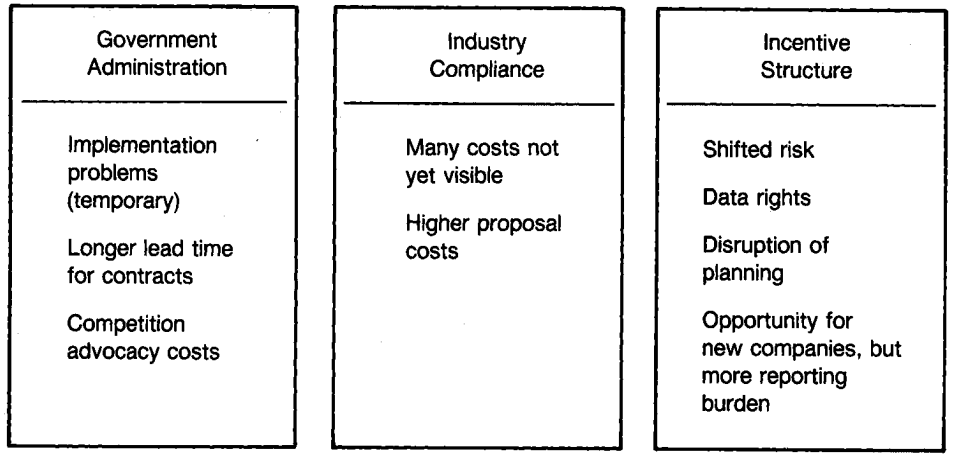
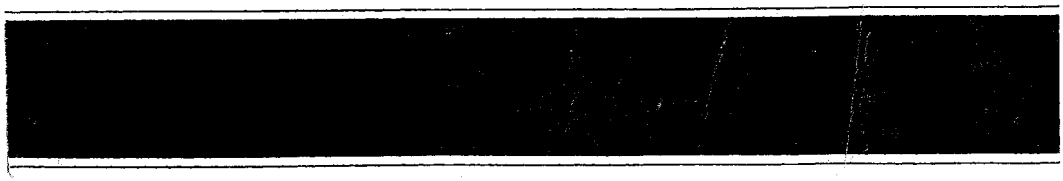


Fig. E.3—Types of costs of regulation: CICA

RAND/R-3578-ACQ