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A comparative history of Department of Defense Management reform from 1947 to 2005

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A Comparative History of Department of Defense Management Reform from 1947 to 2005

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The purpose of this MBA Project is to document and analyze the history of management reform within the Department of Defense from 1947 through the present day based on the annual reports of the Secretaries of Defense to the Congress. Since its inception in 1947, the Department of Defense has undergone nearly constant management reforms. It appears that each administration attempts to introduce some type of management reform agenda to improve the Department of Defense business processes and incorporate recent management ideas from the business community. Some of the changes are real and significant; others are changes in name only. Through analysis of annual reports of the Secretaries of Defense, a compilation of significant management reforms was created for each secretary. These reforms were analyzed and compared to one another to identify both general trends and truly unique changes in management practices. Ultimately, this analysis will help distinguish the relative significance in the management reform effort of both the individual secretaries and the specific reform initiatives.

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A COMPARATIVE HISTORY OF DEPARTMENT OF DEFENSE MANAGEMENT REFORM FROM 1947 TO 2005

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Submitted in partial fulfillment of the requirements for the degree of

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A COMPARATIVE HISTORY OF DEPARTMENT OF DEFENSE MANAGEMENT REFORM FROM 1947 TO 2005

ABSTRACT

The purpose of this MBA Project is to document and analyze the history of management reform within the Department of Defense from 1947 through the present day based on the annual reports of the Secretaries of Defense to the Congress. Since its inception in 1947, the Department of Defense has undergone nearly constant management reforms. It appears that each administration attempts to introduce some type of management reform agenda to improve the Department of Defense business processes and incorporate recent management ideas from the business community. Some of the changes are real and significant; others are changes in name only. Through analysis of annual reports of the Secretaries of Defense, a compilation of significant management reforms was created for each secretary. These reforms were analyzed and compared to one another to identify both general trends and truly unique changes in management practices. Ultimately, this analysis will help distinguish the relative significance in the management reform effort of both the individual secretaries and the specific reform initiatives.

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LIST OF TERMS

ACTD	Advanced Concept Technology Demonstration
ADP	Automated Data Processing
AIS	Automated Information System
APPSSA	Advanced Procurement Planning System for Security Assistance
ARCC	Acquisition Reform Communications Center
ARSSG	Acquisition Reform Senior Steering Group
BMMP	Business Management Modernization Plan
BRAC	Base Realignment and Closure
C3I	Command, Control, Communications, and Intelligence
CAIG	Cost Analysis Improvement Group
CAIV	Cost as an Independent Variable
CAS	Contract Administration Services
CCAP	Commercial Commodity Acquisition Program
CCR	Central Contractor Registration
CFO	Chief Financial Officer
CINC	Commander in Chief
CIM	Corporate Information Management
CIO	Chief Information Officer
CJCS	Chairman of the Joint Chiefs of Staff
CMCHS	Civilian-Military Contingency Hospital System
CONUS	Continental United States
CORE	This is not an acronym but the actual name of a program

CRAG	Contractor Risk Assessment Guide
CTIP	Commercial Technology Insertion Program
CWT	Customer Wait Time
DAIP	Defense Acquisitions Improvement Program
DAU	Defense Acquisitions University
DAWIA	Defense Acquisitions Workforce Improvement Act
DBMU	Defense Business Management University
DBOF	Defense Business Operations Fund
DBPIB	Defense Business Practices Implementation Board
DCAA	Defense Contract Audit Agency
DCII	DFAS Corporate Information Infrastructure
DCIMI	DoD Council on Integrity and Management Improvement
DCMC	Defense Contact Management Command
DCP	Development Concept Paper
DCPS	Defense Civilian Pay System
DeCA	Defense Commissary Agency
DEERS	Defense Eligibility Enrollment Reporting System
DFARS	Defense Federal Acquisition Regulation Supplement
DFAS	Defense Finance and Accounting Service
DIA	Defense Intelligence Agency
DII	Defense Information Infrastructure
DISA	Defense Information Systems Agency
DITSO	Defense Information Technology Service Organization
DJMPS	Defense Joint Military Pay System

DLA	Defense Logistics Agency
DoD	Department of Defense
DOE	Department of Energy
DOT&E	Director, Operational Test and Evaluation
DRI	Defense Reform Initiative
DSA	Defense Supply Agency
DSARC	Defense Systems Acquisition Review Council
DTRS	Defense Transportation Payment System
DTS	Defense Travel System
DUAP	Dual Use Applications Program
DWCF	Defense Working Capital Funds
EB	Electronic Business
EC	Electronic Commerce
EDI	Electronic Data Interchange
EDM	Electronic Data Management
EFI	Efficient Facilities Initiative
EFT	Electronic Funds Transfer
EPIC	Electronic Process Initiatives Committee
FACENET	Federal Acquisitions Computer Network
FAM	Facilities Aging Model
FASA	Federal Acquisition Streamlining Act
FIAR	Financial Improvement and Audit Readiness
FFMIP	Foreign Military Sales Financial Management Improvement Program

FM	Financial Management
FMFIA	Federal Managers' Financial Integrity Act of 1982
FRM	Facilities Recapitalization Metric
FSM	Facilities Sustainment Model
GAAP	Generally Accepted Accounting Principles
GAO	General Accounting Office
GSA	General Services Administration
HASC	House Armed Services Committee
ICBM	Intercontinental Ballistic Missiles
ICP	Inventory Control Point
IG	Inspector General
INF	Intermediate-Range Nuclear Forces Treaty of 1987
IOC	Initial Operational Capability
IPT	Integrate Product Team
IRP	Inventory Reduction Plan
ITV	Intransit Visibility
JCS	Joint Chiefs of Staff
JECPO	Joint Electronic Commerce Program Office
JFM	Joint Forces Memorandum
JG-APP	Joint Group on Acquisition Pollutions Prevention
JPAM	Joint Program Assessment Memorandum
JPG	Joint Planning Guidance
JRMB	Joint Requirements and Management Board
JSOP	Joint Strategic Objectives Plan

JSPD	Joint Strategic Planning Document
LCC	Life Cycle Cost
LOGMARS	Automated Marking and Reading Symbols
MBO	Management By Objective
MCP	Mission Concept Paper
MCTFS	Marine Corps Total Force System
MDAP	Major Defense Acquisition Program
MIP	Management Improvement Plan
NATO	North Atlantic Treaty Organization
NCP	National Capital Region
NDI	Non-Developmental Item
NMCS	National Military Command Structure
NME	National Military Establishment
NPR	National Performance Review
NSC	National Security Council
O&S	Operations and Support
OEA	Office of Economic Adjustment
OJCS	Office of the Joint Chiefs of Staff
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
OSH	Occupational Safety and Health
OT&E	Operational Test and Evaluation
P&Q	Productivity and Quality
PAT	Process Action Team

PBAS	Program Budget Accounting System
PECI	Productivity Enhancing Capital Investment
PEO	Program Executive Officer
PM	Program Manager
POM	Program Objective Memorandum
PPBS	Planning, Programming and Budgeting System
PPI	Past Performance Information
PRIME	Priority Management Efforts
PWC	Public Works Centers
R&D	Research and Development
RBA	Revolution in Business Affairs
RFID	Radio Frequency Identification
RMA	Revolution in Military Affairs
SAE	Service Acquisition Executive
SAP	Simplified Acquisition Procedure
SASC	Senate Armed Services Committee
SBIR	Small Business Innovation Research
SDB	Small Disadvantaged Business
SDI	Strategic Defense Initiative
SEC	Senior Executive Council
SLBM	Submarine Launched Ballistic Missile
SBO	Small Business Office
SPI	Single Process Initiative
START	Strategic Arms Reduction Treaty

TRP	Technology Reinvestment Project
T&E	Testing and Evaluation
TOC	Total Ownership Cost
TAV	Total Asset Visibility
TOA	Total Obligational Authority
TQM	Total Quality Management
SALT II	Strategic Arms Limitation Talks II

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EXECUTIVE SUMMARY

Since its inception in 1947, the Department of Defense has undergone nearly constant management reforms. It appears that each administration attempts to introduce some type of management reform agenda to improve the Department of Defense business processes and incorporate recent management ideas from the business community. Some of the changes are real and significant; others are changes in name only. Through analysis of annual reports of the Secretaries of Defense, a compilation of significant management reforms was created for each secretary. These reforms are then analyzed based on their type, area, magnitude, and reform "tide", then compared to one another to identify trends or changes in Department of Defense management practices.

Several trends became evident in the analysis of data. The structure of the Department was the highest priority in the earlier years, but tapered off in the later ones. It appears that once the areas of responsibility and chain of command had matured and been exercised through numerous global crises, a sound organizational framework was gradually developed that has endured the last few decades with only incremental changes. The focus on acquisitions has accelerated in recent years, perhaps because of the total dollar value of acquisitions, or because of the dramatic costs and schedule growth of high-technology systems. Since Forrestal began the drawdown of the support structure following World War II, the elimination of excess base capacity and the more efficient use of facilities has been an unstoppable progression. The establishment of the BRAC Commission formalized the process, but the objectives remain virtually unchanged.

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I. INTRODUCTION

A. PURPOSE

The objective of this project is to conduct archival research to identify the management reform agendas for each Secretary of Defense and compare and contrast those with each other to identify recurring themes. Ultimately, this analysis will be part of a larger study conducted by the Center for Defense Management Reform.

B. RESEARCH QUESTIONS

It sometimes appears that each new Secretary of Defense introduces a whole new way of doing business within the Department of Defense, but it may be that through the years the names have changed but many of the actual policies have followed a larger trend. To investigate, this project documents the history of management reform as part of a larger project by the Center for Defense Management Reform. The research question is as follows: What is the history of defense management reform of the Secretaries of Defense from James Forrestal to Donald Rumsfeld? Specific questions that will be answered are: What are the similarities and differences of the reform agendas for each Secretary of Defense? Are there recurring themes?

C. METHODOLOGY

The methodology of this report begins with identifying the problem. Each new Secretary of Defense introduces management reforms of some type, whether they are broad-scoped or focused in specific areas. The true value and uniqueness of these reforms is often drawn into question, as the names have changed but the substance of the reforms seems strangely familiar.

Previous research has been done on management reform trends in numerous areas, to include business, government, and the Department of Defense. However, the authors have not identified any previous work that compiles the management reform trends of the Secretaries of Defense from 1947 to 2005. This paper will attempt to compile the significant reform initiatives of each secretary from their annual reports to

the President and the Congress. The data, then, is a compilation of what each secretary hoped to accomplish, as stated in their own words. From this data, analysis will be conducted that will extrapolate the following:

- The initial introduction of new management ideas and programs.
- The general trends and themes that appear across secretaries and over time.

D. ORGANIZATION

Chapter II begins the project with a review of previous works on change management and management reform. Consideration is given not only to Defense management reform, but also reform in both general government operations and the business community. This is important for two reasons. First, management reforms are rarely developed in isolation from other government agencies. Rather, they are often an extension of the Presidential administration agendas. Second, the business community is usually the innovator of management techniques, always looking for news ways to maximize profits and the efficient use of assets. While the Department of Defense has no profit motive, it does operate in many respects like a large multi-national organization and is supported by what are essentially business processes. This chapter is by no means a comprehensive review of all previous works, but a summation of significant previous works in change management and management reform that will serve as a point of reference for this project.

The data are presented in Chapter III. The data were drawn from the Annual Reports of the Secretary of Defense to the President and the Congress from James Forrestal in 1947 to Donald Rumsfeld in 2005. Each annual report was examined and the significant management reform initiatives and policies were drawn from them. The authors then compiled those findings under related functions and presented the data for the entire duration of each administration.

Chapter IV presents the analysis of data. The qualitative nature of the data does not lend itself to standard statistical analysis. Instead, the data were analyzed in two non-quantitative ways. In the first analysis, significant management initiatives were grouped into functions such as organizational management or financial management. Within each

function, all data related to a specific theme were consolidated so that a chronographic depiction of reform trends could be identified. That is, the analysis was conducted in such a way that only significant reform initiatives of the secretaries for any given function were recognized, and for that given function or theme, a general trend could be identified.

The second analysis looked at the data from a different perspective. In this analysis, management initiatives were first classified into several categories that addressed the type of change involved in the initiative. The categories included Area of Change, Magnitude of Change, and Tide of Change. Each category contained several sub-categories, of which one was assigned to each reform initiative. This analysis attempted to identify general macro-level change themes over time and across categories, such that trends in the type and magnitude of reforms would become apparent.

Chapter V is the culmination of the project and presents the conclusions derived from the analysis. It also makes recommendations for further research into various areas.

E. BENEFITS AND LIMITATIONS OF THE STUDY

The Department of Defense has a record of conducting study after study to identify management reform opportunities. Often, after the findings are published, the new Secretary or his administration begins implementing recommended changes, with the objective of creating new and innovative ways for the Department to operate. This work, along with others that will follow from the Center for Defense Management Reform, will provide a reference of management reform for future administrations so that, in formulating their strategies for management reform, they heed the lessons learned from previous administrations and avoid the pitfall of approaching reform de novo.

This study of management reform trends has numerous limitations. The authors attempted to review every annual report of the Secretaries of Defense from 1947 to 2005 but 1976 (James Schlesinger) and 1984 (Caspar Weinberger) were unavailable in the Naval Postgraduate School Library. From each report, the authors attempted to extrapolate the significant management reform initiatives and programs of that Secretary of Defense. Early reports did not explicitly mention management reforms in a specific

part of the report. The authors had to extract that information from the report by focusing on sections that addressed organizational or business management or elements thereof, not the entire report. The later reports often had sections devoted to management issues and reforms of the Department, but they were different in both content and format, with no consistent approach as to what topics were included and which ones were not. Thus, the authors attempted to gather consistent data to the greatest extent possible, but they were not necessarily able to compile all significant programs and initiatives of all secretaries. The information on the relative importance and magnitude of management reforms comes from the Secretaries of Defenses' own words, and has not been judged critically against other historical material.

Another limitation stemmed from the manner in which the reports were written. Some Secretaries, such a William Cohen, wrote lengthy sections about management and management initiatives. Others, such as Donald Rumsfeld during his second term in office, wrote very little. This disparity is evident in the presentation of the data, and must be considered when interpreting the analysis. While the names have changed over the years, the purpose has remained constant: to inform the President and the Congress of the actions and initiatives of the Department over the previous year and to project future initiatives and strategies. Some of the reports were written as if by the Secretary himself, while others were written in the third person as merely a documentation of what the Department was doing. This is important because the reports may or may not accurately depict the personal initiatives of a given Secretary, but rather the Department as a whole, such that initiatives may have begun with little or no input from the Secretary.

Just as there were limitations to data collection, there were also limitations to the analysis. Determination of who first started a program was sometimes unclear. In these cases, the authors used their best judgment based on previous and subsequent reports and other references. Assignment of an initiative or reform to a specific category of change was done according to the definitions for each of those categories. This was achieved using the authors' best judgment, in as consistent of manner as possible, but it is still subjective. Therefore, it is quite possible that certain specific initiatives have been categorized incorrectly, but the authors believe that the general trends should be

unaffected by these discrepancies. Finally, this report makes no attempt at evaluating the effectiveness of any reforms or initiatives. To do so would require in-depth analysis to a degree far beyond the scope of this work. It is merely a compilation of attempted or intended initiatives of the Secretaries of Defense and their administrations.

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II. LITERATURE REVIEW

A. INTRODUCTION

Since the Department of Defense (DoD) was created by the National Security Act of 1947, the Secretaries of Defense and their administrations have sought continuous improvement in management of personnel and resources. The DoD was by no means unique in trying to achieve more efficient and effective management, which has long been a goal of governments and the private sector alike. In 210 BC Petronius Arbiter complained that "we trained hard…but it seemed that every time we were beginning to form up into teams we would be reorganized… I was to learn later in life that we tend to meet any new situation by reorganizing; and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency, and demoralization" (as quoted in Downs and Larkey, 1986, p. 184). Fortunately, this decidedly negative outlook on change and reorganization is only one view of the situation. To better understand and appreciate management reforms, specifically within the Department of Defense, those reforms must be considered within the context of existing organizational change theories. This chapter will examine several of those theories as they pertain to three specific areas: change management in organizations, differences between change management in private and public sector organizations, and analysis of historical change within the executive branch and the Department of Defense.

B. TYPES OF CHANGE

What is change, and how is it typically described in literature? There are many different definitions and nuances of change, several of which are germane to our purposes. Linda Ackerman defines three common types of change as Developmental, Transitional and Transformational. Developmental changes are "the improvement of a skill, method or condition that for some reason does not measure up to current expectations" (Ackerman, 1986, pp. 1-8). Transitional changes are changes to a defined end-state, and Transformational changes are leaps to an unknown end-state (Ackerman, 1986, pp. 1-8).

Golembiewski, Billingsley and Yeager (1976) categorize organizational change into three types, Alpha, Beta and Gamma. Alpha Change is a "variation in the level of some existential state", where the basic state remains the same. Beta Change is a "variation in the level of some existential state [where] some intervals of the measurement continuum…have been recalibrated"; the state is still the same but some measurements have gone off the original scale. And finally, Gamma Change is a "redefinition or reconceptualization of some domain, a major change in the…frame of reference"; a whole new thing.

C. CHANGE MANAGEMENT

It is often assumed that bureaucracies are very resistant to change. Bureaucracies can sometimes be resistant to change because they often rely on rules and hierarchically-based decision making, rather than encouraging new ideas (Kelman, 2005, p. 27). Government bureaucracies can be even more resistant to change than private sector ones because of the lack of incentive structure and the constant turnover of leaders (Kelman, 2005, p. 28) combined with a corresponding low turnover of lower-level personnel (Kelman, 2005, p. 29). Management reform strategies must be driven by motivated, empowered individuals (Kettl, 2005, p. 44), and modern management reform must be backed up by solid evidence (Jones, et al., 2004, p. 6). Sometimes leaders may not try to initiate change often enough, possibly hesitating because they fear resistance to change, or they may fail to keep driving a change once it has started (Kelman, 2005, p. 8). However, Kelman contends that change does not always need to be driven; rather, some members of an organization may already be seeking change (p. 7), the "change vanguard" (p. 39), and change leaders can harness their dissatisfaction with the status quo to power change.

Reforms may be difficult to implement because their results are difficult to predict in advance and to measure once completed. Because of this, reformers may be tempted to overstate both the problems inherent in the current system and the benefits of any potential reform effort, or reforms may be implemented in name only, as a "paper exercise" (Pfiffner, 1998). In the end it is difficult to tell if many reforms have a real and lasting effect, and whether any measured effects are caused by the management reforms

themselves or other outside factors (Kettl, 2005, pp. 60-61). Sometimes reform efforts demonstrate the "Hawthorne Effect", that any attention causes improvement in performance (Pfiffner, 1998). On the other hand, reorganizations, even well designed, often do not show any immediate benefit (Pfiffner, 1998). In the public sector especially, management reforms are often judged on political results than on professed economic or performance achievement (Kettl, 2005, p. 61). It is difficult to judge reorganizations; one may only notice the failures, and the improvements may be difficult to see. Reorganizations often seem to be carried out in the name of efficiency, but they may really be purely for political or selfish goals (Downs and Larkey, 1986, pp. 184-186). "The fact that reform is never finished has been the most important lesson learned from the strategies and tactics of management reform" (Kettl, 2005, p. 59).

D. DIFFERENCES IN PUBLIC AND PRIVATE SECTOR REFORM

"The reform of public management has become a centerpiece in the twenty-first century… governments feel obligated to launch reforms… they feel further obligated to trumpet their success" (Kettl, 2005, p. 77). Most government reforms are based on some sort of business best practice (Downs and Larkey, 1986, p. 23). It is important to recognize, however, that there are several fundamental differences between the private sector and the public sector. Unlike most businesses, government bureaucracies usually have multiple, conflicting and unique goals (Downs and Larkey, 1986, p. 3). The public sector is primarily concerned with "public goods", which cannot be managed by the "bottom line", and instead are subject to the changing winds of politics (Pfiffner, 1998). "Defense resource planning and budgeting is part managerial and part political" (Dawes and Jones, 2005, p. 58). Another difference is that in the private sector, managers are relatively free to select their own goals, while in the government the goals are generally provided by law and managers are free only to accomplish those goals in different ways (Pfiffner, 1998). Management reform decisions within the public sector are made by politicians and managers who may have different goals (Jones, et al., 2004, p. 8). Finally, public organizations are accountable to the Congress and the taxpayers and hence are subject to intense public scrutiny in a way that private businesses are not (Pfiffner, 1998).

Management in the federal government is inefficient by design, through the checks and balances put in place by the Constitution (Pfiffner, 1998). There is also inherent competition between the legislative and executive branches. Congress can and does attempt to micromanage the executive branch via rules and laws (Pfiffner, 1998). All of the executive managerial reform tactics try to overcome the typical bureaucratic problems of top-down hierarchical and rules-based control (Kettl, 2005, p. 41).

There are also difficulties due to turnover within the public sector. When different political parties gain power every few years policies may be reversed and changes undone. Goals may be set to ensure reelection rather than to achieve long-term progress. The high number of political appointees in the U.S. government, relative to other modern democracies, creates further turnover (Pfiffner, 1998).

E. CHANGES WITHIN THE EXECUTIVE BRANCH

"If there is any constant in the globalizing world, it is the rapid pace of government change", Kettl says (2005, p. vii). There have been several trends evident in government reform efforts in the United States during the last century. "Since WWII virtually all reform models seem to have a maximum shelf-life of about a decade" (Jones, et al., 2004, p. 5). Defense management reform has historically come in cycles (Dawe and Jones, 2005), and public management reforms tend to be one of three types: modest reforms, big-bang reforms, or incremental reforms (Kettl, 2005, pp. 80-81). However, Kettl says that "over time reforms have tended toward convergence, characterized by efforts to strengthen the coordination among government programs; strategies to enhance government control over programs, especially through measurement of outcomes; and efforts to enhance public capacity to deliver results" (2005, p. 40). Modern management principles tend to embrace decentralization and delegation (Jones, et al., 2004, p. 8). Government reforms have also tended toward a smaller government in terms of percent GDP spent by the government (Kettl, 2005, p. 64). But, though reformers generally sought to make government smaller, they rarely attempted to reduce its [their] power (p. 71).

The government's interest in Scientific Management, management by analysis and measurement, began with Frederick Taylor and peaked in the 1930s (Pfiffner, 1998).

Beginning in the 1930s the Human Relations Movement took hold. The idea of treating workers better in particular was transferable from the private to the public sector (Pfiffner, 1998). After WWII the United States government increasingly began to wonder how to ensure that the government was efficient and effective (Kettl, 2005, p. 19). The next forty years saw a steady increase in federal (executive) power, until Reagan began to dismantle some of the structure that the government had taken (Kettl, 2005, p. 210). During the Clinton years the federal government began to pass some of the responsibilities it had accumulated back to the states (Kettl, 2005, p. 35). The National Performance Review report, *From Red Tape to Results: Creating a Government That Works Better and Costs Less* of September 1993, resulted in the "most systematic" federal government reform effort to date. The program attempted to incorporate private sector ideas like "putting the customer first", decreasing centralized authority, and cutting the workforce, in public sector management (Pfiffner, 1998).

Much of the management reform within the federal government has been proposed by government or independent commissions. According to Pfiffner, there have been four purposes of the "Blue Ribbon Commissions" seen in the 20th century United States: First, "[to] provide political or technical legitimacy for a specific change"; second, to provide an excuse for delayed action; third, some are mandated by congress for its own purposes; and finally, some are to provide a face-saving way to accomplish necessary bipartisan initiatives (Pfiffner, 1998). The commissions that actually produced change generally increased presidential authority, reorganized the executive branch, or increased efficiency by improving management or trimming fat (Pfiffner, 1998).

The sitting JCS Chairman, General David C. Jones, said in 1982 that because of decentralized control and interservice rivalry, changes in the DoD would always be marginal (Jones, David C., 1982). However, there are some indications of real management change in the executive branch, both revolutionary: "During the 1950s…executive budgeting was transformed somewhat radically through the institution of performance measures into budgets" (Dawe and Jones, 2005), "The PPBES and budget changes implemented under the Bush administration in 2003 are the most comprehensive since the system was established in the early 1960s" (Dawe and Jones, 2005, p. 46), and

incremental: “While no abrupt shifts were made, the Laird era was marked by a steady and persistent shift away from McNamara’s emphasis on centralization” (Dawe and Jones, 2005, p. 38), “DOD has managed the constant evolution of PPBS while keeping its basic structure relatively stable. However, the pace of evolutionary change quickened under Secretary Rumsfeld” (Dawe and Jones, 2005, p. 50).

F. LOOKING AT LEGISLATED MANAGEMENT REFORM

In 1997 Paul C. Light published a book called The Tides of Reform: Making Government Work, 1945-1995. This book specifically examines legislated reform, but the methods of evaluation are important and relevant. The book catalogues and analyzes 141 management reform bills passed between 1945 and 1995. The analysis is presented in a series of tables listing the percentages or number of reforms falling into the category being addressed.

According to Light, government reform generally falls into four categories, which he calls “tides”, that first emerged in the 1830s (Light, 1997, p. 17): Scientific Management (efficiency), War on Waste (economy), Watchful Eye (inspection and oversight), and Liberation Management (letting managers manage) (Light, 1997, p. 1). Liberation management can be seen as the opposite of scientific efficiency (Light, 1997, p. 36). It calls for decentralization of power (Light, 1997, p. 37), “customer service standards” (Light, 1997, p. 39) and “establishment of measurable goals” (Light, 1997, p. 39).

Since these different “tides” are not necessarily compatible, many new reforms undermine old ones (Light, 1997, p. 4). By its nature, the executive branch tends to concentrate on Scientific and Liberation management (Light, 1997, p. 2). A significant portion of reforms carry traits of more than one “tide” (Light, 1997, p. 69).

To analyze the legislative reforms, Light subjectively ranks each reform initiative in each of several different categories, in addition to identifying their “tide”.

- Legislative History: where did the idea come from (Light, 1997, p. 47)?
- Reform Philosophy: “accountability mechanism and general view of government” (Light, 1997, p. 51).
- Change Strategy: focus, tactics and target (Light, 1997, p. 55).

- Scale and Size of initiative: is it a “modification of an existing practice” or is it “a large departure from a prevailing practice” (Light, 1997, p. 58).
- Implementation, permanent or temporary, broad or targeted (Light, 1997, p. 60). Impact, what does it change (Light, 1997, p. 65).

Various national events drove the mood of reforms, and significant events seemed to create “hurricanes of activity” (Light, 1997, p. 90). Light identifies seven “hurricanes” of management reform since 1945 (Light, 1997, p. 90). They are:

- 1945-1946 (scientific management, watchful eye [Light, 1997, p. 91]).
- 1949-1950 (results of the Hoover Commission, high point of scientific management [Light, 1997, p. 93]).
- 1965-1967 (war on waste and watchful eye [Light, 1997, p. 95]).
- 1969-1971 (scientific management, war on waste, liberation management [Light, 1997, p. 98]).
- 1973-1975 (centralization of control by the Nixon Administration, then Watergate, which resulted in the peak of watchful eye [Light, 1997, p. 101]).
- 1977-1979 (combination of “reform-minded” president and congress, watchful eye [Light, 1997, pp. 107-108]).
- 1987-1989 (primarily war on waste and watchful eye, but also scientific and liberation management [Light, 1997, p. 111]).

There were larger trends at work as well. For example Watergate (1974) marked the transfer of responsibility for driving reform from the president to the Congress (Light, 1997, p. 101). The three presidents who stand out for total reforms are Eisenhower for scientific management, Reagan for war on waste, and Clinton for liberation management (Light, 1997, p. 132). President Johnson’s presidency saw the largest scale of reforms, and Clinton’s the second largest (p. 143). And significantly, “The post-1974 era shows the greatest share of new ideas, large or small” (Light, 1997, p. 196). Light noted that there has been a trend of reduction in reforms resulting in the consolidation of executive power since 1945 (Light, 1997, p. 145). “The tides of reform appear to be accelerating. The interval between the last reform and the next appear to be shrinking” (Light, 1997, p. 223).

Finally, Light acknowledges that it is difficult to measure the results of many of the reforms, as “it is very rare to find an acknowledged failure on the list [of 141 legislative reforms]” (Light, 1997, p. 180) and that “there is truly nothing new under the sun when it comes to making government work” (Light, 1997, p. 2).

III. THE HISTORY OF MANAGEMENT REFORM IN THE DEPARTMENT OF DEFENSE

A. INTRODUCTION

1. Brief History of the Military Organization of the United States

The United States' military has been somewhat different from other militaries since its inception. There are several reasons for this. Although based loosely on its European heritage, the United States' (US) military has sought always to find a balance between national security and the freedom of the individual (Stewart, 2004a, p. 14). For much of our history, our geography has isolated us from belligerents, reducing our need for standing forces; only recently has technology closed the gap (Stewart, 2004a, p. 15).

Immediately after the American Revolution Congress wrestled with the question of whether the United States should keep a standing army or rely on citizen militias, and whether available funds would be better spent on a Navy as George Washington suggested (Stewart, 2004a, p. 108). In 1784 Congress authorized a standing force of two artillery and eight infantry companies (Stewart, 2004a, p. 109), but for larger forces they were still at the mercy of the individual states (Stewart, 2004a, p. 111). The Constitution originally provided the Federal Government with the power to create an army independent of the states (Stewart, 2004a, p. 112) and gave all the war power to the President, by making the War Secretary report to him instead of to the Congress (Stewart, 2004a, p. 113).

The Department of War was created on August 7, 1789 and was given jurisdiction over both army and naval matters. The Board of Treasury was the first organization to be charged with procurement of stores and supplies (Stewart, 2004a, p. 113). Supply contracts were given at a fixed price to the lowest bidder, who would then subcontract for a wide range of supplies and equipment (Stewart, 2004a, p. 114). The US was still solely dependent of foreign arms sales, so the Springfield Armory was established to develop domestic production capability and reduce dependence on imported arms (Stewart, 2004a, p. 114).

At this time the bulk of the armed forces was still state militias, and no law had yet been passed giving the Federal Government the power to raise a national militia (Stewart, 2004a, p. 114). In 1802 the Congress divided the country geographically into three military departments each run by a military agent and assistant agents responsible for troops and supplies within that department (Stewart, 2004a, p. 123). In 1812 Congress created an Ordinance Department to look after arms, and a Quartermaster Department to replace the military agents, and for the first time gave the Secretary of War complete control over the Army's supply system (Stewart, 2004a, p. 134). In 1813 Congress created Offices of the Adjutant General, Inspector General, Surgeon General and Apothecary General and increased the Army staff of the War Department (Stewart, 2004a, p. 148). There was still no central system of supply, however, and the contractors were inefficient and fraud was rampant (Stewart, 2004a, p. 148).

The War of 1812 highlighted the need for a professional army (Stewart, 2004a, p. 149). Congress authorized a standing army of 10,000, and created a professional general staff based in Washington (Stewart, 2004a, p. 150). Beginning in 1818 supply contractors were required to deliver supplies to central supply depots rather than directly to the troops so that their performance could be more closely monitored (Stewart, 2004a, p. 163). A Commanding General of the Army Position was created in Washington in 1818 (Stewart, 2004a, p. 164). In the late 1830s a Corps of Artificers was re-introduced to repair wagons and boats (Stewart, 2004a, p. 171).

On the personnel front, difficulties in fielding armies near the end of the Civil War led to the first use of federal conscription (Stewart, 2004a, p. 298). In 1867, after disagreeing with the president over reconstruction, the Congress created the office of General in Chief, through whom all orders would be issued, and who could only be removed by the Senate (Stewart, 2004a, p. 306).

At the end of the 19th century there was still no coordination between foreign policy and military planning (Stewart, 2004a, p. 346). The Spanish American War revealed the need for "reform in the administration and direction of the Army's high command and for elimination of widespread inefficiency in the operations of the War Department" (Stewart, 2004a, p. 369).

Secretary of War Elihu Root, appointed in 1899, was the first Secretary of War to import business practices into the Department of War. He "tended to see the Army's problems as similar to those faced by business executives. The men who have combined various corporations… into what we call trusts have reduced the cost of production and have increased their efficiency by doing the very same thing we propose you shall do now" (Root, as quoted in Stewart, 2004a, p. 369). The problem with the organization of the military was the separate authority of the Commanding General of the Army and the Secretary of War. This could be solved by making the Commanding General of the Army into the Chief of Staff, responsible to the president, through the Secretary of War (Stewart, 2004a, p. 370).

In 1910, the Chief of Staff Major General Wood changed the General staff's focus to planning (Stewart, 2004a, p. 371). The National Defense Act weakened the General Staff, but increased the peacetime strength of the Army to 175,000. It gave the president the authority to force industry to comply with defense orders (Stewart, 2004a, p. 382). In July 1917, over 150 purchasing committees were competing against each other in the open market. Efforts were introduce to "centralize and streamline the supply activities" (Stewart, 2004b, p. 19). Chief of Staff Major General March set about establishing "effectiveness and efficiency in the General Staff and the War Department" (Stewart, 2004b, p. 19).

The National Defense Act of 1916 increased the size of the regular officer corps and included training of the reserve forces in their mission, and specifically assigned mobilization and industrial planning to the War Department (Stewart, 2004b, p. 57). In 1918 the Overman Act was passed, which gave the President the authority to reorganize executive agencies and made the Chief of Staff a full general, able to exercise authority over the Bureau Chiefs (Stewart, 2004b, p. 20). General March quickly expanded and reorganized the General Staff, centralizing authority (Stewart, 2004b, p. 20). The War Industries Board was given "broad powers to coordinate all purchasing by the Army and Navy" (Stewart, 2004b, p. 23).

As Chief of Staff from 1930-1935, General MacArthur reorganized the War Department to contain four Army Headquarters (Stewart, 2004b, p. 66) and focus on the

defense of the Western Hemisphere and the nation's seaports (Stewart, 2004b, p. 67). The War Department created strategic plans for industrial mobilization and manpower mobilization (Stewart, 2004b, p. 68).

After Casablanca in 1943, the American military staff realized the need for closer coordination with the President (Stewart, 2004b, p. 107). As more and more of the Army deployed during World War II (WWII), bases and posts were consolidated to reduce overhead (Stewart, 2004b, p. 120). In WWII the US relied on "central logistical control" to balance the manpower needs of the fighting forces with the manpower needs of industry (Stewart, 2004b, p. 125).

2. Brief History of the Department of Defense

During demobilization from WWII, outgoing and incoming Generals of the Army George C. Marshall and Dwight D. Eisenhower called for "strong centralized control at the national and theater levels" while Secretary of the Navy James V. Forrestal fought for sustaining the current decentralized system (Stewart, 2004b, p. 202). The reform advocates hoped to reorganize to gain economy and efficiency (Stewart, 2004b, p. 202).

After three years of debate, Congress passed the National Security Act of 1947 which created the National Security Council (NSC) and the National Military Establishment (NME). It also created the National Security Resources Board to control manpower and materiel readiness and mobilization (Stewart, 2004b, p. 202). The National Security Act of 1947 created a federated military, with a relatively powerless Secretary of Defense and unclear chains of command (Stewart, 2004b, p. 203). The NSC, consisting of the Secretaries of Defense and State, and the three Service Secretaries, would create integrated plans and present them to the president for approval, then implement them (Stewart, 2004b, p. 202). The NME, run by a cabinet-level Secretary of Defense, included the Army, Navy and Air Force departments and the Joint Chiefs of Staff (JCS) (Stewart, 2004b, p. 202).

The 1949 Amendment to the National Security Act renamed the NME the Department of Defense (DoD), and created the Chairman of the Joint Chiefs of Staff (CJCS) (Stewart, 2004b, p. 203). It also gave the Secretary of Defense more control over the Service Secretaries (Stewart, 2004b, p. 203).

B. JAMES V. FORRESTAL

1. Background

James V. Forrestal served as the first Secretary of Defense, from September 17, 1947 to March 28, 1949. From 1916 to 1940, except for a short stint in the Navy during World War I (WWI), Forrestal worked for an investment banking house, William A. Read and Company of New York. In 1940 he began his government service, working as an under secretary in the Navy in charge of administrative and legal affairs before becoming the Secretary of the Navy in 1944. He was known in Washington as a capable manager and administrator. Prior to becoming the Secretary of Defense, he helped develop the National Security Act of 1947, although he was against unification of the services. Within the Department he spent much of his time implementing the National Security Act. He was also involved in the drawdown from WWII, the implementation of the Marshall Plan to rebuild Europe, and the early escalation of the Cold War (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

Upon his appointment as Secretary of Defense (after President Truman's first choice, former Secretary of War Robert Patterson, refused the job), Secretary Forrestal was immediately involved with Congress and the President in defining the role of the Secretary of Defense within the National Military Establishment (NME). He first asked Congress for an Undersecretary of Defense to help with his workload. He asked to be the sole military representative on the National Security Council (NSC). Additionally, he requested clarification of his power as the Secretary of Defense in exercising direction, control, and authority over the military departments. Separately, he removed the military Chief of Staff to the Commander in Chief (CINC) and created the position of Chairman of the Joint Chiefs of Staff (CJCS) (Forrestal, 1948, p. 3). To further unify the military departments and clarify the chain of command, Secretary Forrestal established unified

theater commands (Forrestal, 1948, p. 6). The military services were working through the growing pains of operating under a unified chain of command, and Forrestal understood the need for incorporating the different experiences and perspectives of each service into the new structure (Forrestal, 1948, p. 8). The true creation of a unified structure would come "not from an Act alone, but from the actions of lieutenants and soldiers" (Forrestal, 1948, p. 19). He firmly established that military department plans were subordinate to Joint Chiefs of Staff (JCS) and Office of the Secretary of Defense (OSD) plans (Forrestal, 1948, p. 41) and that the OSD would step in when the combined departments' requested budgets exceeded that of the president (Forrestal, 1948, p. 41).

The OSD began making changes to improve the "economy and efficiency" of the armed forces, while keeping the military capability (Forrestal, 1948, p. 7). However, Forrestal recognized that economy and efficiency would not happen simply as a result of unification of command, but through "careful examination and vigorous persecution of the manners of economy and efficiency" (Forrestal, 1948, p. 17). He further noted that the institution of the methods for achieving long-term economy are more important than the achievement of immediate, small gains (Forrestal, 1948, p. 18).

The major effort to achieve economy and efficiency was through the establishment of joint and unified boards, and through standardized procedures and formats for the individual processes of each service. Secretary Forrestal established uniform procedures for submission of legislative proposals (Forrestal, 1948, p. 20) and budget submissions to Congress (Forrestal, 1948, p. 40). He created numerous joint organizations: a Joint Committee on Accounting Policy (p. 43); an Interdepartmental Forms Standardization and Control Board (Forrestal, 1948, p. 45); Committees on Civilian Components (Forrestal, 1948, p. 46), Service Pay (Forrestal, 1948, p. 47) and Medical and Hospital Services (Forrestal, 1948, p. 49); and a Research and Development Board and a Munitions Board, each responsible for joint long-range planning (Forrestal, 1948, p. 40).

3. Budgeting and Financial Management

Secretary Forrestal implemented new accounting and budgeting procedures. One was the reporting of obligations and funds available to Congress in addition to the

required expenditures (Forrestal, 1948, p. 35). Another involved grouping all costs (except personnel) related to an identifiable program, then grouping those programs by primary function (Forrestal, 1948, p. 40). Finally, he looked to private industry to provide help in planning for industrial mobilizations (Forrestal, 1948, p. 15).

C. LOUIS A. JOHNSON

1. Background

Louis A. Johnson served as Secretary of Defense from March 28, 1949 to September 19, 1950. A practicing civilian lawyer and state legislator who saw combat action with the Army in WWI, he entered federal service as the Assistant Secretary of War from 1937 to 1940, then spent the next nine years in civilian practice again before being appointed Secretary of Defense by President Truman in 1949. The National Security Act Amendments of 1948 greatly increased the power of the Secretary of Defense during his time in office (http://www.defenselink.mil/specials/secdef_histories , Accessed October 2006). He was also a constant advocate of universal military training for all American citizens (Johnson, 1950c, p. 5). By the time he left office, the Soviet Union had detonated a nuclear device and North Korea had invaded South Korea (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

In his first report to Congress, which was also the first to include the individual service reports under a unified title (Johnson, 1950a, p. 1), Secretary of Defense Johnson highlighted the importance of maintaining strong military forces despite the pressure for demobilization (Johnson, 1950a, p. 8) and stressed the coordination of foreign policies and military policies via the National Security Council (NSC) (Johnson, 1950a, p. 22). He also emphasized that although unification was important, the Department would not combine the individual services (Johnson, 1950a, p. 8), as each service must maintain its own unique character (Johnson, 1950a, p. 9).

Johnson physically rearranged the Pentagon offices, bringing military and civilian leadership closer together (Johnson, 1950a, p. 14), and implemented the newly created position of Undersecretary of Defense (Johnson, 1950a, p. 19). He asserted his willingness to rely on the expertise of the JCS (Johnson, 1950a, p. 10), while further

consolidating power by declaring that “no service can be permitted to exercise exclusive judgment on how much money it should get or how it should be spent” (Johnson, 1950a, p. 11). Later he credited the unification of the armed forces with an increase in national security (Johnson, 1950c, p. 17).

Secretary Johnson eliminated many boards, but he created many joint boards and committees. During his first year he created joint intelligence, joint staff, joint communications, joint military transportation, joint munitions allocations, joint meteorology, and joint civil affairs boards, as well as more unified commands (Johnson, 1950a, pp. 39-43). The Office of Progress Reports and Statistics was created within the OSD to collect and standardize data from the services to help the Secretary of Defense in making decisions (Johnson, 1950a, p. 100).

Just as his predecessor did, Secretary of Defense Johnson made economy and efficiency his top priorities (Johnson, 1950a, p. 101), saying he wanted “more defense per dollar” (Johnson, 1950c, p. 51) because the national defense was a heavy burden on taxpayers (Johnson, 1950a, p. 9). To determine the allocation of limited money across combat forces (Johnson, 1950b, p. 42), he created the Department of Defense Management Committee in August of 1949 (Johnson, 1950b, p. 31). Their method of achieving efficiency was through “reprogramming”, which Johnson introduced in 1950 (Johnson, 1950b, p. 45). Reprogramming meant reducing overhead as much as possible, eliminating unproductive and non-essential activities, channeling funds from non-combat to combat activities, and establishing 1950 fiscal activities at levels sustainable in 1951 (Johnson, 1950b, p. 48). The Department began an enormous effort to remove personnel from administrative and non-combat positions and add them to combat forces, which included placing all personnel boards under one authority (Johnson, 1950a, p. 105). Over 100 “useless” boards and committees were eliminated during Johnson’s first year (Johnson, 1950a, p. 14). Duplicate foreign attaches and meteorology stations were removed (Johnson, 1950b, p. 25). Segregation was eliminated and use of “woman-power” was stressed, resulting in a simultaneous increase of 4400 men in combat units and a decrease of 20,000 men in total military personnel during 1949 (Johnson, 1950b, p. 43-44). In addition, 145,000 civilian employees were eliminated (Johnson, 1950b, p. 52).

Fifty one military bases were closed (Johnson, 1950b, p. 52), and the military departments were instructed to consolidate services such as transportation, cold-storage, telephone systems and hospitals (Johnson, 1950a, p. 103).

3. Budgeting and Financial Management

Secretary of Defense Johnson instituted important budget changes during his term, continuing the push to unify the Department of Defense budget (Johnson, 1950a, p. 94). He started this effort by standardizing the budget request process among the services (Johnson, 1950a, p. 96). He required coordinated budget planning and execution (Johnson, 1950a, p. 98) and tasked the JCS to form an advisory budget review committee (Johnson, 1950a, p. 95). His goals for the budgeting system included performance budgeting, use of working capital funds, revision of appropriation structures, refinement of estimating standards, and use of inventory data in determining budget requirements (Johnson, 1950a, p. 99). Ultimately, he wanted a working system that would provide the Secretary of Defense useful budgetary advice (Johnson, 1950b, p. 34). With the gradual unification of the budget process, the Secretary of Defense began providing budgetary guidance to the services.

Several other financial management changes were implemented under Johnson. With Congress' assistance and permission, the Department created comptrollers, implemented performance budgeting, authorized working capital funds (which were already in use), and created a uniform fiscal system under Title IV (Johnson, 1950b, p. 58). The Department began reforming the basic accounting systems used by the services (Johnson, 1950a, p. 100), looking to both improve the processes and create common procedures and language throughout the Department (Johnson, 1950a, p. 96).

Secretary Johnson addressed personnel management issues as well. He implemented a government employee suggestion system which he claimed saved millions of dollars in the first year (Johnson, 1950c, p. 56). He also established business administration training for DoD employees, training that took place both within the military establishment and at outside educational institutions (Johnson, 1950a, p. 100).

4. Acquisitions and Logistics

Formerly all procurement had been the sole domain of the individual services, but Secretary Johnson began the push to increase coordination of purchases across the services (Johnson, 1950a, p. 50). Johnson recognized that, as in the past, defense arsenals could not supply the military's wartime needs, and therefore planning for defense mobilization was important (Johnson, 1950c, p. 42). The Munitions Board received much attention and was given numerous responsibilities. It continued a program to include civilian industry in defense mobilization planning (Johnson, 1950a, p. 66). It began planning for and increasing the strategic stockpile of war reserves (Johnson, 1950a, p. 78). It developed supply management programs to increase wartime efficiency (Johnson, 1950b, p. 99). It also applied advanced supply management techniques (Johnson, 1950b, p. 105) and the use of common systems among the services (Johnson, 1950c, p.44) to coordinate and simplify supply management (Johnson, 1950b, p. 105). With the start of hostilities in Korea and increased procurement of defense materiel, the Munitions Board conducted additional studies to identify and remove production bottlenecks of vital resources (Johnson, 1950c, p. 42), while the Production Allocation Board was established to speed the transition from peacetime to wartime production (Johnson, 1950b, p. 85).

Other procurement changes were implemented. The Department adopted a policy of preferential treatment toward small businesses (Johnson, 1049.2, p. 100), founding the Small Business Office to champion the effort (Johnson, 1950c, p. 45). It assigned the purchase of specific-type items to specific military departments (Johnson, 1950c, p. 45). Among other things, Johnson called for a reduction in the purchase of individual items, and reductions in contract prices to reflect actual and anticipated lower commodity prices in 1949 (Johnson, 1950b, p. 47). He also continued to expand the use of working capital funds for procurement of common items (Johnson, 1950c, p. 56).

Secretary Johnson increased the role of the OSD in research and development. He recognized that the DOD needed to sponsor basic research (Johnson, 1950a, p. 50) as well as advocating "vigorous development of new weapons in any area in which scientific research… suggests practicability" (Johnson, 1950b, p. 64). While he stressed

that each military department was responsible for its own research and development (Johnson, 1950c, p. 35), the previously established Research and Development Board oversaw the process (Johnson, 1950c, p. 36). It was charged with several tasks, to include matching development projects to JCS plans (Johnson, 1950c, p. 36), eliminating duplicate projects (Johnson, 1950b, p. 76), and providing information on whether to authorize new systems or wait for further research (Johnson, 1950c, p. 34).

With the beginning of the Korean War, Secretary of Defense Johnson's priorities changed from creating an economic and efficient peacetime military to a combat-ready force, but he still stressed unification via joint training, joint education, joint R&D and common procurement (Johnson, 1950c, p. 4) and the need for an integrated defense budget, in which the needs of the military are balanced against the requirements of national defense as a whole (Johnson, 1950c, p. 17).

D. GEORGE C. MARSHALL

1. Background

George C. Marshall served as the Secretary of Defense from September 21, 1950 to September 12, 1951. Appointed to replace the controversial Johnson and to bring prestige back to the office, Marshall was a career military man, having served with distinction from 1902 to 1945, then as Secretary of State from 1947 to 1949. He required a waiver from Congress to avoid a rule prohibiting a Secretary of Defense from having been on active duty in the previous ten years, meant to assure civilian control over the military. He took office after Secretary of Defense Johnson had developed a deep rift between the OSD, the Navy and the Air Force (The Revolt of the Admirals) and as the Korean War was escalating. He was in office (and testified extensively before congress) when Gen. MacArthur was relieved of command (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

Having assumed his position during wartime, Secretary of Defense Marshall continued many of the initiatives of his predecessor. These initiatives included centralizing manpower management (Marshall, 1951b, p. 19), consolidating responsibility to focus effort on specific problems (Marshall, 1951b, p. 45), and clarifying

duties and chains of command within OSD (Marshall, 1951b, p. 50). The initiatives were expanded with the understanding that the focus had shifted from economy to expansion (Marshall, 1951b, p. 42) and that the rapid expansion increased the need for effective command and control (Marshall, 1951, p. 54). He also continued to push for management reforms to improve the overall military management process, directing that each manager and employee contribute ideas to increase the efficiency of their organization (Marshall, 1951b, p. 50). During his time in office he declared that the principles of joint action and control had been fully accepted by the military departments (Marshall, 1951b, p. 43).

Secretary of Defense Marshall continued his predecessors' efforts to reduce the administrative overhead of excess personnel and boards within the headquarters of the DoD. He began with a blanket five percent reduction in military personnel in the Washington D.C. area (Marshall, 1951b, p. 19) while expanding the use of women in administrative positions to free up men for combat units (Marshall, 1951b, p. 23). The consolidation of individual service boards into joint boards and committees further reduced manpower requirements and improved efficiency (Marshall, 1951b, p. 54). Examples include the Joint Intelligence Agency and the Joint Parachute Test Agency (Marshall, 1951b, p. 54). The Division of Manpower Utilization was tasked with determining what military and civilian jobs were essential, and ensuring that people with special skills were effectively utilized (Marshall, 1951b, p. 23-24). The Secretary also directly recruited personnel with industry experience in specific areas (Marshall, 1951b, p. 47). Secretary of Defense Marshall made minimal changes to the planning and budgeting process, continuing to encourage the use of working capital funds as a way to simplify procedures and incentivize economy (Marshall, 1951b, p. 45).

3. Acquisitions and Logistics

The acquisitions and logistics focus was clearly on increasing wartime production while deconflicting military and civilian requirements with a minimum of economic controls or disturbances (Marshall, 1951b, p. 32). Major end item production scheduling was overseen by the Munitions Board or the Secretary of Defense himself (Marshall, 1951b, p. 32). To reduce the impact of wartime production on civilian industry, contracts

were to be spread across industry as much as possible, with special preference given to small businesses (Marshall, 1951b, p. 34). Additionally, those small businesses were encouraged to form production pools to compete for larger contracts (Marshall, 1951b, p. 36). Within the military, procedures for joint procurement were being put in place. This started with a Standards Agency, which created and adopted equipment standards for military use (Marshall, 1951b, p. 37). It expanded to the use of Joint Procurement Agencies, which coordinated or consolidated procurements and prevented competition between the services (Marshall, 1951b, p. 36). Finally, the Secretary required interdepartmental sharing of stocks among the services (Marshall, 1951b, p. 52).

E. ROBERT A. LOVETT

1. Background

Robert A. Lovett served as Secretary of Defense from September 17, 1951 to January 20, 1953. A former navy pilot, he spent most of his life in the business community, working his way up from bank clerk to partner in a large firm before being appointed the Special Assistant to the Secretary of War in 1940, then quickly to Assistant Secretary of War for Air. He served as Assistant Secretary of State then Deputy Secretary of Defense under George C. Marshall, who recommended him as his replacement for Secretary of Defense. When Secretary of Defense Lovett took office, the Korean War was still in progress and much of his work revolved around mobilization (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

Possibly because of his role as Deputy Secretary of Defense, Secretary Lovett did not make any major changes upon assuming office. He believed in thoughtful and deliberate "evolutionary" changes (Lovett, 1952b, p. 33), stating that changes should be made in specific areas only after "a thorough review of all factors involved" (Lovett, 1952b, p. 33). In line with this, he created civilian expert committees to review problems and recommend solutions (Lovett, 1953, p. 5).

Lovett continued the emphasis on economy and efficiency, recognizing that there were great strides still to be made, especially in manpower management (Lovett, 1952b, p. 17). He attempted to get maximum utilization of skills where they were most needed

and found ways to free up men for combat positions (Lovett, 1952b, p. 17). He created manpower controls with personnel ceilings (Lovett, 1952b, p. 17) and conducted utilization surveys to ensure manpower was used efficiently (Lovett, 1952b, p. 19). He was concerned about morale and considered "fringe-benefits" as important force-shaping tools (Lovett, 1952b, p. 22-23).

3. Acquisitions and Logistics

Secretary of Defense Lovett said that efficient management was most important and had the most gains to be made in the procurement field (Lovett, 1952b, p. 32). Those gains in economy, however, had to be made with no sacrifice of combat effectiveness (Lovett, 1952b, p. 36). He identified several problems in procurement and production, including design changes during development and production (Lovett, 1952b, pp. 31-32), component bottlenecks (Lovett, 1952b, p. 32), and the conflicting goals of obtaining the lowest price while maintaining social programs (Lovett, 1952b, p. 35). The result was excessively long lead times for important military equipment (Lovett, 1952b, p. 31). To address the problems, he created the Armed Services Procurement Regulations Committee to establish joint policies and procedures (Lovett, 1952b, p. 34) and the Defense Supply Management Agency (Lovett, 1953, p. 5). Additionally, he encouraged the increased use of common items, standard parts and standard specifications (Lovett, 1952b, p. 37). Despite increased use of military specifications elsewhere, Lovett did recommend that the military remove standard packaging requirements to allow businesses to use their internal standard procedures (Lovett, 1952b, p. 37). As a learning point from the build-up to full wartime production for Korea, Secretary Lovett recommended the use of "live production capacity" within the economy, rather than stockpiles of materiel (Lovett, 1953, p. 6).

F. CHARLES E. WILSON

1. Background

Charles E. Wilson served as Secretary of Defense from January 28, 1953 to October 8, 1957. A life-long electrical engineer, Wilson was president of General Motors before being nominated Secretary of Defense. President Eisenhower wanted him to refocus the OSD on defense management rather than national policy. Secretary of

Defense Wilson's time in office included the drawdown from the Korean War and the start of the policy of maintaining strategic forces for nuclear deterrence and conventional forces for limited wars (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006). He called it a change "from expansion to sustained readiness" (Wilson, 1955a, p. 1).

2. Organizational Management

President Eisenhower and Secretary of Defense Wilson convinced Congress to significantly reorganize the Department of Defense with the Reorganization Plan no. 6, implemented in 1953. Among other things, this plan placed the unified commands under the Service Secretaries rather than the Chiefs of Staff and established six additional Assistant Secretaries of Defense, seeking to clarify responsibilities and the chain of command (Wilson, 1953, p. 10). Wilson further moved to centralize policymaking and simultaneously decentralize operations (McElroy and Wilson, 1958, p. 8) by making the civilian Service Secretaries his principle agents (Wilson, 1953, p. 10). This did several things. First, it freed the JCS for important long-range planning (Wilson, 1953, p. 10). Second, it maximized the decentralization of operations (Wilson, 1955a, p. 10). Finally, it maintained or even increased civilian control (Wilson, 1953, p. 11). In addition, he started a review of the organization of the military departments to give the civilian Service Secretaries more control (Wilson, 1954, p. 2) and took the JCS out of the chain of command (Wilson, 1955a, p. 14). He ensured that the Secretary of Defense's full authority in the National Security Organization was understood, that he had direction and control, and a large enough staff to accomplish his goals (Wilson, 1955a, p. 11). Although Secretary Wilson implemented sweeping changes in the organization of the OSD, he stressed that the pace of change must be deliberate (Wilson, 1956a, p. 2) and orderly (Wilson, 1957a, p. 6) without "sudden shifts in emphasis" (Wilson, 1956b, p. 1). Interestingly, Wilson transferred some of the joint boards from the OSD and gave the authority back to the services (Wilson, 1953, p. 11).

Secretary of Defense Wilson carried on his predecessors' call for efficiency and economy, striving to develop maximum combat efficiency at minimum cost (Wilson, 1956b, p. 2). He planned to achieve his goal with better requirements determination,

planning, and more efficient use of manpower (Wilson, 1953, p. 4). He introduced the idea that improvements in weapon systems and technology can reduce the manpower requirement needed to support the force (Wilson, 1954, p. 2). Wilson also believed in constant improvement of management methods and procedures to make incorporating efficiency an ongoing process, and he continued to stress the employee suggestion program as an effective tool for improvement (Wilson, 1957a, p. 10). He further reduced manpower overhead by eliminating 30,000 civilian employees during 1954, but increased pay and benefits for those who remained (Wilson, 1955b, p. 6). Manpower reductions were specifically addressed toward headquarters elements, as he mandated a twelve percent reduction in headquarters staffs in 1957 (McElroy & Wilson, 1958, p. 10).

3. Budgeting and Financial Management

Secretary Wilson continued to tighten his budget control over the services, saying that money would be spent more carefully if extra funds were not available (Wilson, 1953, p. 6). He recommended creating an Assistant Secretary in charge of Financial Management for each military department (Wilson, 1955a, p. 16). He pushed for greater integration of financial systems to enable the generation of accurate performance reports for managers at all levels (McElroy & Wilson, 1958, p. 46). He encouraged the development and use of a performance-type budget (Wilson, 1957a, p. 41), which used "indicators of cost per unit of work accomplished, focusing on workload measures rather than output or outcomes" (Jones & McCaffery, 2004, p. 90). He directed that no weapon system would be authorized for procurement unless there was funding for the entire end item, including necessary spares (McElroy & Wilson, 1958, p. 47). In 1957 he adopted his 1954 proposal that the Department use "commitment" accounting, which showed obligated but not executed funds (McElroy & Wilson, 1958, p. 47).

4. Acquisitions and Logistics

Most likely the result of his direction of General Motors' production during WWII, Secretary of Defense Wilson made many changes in procurement, supply and logistics. He increased coordination between the services, creating uniform procedures for transportation rate negotiations (Wilson, 1955b, p. 6). To reduce paperwork and simplify processes, he increased the use of standardized forms (Wilson, 1956a, p. 40).

He initiated the single-manager program, which assigned total life-cycle management of a common good to a specific service (Wilson, 1956b, p. 8). He created commodity coordination groups to identify opportunities for supply savings on the wholesale level (McElroy & Wilson, 1958, p. 36). He substituted better material planning and standardization for inventory balances (McElroy & Wilson, 1958, p. 36), and identified the need for electronic data processing equipment in supply management (Wilson, 1957a, p. 41). Excess real estate was inventoried and sold (Wilson, 1957a, p. 45), while 120 government-owned telecommunication systems were sold to private companies (McElroy & Wilson, 1957.1, p. 42).

G. NEIL H. MCELROY

1. Background

Neil H. McElroy served as Secretary of Defense from October 9, 1957 to December 1, 1959. A Harvard educated economist, he worked for Proctor and Gamble Company, eventually becoming its president before he was appointed Secretary of Defense by President Eisenhower. Just before he took office, the Soviets launched Sputnik and he was soon presiding over an ever accelerating arms race (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

The Defense Reorganization Act of 1958, passed by Congress but championed by Eisenhower and McElroy, changed the chain of command within the Department of Defense in several ways. It strengthened the unified commands, establishing a direct line from the Commander in Chief (CINC) through the Secretary of Defense to the Joint Chiefs of Staff (McElroy, 1959, p. 23). It gave the OSD sole responsibility for research and development and further strengthened the power of the Secretary of Defense (McElroy, 1959, p. 23). The military departments were now “separately organized” not “separately administered” (McElroy, 1959, p. 27) such that ground, sea, and air forces would now operate under one unified command (McElroy, 1959, p. 24).

3. Budgeting and Financial Management

McElroy made several important advances in financial management, specifically in accounting. He adopted a monetary accounting system for items of supply to

encourage their efficient use (McElroy, 1959, p. 64). All working-capital funds were required to adopt accrual accounting (McElroy, 1959, p. 64). Finally, he had the services develop realistic cost and work standards (McElroy, 1959, p. 64), then use comparative cost studies to determine why the same operations were more costly in one department than in another ((McElroy, 1959, p. 63).

4. Acquisitions and Logistics

Both Secretary of Defense McElroy and President Eisenhower understood the need to increase the defensive power of the United States without significantly increasing the defense budget (McElroy, 1959, p. 17). To achieve this, McElroy intended to offset the increasing cost of weapons systems in two ways: by establishing realistic and achievable priorities (McElroy, 1959, p. 17), and by increasing operational efficiency (McElroy, 1958, p. 9). McElroy initiated a defense-wide study of supply management and organizational procedures, intending to further integrate departmental supply systems to achieve the twin goals of effectiveness and economy (McElroy, 1958, p. 8). He created the Armed Forces Supply Support Center (McElroy, 1959, p. 50) to increase interservice cooperation (McElroy, 1959, p. 49) and thirty-three "commodity coordination groups" to identify common items for exchange between the services at the wholesale level (McElroy, 1959, p. 57). The Secretary emphasized inventory management (McElroy, 1959, p. 57), claiming "substantial progress" in materiel economy and efficiency (McElroy, 1959, p. 51). He expanded the use of single managers for common commodities, reporting that seventy-five percent of all procurement funds were being obligated under single service programs (McElroy, 1959, p. 53)

H. THOMAS S. GATES

1. Background

Thomas S. Gates served as Secretary of Defense from December 2, 1959 to January 20, 1961. An investment banker by trade, Gates served in the Navy during WWII. Before entering the OSD as the Deputy Secretary of Defense under McElroy, Gates spent six years as both Under Secretary of the Navy and Secretary of the Navy, giving him a firm grounding in the operations of the military departments. During his time as Secretary of Defense, intercontinental ballistic missiles (ICBMs) and submarine

launched ballistic missiles (SLBMs) were added to the United States' arsenal, and Francis Gary Powers' U-2 was shot down over the Soviet Union (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

Secretary of Defense Gates recognized that "unification of purpose, rather than unification of things" remained the ultimate goal, and that organization was simply a "means to an end" (Gates, 1961, p. 50). Coming as he did from the position of Deputy Secretary of Defense, he did not feel the need to effect any revolutionary changes within the OSD (Gates, 1960, p. 46). Rather, he continued to clarify and strengthen the organization of the Department under the Defense Reorganization Act of 1958 which, among other things, had shortened the chain of command from the Secretary of Defense to the operating forces while increasing flexibility (Gates, 1960, p. 35). Major policy decisions were made by the Secretary of Defense, while responsibility for military operations was decentralized to lower levels (Gates, 1961, p. 43). Three separate groups now reported to the Secretary of Defense: the OSD agencies, reorganized to include a new Director of Defense Research and Engineering (Gates, 1960, p. 37) and a Statistical Services Center (Gates, 1960, p. 41); the Joint Chiefs of Staff and their military departments; and the unified and specified commands (Gates, 1960, p. 35). The structure of the JCS was changed from a committee structure to a unified staff system and the JCS were given operational responsibility for the unified and specified commands (Gates, 1960, p. 41). The authority of the chief military officers in each service was changed from "command authority" to "supervisory authority" (Gates, 1960, p. 45). This reemphasized that the military departments were responsible primarily for training and equipping their forces, rather than military operations, where the chain of command ran through the JCS to the Secretary of Defense (Gates, 1960, p. 45). In 1960, Secretary of Defense Gates declared that the power of the Secretary of Defense had reached its zenith. The only tools of authority he did not have were the ability to merge or change the statutory functions of the military departments, the ability to establish a single chief of staff, or the ability to prevent a military secretary or JCS member from reporting to Congress (Gates, 1961, pp. 43-45).

Secretary of Defense Gates changed the managerial focus from committees to staffs. He abolished 200 of the 300 joint committees in operation (Gates, 1960, p. 41), increased the joint staff from 210 to 400 (Gates, 1961, p. 46), and issued guidance on the proper use of committees and effective staff relationships (Gates, 1960, p.41). His goal was to increase the speed and efficiency of combat decision making, while ensuring that civilian authority had the time and information required to make decisions on long-term policies and programs (Gates, 1961, p. 46). To accelerate operations, he started weekly meetings between the JCS and the Secretary of Defense (Gates, 1961, p. 46). Secretary Gates felt that the logistics community sometimes forgot that combat effectiveness was the ultimate goal, and must not be sacrificed for the sake of economy (Gates, 1961, p. 48).

3. Budgeting and Financial Management

Secretary Gates carried on the financial management reform programs of his predecessors, increasing the use of accrual accounting, accounting for property by monetary value, and developing better fiscal reports (Gates, 1961, p. 39). He used the improved reports and more efficient staff to dig deeper into the service budget requests (Gates, 1961, pp. 47-48). In 1959, Congress began budgeting by purpose (Operations and Maintenance, Military Construction, etc.) rather than by service for the first time (Gates, 1960, p. 32). In addition, he increased the use of working capital funds (Gates, 1961, p. 40).

I. ROBERT S. MCNAMARA

1. Background

With the role and power of the Secretary of Defense firmly established, the stage was set for a truly revolutionary Secretary. Robert S. McNamara served as Secretary of Defense from January 21, 1961 to February 29, 1968, the longest term of any Secretary of Defense thus far. After serving in the Army Air Corps during WWII, he began a career with Ford Motor Company, becoming the first president of the company from outside the Ford family just weeks before leaving the company to take his post as Secretary of Defense. He was appointed by President Kennedy after former Secretary of Defense Lovett refused the position and recommended McNamara in his place.

McNamara presided over the Bay of Pigs invasion, the Cuban Missile Crisis, and the start of the Vietnam War (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

In 1969, in his last report to Congress as Secretary of Defense, McNamara explained his management philosophy, saying that the Secretary of Defense did not lack for any authority, but rather the information and tools to make sound decisions (McNamara, 1968, p. 193). He described the role a public manager could take as "either a judge or a leader". One waits for subordinates to bring him choices, the other will "immerse himself in the operations of the business" (McNamara, 1968, p. 193). Clearly the latter, McNamara introduced new techniques for collecting, integrating and synthesizing information. He made comparisons between the management environment in the DoD and in the private sector, recognizing that the DoD operated like multiple major commercial enterprises, each requiring different management techniques (McNamara, 1966, p. 30). However, the Department could not evaluate management decisions based on a profit or loss statement like a commercial enterprise, and due to its large number of middle managers, it often found it difficult to "exert pressure from above" (McNamara, 1968, p. 199).

Secretary of Defense McNamara did not make any significant changes in the defense organizational structure, but concentrated his energy on the continuous improvement of management activities (McNamara, 1966, p. 31). The first important management change Secretary of Defense McNamara made was streamlining the decision making process by emphasizing the role of the individual in solving problems, rather than relying on committees or groups (McNamara, 1962, p. 22). The next significant change was an increased reliance on scientific and technical evaluation over human judgment in decision making (McNamara, 1962, p. 28), to ensure that there was a clear and substantial benefit prior to implementing any new procedures (McNamara, 1963, p. 26). He initiated the use of statistical analysis techniques to identify the relevant factors in complex problems (McNamara, 1964, p. 34) and brought in data processing equipment to aid in estimating future requirements (McNamara, 1964, p. 35). Along with

his goal of increasing the information flow to top-level decision makers (McNamara, 1967a, p. 37), Secretary McNamara professed to push the responsibility for making decisions to the lowest level that had "the necessary ability and information to apply approved policy" (McNamara, 1967a, p. 37). The weekly meetings between the JCS and Secretary of Defense were continued, and now included topics introduced by the Secretary of Defense (McNamara, 1962, p. 23).

3. Budgeting and Financial Management

Secretary McNamara's management changes were integral to his largest management reform agenda, the creation of the Planning, Programming and Budgeting System (PPBS). Defense Comptroller Charles Hitch briefed McNamara on the PPBS in 1961 (Trewhitt, 1971, p. 86). The idea of programming packages came from an army comptroller in the early 1950s, and the Air Force was implementing it in 1959 (Borklund, 1966, p. 216). The PPBS was meant to integrate defense planning and budgeting (McNamara, 1962, p. 25) in order to "permit a more rational allocation of resources and facilities" (McNamara, 1963, p. 30). The PPBS system was an analytical combination of long-range planning for future needs, identification of the alternative programs that would meet those needs, and the budget decisions based on a cost-benefit analysis of the programs (Jones and McCaffery, 2004, p. 91). The long-range program cost estimates (five years) sought to reduce the inherent, and inefficient, fluctuations caused by the annual congressional budget process and to evaluate programs from a defense-wide, rather than an individual service, perspective (McNamara, 1963, p. 30). The military departments would be required to submit current and future cost projections for all of their programs (McNamara, 1962, p. 26) so that decision makers could then see all the current and future costs of a program under one integrated financial management system (McNamara, 1962, p. 25). Prior to 1962, the Secretary of Defense did not have a significant role in the formulation of the service budgets, but McNamara and the DoD Comptroller Charles Hitch moved, with President Kennedy's guidance, to introduce tighter planning and budget control over the services (Jones and McCaffery, 2004, p. 89). Under the PPBS, the long-term costs of alternative programs or program packages for meeting a given mission were evaluated against each other (McNamara, 1964, p. 33).

Throughout his tenure, Secretary McNamara continued to make improvements to the PPBS. He desired to know exactly how much it costs "to operate each activity, for example a navy destroyer, a B-52 wing or an army division" (McNamara, 1967, p. 55). In 1966, project PRIME (Priority Management Efforts) was introduced to integrate the PPBS and the management accounting system in use at the time (McNamara, 1967b, p. 50), with the goal of relating costs to outputs (McNamara, 1971, p. 56). Project PRIME required that all of DoD adopt a system of accrual accounting and internal transactional payments (Thompson and Jones, 1994, pp. 66-68), while charging personnel costs to programs or organizations (McNamara, 1967b, p. 50). Unfortunately for McNamara, it was never fully implemented due to objections from Congress (Jones and McCaffery, 2004, p. 90). Although Project PRIME never took off, the PPBS was successful enough that President Johnson mandated its use across the entire executive branch (McNamara, 1967a, p. 41). Additionally, the success of the PPBS as a top level management tool motivated McNamara to create a new program called Resource Management Systems, which applied the principles of the PPBS at the operational level (McNamara, 1967b, pp. 49-50).

4. Acquisitions and Logistics

McNamara continued to press for efficiency and economy, particularly by consolidating support functions (McNamara, 1967a, p. 36), but introduced a more formal method of analysis for determining what duplication or expenditures were unnecessary (McNamara, 1963, p. 22). He created the Defense Supply Agency (DSA) as a step in what he called the "evolutionary process" of integrating DoD supply management (McNamara, 1962, p. 35), and created the Defense Intelligence Agency (DIA) and consolidated telephone and transportation offices (McNamara, 1962, p. 36). To encourage development of more efficient processes, the Department implemented a five-year cost savings plan and created a reporting and auditing system to track progress (McNamara, 1964, p. 44). The program was based on three goals: buy only what was needed, buy at the lowest sound price, and reduce operating costs (McNamara, 1964, pp. 44-46) The program was so successful that by 1967 it was made a permanent program within the Department (McNamara, 1967, p. 81).

The Department made other logistics improvements as well. To finding innovative new solutions to his goals, Secretary McNamara created the Logistics Management Institute, which solicited the insight of experts from universities and private industry (McNamara, 1963, p. 41). He increased the use of data processing systems (computers) within the DoD in order to increase the accuracy of budget estimates in financial management (McNamara, 1964, p. 35) and to forecast demand, requirements, and wear-out rates in the logistics community (McNamara, 1968, p. 203).

Acquisition reform was a priority under McNamara. He started a historical review of twenty prior weapon systems acquisitions called Project HindSight (McNamara, 1967, p. 70), and a successful program to increase the base of research done by private universities called Project THEMIS (McNamara, 1967, p. 70). McNamara created a number of important reporting systems, including the required monthly status reports of over 200 major systems (McNamara, 1963, p. 32). Development Concept Papers (DCPs) were introduced, which created cost, schedule, and performance thresholds for new research projects (McNamara, 1971, p. 78).

J. CLARK M. CLIFFORD

1. Background

Clark M. Clifford served as Secretary of Defense from March 1, 1968 to January 20, 1969. A lawyer in private practice, he served in the navy in WWII and subsequently as special council to the President for several years. Returning to private practice from 1950 to 1967, he continued to be an active advisor to the government until his appointment as Secretary of Defense (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Reform Agenda

Secretary of Defense Clifford carried on the programs of his predecessor, including the three-pronged cost savings plan with yearly goals. However, he emphasized that although great gains had been made in the past, there would always be room for improvement in modern business and industrial management (Clifford, 1969, p. 144). He continued the use of integrated product managers for supplies used by multiple departments, but he reduced their control to service and support only, making sure that

requirements determination was left to the users (Clifford, 1969, p. 151). Secretary of Defense Clifford also recognized a new threat to military bases, that of forced relocation due to civilian encroachment (Clifford, 1969, p. 154).

K. MELVIN R. LAIRD

1. Background

Melvin R. Laird served as Secretary of Defense from January 22, 1969 to January 29, 1973. The first congressman to serve as Secretary of Defense, Laird spent six years in the Wisconsin State Senate before being elected to the U.S. House of Representatives in 1952. He served as chairman of the House Republican Conference and on the Defense subcommittee of the House Appropriations Committee until his appointment as Secretary of Defense by President Nixon. He presided over the drawdown from the Vietnam War and ended the draft two days before he left office (http://www.defenselink.mil/specials/secdef_histories, Accessed October 2006).

2. Organizational Management

Secretary of Defense Laird felt that the DoD was not organized effectively or efficiently and that organizational and management improvements would reap "dividends" (Laird, 1970, p. 27). He appointed a Blue Ribbon Committee, chaired by Gilbert Fitzhugh, soon after he took office to provide long range management and organizational solutions (Laird, 1970, p. 86) for what he termed "the largest management problem in the world" (Laird, 1970, p. 75). Committed to "an orderly, step-by-step approach to implementing management and organizational changes" (Laird, 1971, p. 115), he pushed for decentralization of decision making, claiming that previous administrations had "serious shortcomings with regard to delegation of authority" (Laird, 1971, p. 115); in particular, he called for more reliance on people and less on "elaborate decision-making procedures" as a way to motivate better decision making and raise morale (Laird, 1971, p. 113). His plan consisted of three prongs: participatory decision making, defined decentralization, and delegation of authority under specific guidance (Laird, 1970, p. 76). Under this plan he called for the military departments to take a greater role in R&D and procurement programs (Laird, 1970, p. 77), while significantly reducing the power of the centralized Systems Analysis Office (Laird, 1971, p. 114).

Despite his stated trend toward decentralization of authority, Secretary of Defense Laird recognized the value of centralization in particular areas (Laird, 1971, p. 114). He created a new Assistant Secretary of Defense (Intelligence and Telecommunications) position, the Central Security Service, Defense Investigative Service, Defense Mapping Agency, and the Director of Net Assessments (Laird, 1972, p. 132). He sought improvements in command and control (Laird, 1972, p. 140) and in civilian control over the military (Laird, 1970, p. 76). In the end it is not clear how many of the Blue Ribbon Panel's management recommendations he accepted, asserting that many of them would decrease efficiency by increasing overhead and staff (Laird, 1971, p. 116). Coming from the Congress, Secretary of Defense Laird had more perspective about Congressional requirements than his predecessors. He used his influence there to try to reduce, or at least standardize, congressional oversight of the military, arguing that many different reporting requirements were expensive and time consuming (Laird, 1970, p. 17).

3. Budgeting and Financial Management

Although Secretary of Defense Laird was critical of the PPBS, saying that it was neither effective nor timely (Laird, 1970, pp. 29-30), he continued to use it, albeit with changes. He wanted it to include more participation from the parties involved (Laird, p. 1971, p. 77).

4. Acquisitions and Logistics

Secretary of Defense Laird continued to use the cost reduction plan, but emphasized the need to identify the areas that the current system was not helping (Laird, 1970, p. 84). To do this he created a new Logistics Performance Measurement and Evaluation System (Laird, 1970, p. 85). He continued to use the DCPs, started by McNamara (Laird, 1970, p. 68), but he also created the Defense Systems Acquisition Review Council (DSARC) to review acquisition programs at each stage of development (Laird, 1970, p. 82). The new Office of Net Assessments would now provide more guidance for acquisitions programs (Laird, 1972, p. 146), and the Cost Analysis Improvement Group (CAIG) was established to increase the accuracy of cost estimates (Laird, 1972, p. 147).

L. ELLIOT L. RICHARDSON

1. Background

Elliot L. Richardson served as Secretary of Defense from January 30, 1973 to May 24, 1973. An army officer who participated in the Normandy invasion during WWII, Richardson worked as a lawyer before serving in multiple positions in state and federal government (http://www.defenselink.mil/specials/Secretary of Defense _histories, Accessed October 2006). He served as Secretary of Defense for only four months before becoming the United States Attorney General. During his tenure, the personnel pay costs in the DoD exceeded all other cost categories for the first time (Richardson, 1973, p. 48).

2. Reform Agenda

During the brief time he spent in office, Secretary of Defense Richardson generally carried on the programs of his predecessors. He concentrated on increasing planning for weapons systems out beyond the five to eight years in the PPBS (Richardson, 1973, pp. 16-17), and in assessing future threats (Richardson, 1973, p. 16). To increase public confidence in the acquisitions system, he pushed for accuracy in cost estimating, and the appropriate use of technology and competition to reduce costs (Richardson, 1973, p. 16).

M. JAMES R. SCHLESINGER

1. Background

James R. Schlesinger served as the Secretary of Defense from July 2, 1973 to November 19, 1975. Schlesinger was an academic by training, having earned a Ph.D. in economics from Harvard. He spent several years teaching economics before moving to the Rand Corporation to direct strategic studies. He entered public administration in 1969 as the assistant director of the Bureau of the Budget under President Nixon, before moving on to lead the Atomic Energy Commission and the Central Intelligence Agency. At all positions, Schlesinger was considered an aggressive and capable administrator (http://www.defenselink.mil/specials/secdef_histories, Accessed November 2006).

Schlesinger had a difficult task before him as the Secretary of Defense. He intended to restore the respect for the military that had been damaged during the Vietnam War in several ways: use defense resources wisely; maintain a strong defense to fend off

potential adversaries; balance peace and deterrence with military force; and restore the morale and dignity of the troops. Contrary to popular belief at the time, Schlesinger emphasized the importance of modernized and well-equipped conventional forces. This strategy forced him to try to halt the decline in the defense budget. The defense of the budget, along with his strained relationships with President Ford and Congressional leaders, ultimately led to his dismissal from office in 1975 (http://www.defenselink.mil/specials/secdef_histories, Accessed November 2006).

2. Organizational Management

Secretary Schlesinger had four areas of emphasis for management reform: improve planning and management guidance given to the services, improve the weapons acquisition process, achieve efficiencies and economies in the support structure, and ensure good energy management and conservation practices in light of energy shortages (Schlesinger, 1974, p. 217). He initiated management by objective (MBO) to make the Department more results oriented (Schlesinger, 1974, p. 218). An example of MBO was the attempt to account for the support costs of specific weapon systems (Schlesinger, 1974, p. 229). The Department reduced headquarters staffs as well (Schlesinger, 1974, p. 228).

In 1973 a program was established under the Assistant Secretary of Defense (Installations and Logistics) to promote productivity improvements throughout the DoD, foster the development and use of productivity measures, and create a good worker/manager environment (Schlesinger, 1974, pp. 231-132). Focus for the program included workload stabilization, procedures simplification, organization realignments, application of human engineering, and productivity improvements through capital investment (Schlesinger, 1974, p. 232). The Department also established a task force, headed by the Assistant Secretary of Defense (Comptroller) to standardize defense management systems wherever possible and reduce redundancy (Schlesinger, 1974, p. 228).

3. Acquisitions and Logistics

Force modernization was the driver of Schlesinger's acquisition reforms. The Department was facing the critical issue of maintaining a reasonable average equipment

age in an era of budget cuts and increasingly costly new weapons (Schlesinger, 1974, pp. 218-219). To truly understand the problem, the Secretary directed the services to prepare "extended planning annexes" that went out past 1980 in order to estimate the impact on the forces of a constrained budget (Schlesinger, 1974, p. 221). Simultaneously, the DoD initiated and accelerated several procurement programs to freeze the aging while leaving force structure unchanged (Schlesinger, 1974, p. 221). These included: improve independent cost analysis by using the CAIG, implement the design-to-cost concept, implement the "Fly before Buy" concept requiring operational test and evaluation (OT&E) before purchase, establish the position of Deputy Director of Defense for Research and Engineering, pursue prototype programs with no obligation to buy, and focus on low cost systems development (Schlesinger, 1974, pp. 221-222).

Long-range planning was essential to new systems development. The DoD prepared experimental Mission Concept Papers (MCP) covering strategic offense, continental air defense, and theater are defense, which defined the functional and fiscal context within which new systems must be developed. They included the threat, projected resources available, potential needs, and major deficiencies (Schlesinger, 1974, p. 222). Those MCPs were used for early identification of new technology, setting cost targets and determining affordability, planning use of the industrial base, estimating resource allocation and availability, and scheduling weapon system development and replacement (Schlesinger, 1974, p. 223). A plan for logistics support became a requirement in every new weapon system development plan (Schlesinger, 1974, p. 229).

With falling budgets, cost reduction was absolutely necessary for the acquisitions community. The Department began using Development Concept Papers (DCP) reviewed by the DSARC to distinguish between must-have systems and those that were desired but not critical (Schlesinger, 1974, p. 223). A "Hi-Low" strategy was implemented, where the DoD would have a few very advanced pieces of equipment to counter the enemy's best equipment, but predominantly lower cost equipment that met the basic performance requirements. Developing high-tech for the sake of high-tech was discontinued, as funds were directed toward more mature technologies (Schlesinger, 1974, pp. 223, 225). To

support this concept, design-to-cost became the new standard, while schedule and performance were adjusted as needed (Schlesinger, 1974, p. 224).

Other changes to acquisitions were implemented as well. New contracts were used to encourage fewer military-specific characteristics, promote off-the-shelf products and dual-use technologies, and ensure flexibility in contractor designs (Schlesinger, 1974, p. 224). Services began screening program managers more closely, giving them longer tenures, equating project managers with major commands for promotion purposes, granting more responsibility and authority, and giving them direct communications with senior leaders (Schlesinger, 1974, p. 226).

Integration of logistics systems was the top logistics priority for the administration. It began the process of merging the various service-specific logistics systems into a unified structure and integrating the management of all subsistence stocks worldwide (Schlesinger, 1974, p. 230). To consolidate property disposal, it expanded the responsibility of the Defense Property Disposal Service, begun in 1973, to dispose of all old DoD equipment (Schlesinger, 1974, p. 230). The Department began standardizing basic items that had previously been carried in a multitude of sizes, types, and varieties (Schlesinger, 1974, p. 231). Capital investment improvements were initiated as well (Schlesinger, 1974, p. 232).

4. Facilities and Energy

Improved efficiency in the support structure of the Department was a priority. The Department tried to get further reductions in the base system to reduce overhead. Schlesinger pushed to allow the services to use any cost savings from improved base support functions for their own operating forces (Schlesinger, 1974, p. 227).

In 1973 a Defense Energy Task Group was established to study DoD energy requirements and strategy. The position of Director for Energy was created and put under Assistant Secretary of Defense (I&L) (Schlesinger, 1974, p. 233). The Defense Fuel Supply Center was given control of all bulk petroleum fuels, except "on base" stocks, during 1973, and did well at distributing those stocks, especially to forward deployed units, during the oil embargo (Schlesinger, 1974, p. 233).

To reduce fuel consumption, DoD began reducing flying hours, ship speed and overall operating hours, reducing energy requirements through R&D programs, and decreasing heating, lighting and fuel use DoD wide (Schlesinger, 1974, p. 233). These efforts reduced petroleum consumption to the lowest level in 16 years (Schlesinger, 1974, p. 234). However, to maintain minimum operational capabilities, the Secretary requested the temporary activation of Naval Petroleum Reserve #1 at Elk Hills, California to contribute 100,000 barrels per day to U. S. output (p. 234).

N. DONALD H. RUMSFELD

1. Background

Donald H. Rumsfeld served as the Secretary of Defense from November 20, 1975 to January 20, 1977. A career politician, Rumsfeld held posts throughout Washington. His only positions outside politics were as an aviator in the U. S. Navy for three years and at an investment banking firm for two years. He served four terms in the House of Representatives, was an advisor to Nixon and headed his Office of Economic Opportunity and the Cost of Living Council, and was the U. S. Ambassador to the North Atlantic Treaty Organization (NATO). Under President Gerald Ford, he headed up the transition team, directed the White House Office of Operations, and coordinated the White House Staff, becoming one of Ford's closest advisors (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Although he only served fourteen months as Secretary of Defense, Rumsfeld left his mark on the Department. His highest priorities included reversing the decline in defense spending, updating aging weapon systems (especially strategic assets such as bombers and intercontinental ballistic missiles [ICBMs]), and working with NATO and allies to address the Soviet arms buildup. He did institute some management reforms while in office, such as consolidation of OSD, but his emphasis at the time was elsewhere (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

2. Organizational Management

During his short tenure, Rumsfeld carried forward many initiatives from his predecessor and started several of his own. One of his first acts was to direct a review of the Future Years Defense Program (FYDP) and the Planning, Programming, and

Budgeting System (PPBS). The intent was to improve the information provided to management while increasing the Department's ability to implement the requirements of the Congressional Budget Act of 1974 (Rumsfeld, 1976, p. 235). He also included the Office of Management and Budget (OMB) earlier in the budgeting process, during the Summer Program Review, as recommended by the Murphy Commission (Rumsfeld, 1976, p. 236). His review of the planning system concentrated on four areas: mobilization and deployment plans, the connection between PPBS assumptions and operational planning, ways to simplify and shorten the planning cycle, and actions needed to adhere to the Congressional Budget Act (Rumsfeld, 1978, p. 303).

Rumsfeld's management initiatives emphasized improving efficiency and effectiveness while enhancing the Department's ability to coordinate and control activities (Rumsfeld, 1978, p. 303). To increase productivity, and to adhere to the Presidential Management Initiative, Rumsfeld established a goal of two percent productivity improvement for the Department (Rumsfeld, 1978, p. 311). To reach that goal, the Department continued to reduce internal Department reports, forms, and directives (Rumsfeld, 1976, p. 242).

Although he did believe they served a valuable function, Rumsfeld reduced the use of advisory groups and tightened internal controls over the remaining ones (Rumsfeld, 1976, p. 236). He continued using management by objective (MBO), as it had been effective thus far for the Department (Rumsfeld, 1976, p. 235). Standardization of management systems was beginning to take hold, but at this point most of the changes were in Installations and Logistics, and Financial Management (Rumsfeld, 1976, p. 241). He did, however, help create a systematic program of internal audits designed to identify areas of additional savings (Rumsfeld, 1978, p. 303).

Consolidation of management functions and a flattening of the various Headquarters elements (OSD and the Services) was a priority. Rumsfeld consolidated the offices of the OSD and the Office of the Joint Chiefs of Staff (OJCS) to eliminate redundancy (Rumsfeld, 1978, p. 304). This change, among others, contributed to the reduction of OSD staff by thirty percent since 1969 and the OJCS staff by fifteen percent in one year and thirty-seven percent since 1969 (Rumsfeld, 1978, p. 305).

3. Acquisitions and Logistics

Acquisitions reform continued to be a major area of emphasis under Rumsfeld. To improve acquisitions efficiency, Rumsfeld and the senior leaders within the Department now increasingly used DCPs, the DSARC, the CAIG, Production Readiness Reviews, the Design-to-Cost concept, and Life Cycle Cost (LCC) programs (Rumsfeld, 1978, p. 307). The Department implemented the use of three milestone reviews by the DSARC. Those reviews occurred prior to a program entering into advanced development, prior to entering full scale development, and prior to proceeding with production and deployment (Rumsfeld, 1976, p. 237). The Department created Milestone 0, which allowed each service to identify requirements, submit them to OSD, and commence concept studies (Rumsfeld, 1978, p. 308). The intent was to ensure that technologies and systems were mature enough to continue on to the next phase, thus preventing cost and schedule slippages and weapon systems that would never materialize.

As in every administration, studies were continually being conducted to identify and implement changes to acquisitions. Under Rumsfeld, the DoD had reviewed and began implementing changes recommended by the Commission on Government Procurement, the Acquisition Advisory Group, and internal service review recommendations (Rumsfeld, 1976, pp. 238-239). One of the studies, called "Forward Look", assessed existing management policies and identified opportunities to streamline the acquisition and contract management process (p. 239). As a result, 32 policy changes were implemented that forced the DoD to rely more on contractors for product performance and involve less government oversight in corporate management procedures (Rumsfeld, 1978, pp. 308-309).

The continual growth in the cost of new weapon systems required several changes to the way the acquisitions community operated. "Design-to-Cost" became a trend, as did the inclusion of accurate operations and support (O&S) cost estimates (Rumsfeld, 1976, p. 240). Because of repeated cost overruns, it was necessary to develop independent cost estimates for major weapon systems. The CAIG was given the lead on this and their estimates carried more weight than those of the program managers (Rumsfeld, 1976, p. 237). Rumsfeld continued the push to reduce the use of military

specifications, another contributing factor to weapons systems cost growth (Rumsfeld, 1976, pp. 239-240). The Department now required that, whenever possible, new systems have lower O&S costs than the systems they replaced. This was to be achieved through reduced manpower support requirements, warranties, and better logistics supportability (Rumsfeld, 1978, p. 311). Rumsfeld emphasized the use of "off-the-shelf" products where possible in order to reduce costs (Rumsfeld, 1978, p. 308). He also pushed for standardized specifications (Rumsfeld, 1978, p. 313). A greater emphasis was placed on the importance of program managers as well. A concerted effort was made to increase their tenure, give them more responsibility, and keep the PMs competitive for promotion within their services.

Industrial preparedness and the maintenance of the industrial base were of vital concern to Rumsfeld. Industrial Preparedness Planning (IPP) had been initiated by prior administrations, which looked at the impact the Department's major procurement decisions had on industry, but Rumsfeld extended it down to the component/part level. He was starting to see a serious erosion of capability and competition, especially at the sub-contractor level (Rumsfeld, 1976, p. 244). At the same time, he directed a review of all government-owned facilities to determine which ones were critical and should be modernized, and which ones were unneeded (Rumsfeld, 1976, p. 244). The Department emphasized the use of technology to reduce the cost drivers of new equipment and accelerate the repair of older equipment (Rumsfeld, 1976, p. 244).

In 1975 the Deputy Secretary launched a program called "Profit '76" that was meant to encourage contractors to invest in modern production assets while ensuring they would earn a fair, but not excessive, profit. The DoD had contracted a consortium of certified public accountants to analyze the profits of over 100 companies and report the results, with the objective of establishing profit criteria (Rumsfeld, 1976, p. 245). This shifted policy from a strict cost focus to one that accounted for effort, risk, and investment by the contractor, and allowed the imputed cost of capital for capital investment to be considered in contract negotiations (Rumsfeld, 1978, p. 310). He also established the Investment Policy Study Group to further study ways to increase contractor capital investment (Rumsfeld, 1978, p. 310).

The Department wanted to improve the industrial base, but it also had to be cautious of corruption in both contractors and government acquisitions personnel. One of the problems that the DoD was having was that contractors, mostly in shipbuilding, would incur enormous cost overruns due mostly to poor management or low-ball estimates. They turned to the government for reimbursement, but the Department often ended up in court fighting the claims. To expedite the process, Congress directed that all claims against the Navy be settled expeditiously by a three-man board (Rumsfeld, 1978, p. 312). As for internal corruption, Rumsfeld confronted the issue of misconduct within the acquisitions community by aggressively preventing the transfer of gratuities between contractors and DoD personnel, and requiring that any potential conflicts of interest be addressed (Rumsfeld, 1978, p. 306).

The recognition of support costs as a main driver of program cost growth caused the DoD to try to create a standard cost accounting system for use at depot maintenance facilities (Rumsfeld, 1976, p. 241). Another cause of high support costs was the management of secondary repairable items. While the total number of repairables had already been reduced from 4.1 million in 1965 to 3.7 million in 1975 (Rumsfeld, 1976, p. 242), much more could be done. Rumsfeld started three new programs to help manage those repairables: the Defense War Reserve Computation, improved management of repairables, and development of standard base-level policies (Rumsfeld, 1976, p. 242).

4. Facilities and Energy

Donald Rumsfeld continued the practice of base realignments that had begun in 1974. He knew that money spent on extra infrastructure was money not available for more urgent operations and acquisitions. Unfortunately for him, state and local communities were starting to fight downsizing and base closures by this time, often tying up the cases in court (Rumsfeld, 1976, p.240). One way that this problem was addressed in the past was by relocating many defense operations from the National Capital Region (NCR) to underutilized bases elsewhere. This solution met with resistance as well (Rumsfeld, 1976, p.240).

The oil crisis had a dramatic impact on the Department of Defense. Donald Rumsfeld continued the programs started in prior years, but further reduced operational

tempo and overall energy consumption to a bare minimum. The Department reduced energy consumption by seven percent in FY 1976 (Rumsfeld, 1978, p. 309). Additionally, the Department expanded research and development to reduce energy consumption. Rumsfeld recognized the importance of ensuring adequate petroleum supplies to U. S. forces around the world (Rumsfeld, 1976, p. 245). To facilitate this, he helped get the Naval Petroleum Reserve Production Act of 1976 passed, which directed the maximum efficient production of oil from the Naval Petroleum Reserve for six years (Rumsfeld, 1978, p. 309).

O. HAROLD BROWN

1. Background

Harold Brown served as the Secretary of Defense from January 21, 1977 to January 20, 1981. Unlike his predecessor, Brown was less a politician and more a scientist. He held a Ph.D. in physics and worked in the scientific community most of his career. In 1952, Brown began working for the Lawrence Radiation Laboratory and rose to director within eight years. Throughout the 1950s, he served on several boards and scientific bodies, and acted as a consultant in the area of nuclear testing and proliferation. Brown was the Director of Defense Research and Engineering under Robert McNamara, then Secretary of the Air Force from 1965 to 1969. From 1969 until he assumed office as the Secretary of Defense, Brown was the president of the California Institute of Technology (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Although Harold Brown was a scientist by training, he made solid efforts to reform the business practices of the Department, consistent with President Carter's objective of reorganizing the federal government. His greatest efforts were in modernizing the strategic forces, especially nuclear weapon delivery platforms, and he gave the go-ahead for the development of stealth technology. He believed it was critical to maintain the same capabilities as the Soviet Union, and to offset deficient areas with greater capabilities in other areas. Brown also understood that to achieve these goals the Department would need to increase funding, even as President Carter was promising defense cuts of $5 to $7 billion. He was ultimately successful at fending off the cuts,

ending his administration with a generally increased defense budget in constant dollar terms. Harold Brown realized through his years in office that the Department of Defense was an organization unlike any other, that implementing management reform was a task of enormous proportions. This belief was articulated in a speech he gave shortly after leaving office in 1981:

> I want to note again the basic limitation of any attempt to manage the Defense Department in an idealized textbook fashion. The pull of the need to be able to fight a war, if necessary, will always limit the peacetime efficiency of the defense establishment…
>
> The pull of conflicting domestic interests represents democratic government....To manage defense efficiently and at the lowest possible cost along presumed business lines of management and organization is a useful standard. But there are prices we cannot afford to pay for meeting it exactly. One is the abandonment of democratic control. Another is the loss of a war. Defense cannot be "managed" like a business. But it can be led so as to preserve most effectively our national security interests (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Harold Brown may have made greater changes to the management of the Department had it not been for international events at that time. The Strategic Arms Limitation Talks II were being conducted, the Soviet Union invaded Afghanistan, the treaties addressing the control and neutrality of the Panama Canal were being discussed, the Iranians occupied the U. S embassy in Tehran, and the involvement of allies and NATO countries in creating a global defensive posture was being formulated (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

2. Organizational Management

Harold Brown made management reform a priority, as he wanted to maximize the defense dollar by streamlining organizational and management relationships (Brown, 1978, p. 348). The Department initiated the Defense Reorganization Study to evaluate organizational and management arrangements (Brown, 1978, p. 351). The intent of the study was to improve the efficiency and effectiveness of the Department (Brown, 1979, p. 310) The results of the study suggested improvements in four areas: the appropriate source, content, and quality of military advice (roles of CJCS, JCS, and unified and

specified commanders); the appropriate National Military Command Structure (NMCS); the appropriate organization and functions of OSD; and the appropriate organization and functions of the military department headquarters (Brown, 1979, p. 310).

The Department continued its reduction in headquarters staffs at both the OSD and service levels (Brown, 1978, p. 351). Brown's intent was to have the headquarters focus on policy development, resource management, program evaluation, and long-range planning and leave all other tasks to subordinate commands. Most personnel reductions were the result of transferring people to those lower level commands (Brown, 1979, p. 306). Brown reduced his own OSD staff by twenty-six percent and required subordinate headquarters reduce their manpower by twenty-two percent (Brown, 1978, p. 355). Major staff offices within OSD were reduced from fourteen to nine (Brown, 1978, p. 351). Brown reduced the number of personnel reporting directly to him and had them report to various Undersecretaries, while eliminating one of the two Deputy Secretaries of Defense in order to avoid confusion in the chain of command (Brown, 1978, p. 353). Five of the twenty-two Assistant Secretaries authorized by Congress were eliminated (Brown, 1979, p. 304). To provide more independent OT&E results to the Secretary, the Director, Planning and Evaluation was made an Assistant Secretary of Defense for Program Analysis and Evaluation (Brown, 1978, p. 352).

Movement of activities away from the NCR continued to be important (Brown, 1979, p. 302). The purpose was to decentralize non-headquarters Defense activities from NCR, reduce costs of GSA-provided spaces in NCR, and increase use of existing, underutilized installations elsewhere (Brown, 1979, p. 308). The goal under Brown's administration was to eliminate two million square feet of space over five years, affecting 5,400 people (Brown, 1979, p. 308).

The Department initiated the DoD Productivity Program to increase productivity (Brown, 1979, p. 316). One of the key elements to this was the implementation of automated data processing (ADP) in many of the support functions of the DoD (Brown, 1981, p. 301). The Secretary encouraged the use of ADP in health care through the use of the Tri-service Medical Information System (Brown, 1979, p. 316). In addition the Defense Eligibility Enrollment Reporting System (DEERS), a personnel database, was

being tested to help reduce fraud and expedite claims payments for health care services (Brown, 1981, p. 302). The Department also entered into several contracts with private hospitals to provide surge capacity during wartime, known as the Civilian-Military Contingency Hospital System (CMCHS) (Brown, 1979, p. 316).

To improve the planning process within the DoD, the following changes were made: early Secretary of Defense and Presidential involvement, development of a single Consolidated Guidance document as the basis for creation of all DoD programs, preparation by the JCS of a Joint Strategic Planning Document (JSPD) and Joint Program Assessment Memorandum (JPAM) in lieu of Joint Strategic Objectives Plan (JSOP) and Joint Forces Memorandum (JFM), and development of an annual Study Plan that would identify problems in developing the Consolidated Guidance (Brown, 1979, p. 303).

In FY 1981, the Secretary created the Defense Resource Board to better integrate programming and budgeting by supervising the OSD review of Service Program Objective Memorandums (POMs) and budget submissions (Brown, 1980, p. 284). The Department also moved to zero-based budgeting to improve the responsiveness of the PPBS (Brown, 1978, p. 348).

In FY 1981, Brown added two more objectives to his administration: better support function integration, and more cost reductions (Brown, 1980, p.282). The integration of support functions was tasked to the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) and the initial results appeared positive (Brown, 1980, p. 284).

A Defense Science Board Task Force was created to review the process by which the DoD specified, planned, and procured command and control systems. While the report recommended more commander involvement, the three specific recommended changes were the creation of a Command, Control, Communications, and Intelligence (C3I) Directorate within OJCS, integration of the World-Wide Military Command and Control System Engineering Organization into the Defense Communications Agency, and the reorganization of Office of the Assistant Secretary of Defense (C3I) (Brown, 1980, p. 286).

Departmental management reform had the following objectives: increase responsiveness to national security objectives, ensure policy implementation, improve direction and control of combat forces, improve resource management, and increase responsiveness to changing conditions. To reach the objectives, the DoD focused top-level management on policy development, resource management, and program evaluation; consolidated related functions; separated the staff resource consumers from the resource developers/acquirers; considered views from all levels before adopting policy; and elevated special interest areas (e.g. NATO) (Brown, 1981, p. 295).

By FY1982, the DoD had phased in most changes required by the Civil Service Reform Act of 1978. It converted most executives to SES, used a new performance appraisal system, awarded financial awards for performance to executives, and awarded merit pay to lower supervisors (Brown, 1981, p. 301). There was also an emphasis on clarifying and simplifying the thousands of regulations within the Department (Brown, 1981, p. 304).

3. Budgeting and Financial Management

Secretary Brown was frustrated at having to pay too much for many things, including payroll, facilities, and equipment, as mandated by the Davis-Bacon Act and the Service Contract Act. By his estimates, the Department was overpaying by 15% on construction alone (Brown, 1979, p. 313). For personnel overpayment, the Department pushed Congress to pass the Federal Employees Compensation Reform Act. This act would reduce personnel costs by equating them with comparable private sector wages (Brown, 1981, p. 306). The DoD took over the management and funding of the overseas military banking program which provided banking services and disbursing officers to assist military and civilian personnel (Brown, 1978, p. 360).

4. Acquisitions and Logistics

The DoD initiated a pilot program, the Commercial Commodity Acquisition Program (CCAP), to encourage the use of commercial off-the-shelf products where possible (Brown, 1978, p. 359). Secretary Brown issued the Defense Production Management directive, pushing production management responsibilities down to the services and incorporating production management considerations as part of the major

milestone reviews (Brown, 1978, p. 359). The Department continued to encourage contractor investment in cost-reducing capital assets by writing capital investment incentives into contracts.

New, more cost effective procurement policies expected to save $250 million annually included: the use of more commercial products, elimination of unnecessary government specifications, use of commercial distribution channels, multi-year contracts to reduce unit cost, encouraging contractors to invest in cost saving equipment, and buying at the most efficient production rates (Brown, 1979, p. 311). The Department also emphasized the use of high-technology materials, equipment, and processes to improve performance and reduce the cost of new systems (Brown, 1979, p. 312). The acquisitions workforce, considered by many as too large, was reduced by 15,000 positions (Brown, 1979, p. 312). Other steps the department took to improve the acquisition process included: development of a new mission area structure for material acquisition, methods of increasing contractor competition including parallel development and leader/follower production, greater use of concurrent development for competing systems, modifying rather than replacing exiting systems when possible, consolidating similar programs, earlier examination of system affordability, emphasizing acquisition schedules based on operational needs rather than technological opportunities, cancelling low-payoff programs, increasing NATO joint development, improving efficiency of the industrial base, and earlier and more detailed consideration of reliability and maintenance factors (Brown, 1979, p. 314).

The DSARC process was being streamlined to reduce paperwork and focus on addressing major issues at milestone decisions (Brown, 1980, p. 285). It also emphasized early industry participation in the concept phase of a program, while stating program objectives in terms of mission requirements rather than specific technological requirements (Brown, 1980, p. 285). Secretary Brown issued an instruction that all new acquisitions contracts include the Parts Control program, a program intended to use as many existing parts as possible for standardization purposes and reduced storage costs (Brown, 1981, p. 305).

The Secretary wanted to realign the logistics system to achieved potential savings of $100 million annually (Brown, 1979, p. 312). In addition to changing the material distribution system, a new emphasis was placed on standardizing parts and acquiring commercial products in place of military-specific ones. The Department created the Secondary Item Stockage Policy Analysis Working Group to find and implement better stock handling methods (Brown, 1981, p. 306). The Department looked to contract out more commercial and industrial functions as well (Brown, 1980, p. 289). Secretary Brown was placing more emphasis on reducing fraud and waste (Brown, 1979, p. 312). In addition, by FY 1982, foreign policy and arms control had become additional considerations for all new major weapon acquisitions (Brown, 1981, p. 299).

5. Facilities and Energy

Energy conservation continued to be very important. The Secretary's four priorities for energy management were petroleum supply assurance, an energy research and development plan for mobility fuels, energy technology demonstration projects with the Department of Energy (DOE), and facilities energy conservation (Brown, 1979, p. 315). From 1973 to 1976, the DoD reduced energy consumption by thirty-two percent. The Department continued this conservation trend through numerous programs. The Energy Conservation Investment Program, started in 1976, was expanded to include even more buildings. The program involved the retrofit of existing buildings to be more efficient. Alternative energy programs were emphasized as well (Brown, 1978, p. 358). One of the biggest savings came from the reduction in flight, steaming, and operating hours for the operating forces (Brown, 1978, p. 358). The Department also continued to reduce its base structure to save costs. The Secretary created the Office of Economic Adjustment (OEA) to help communities that were affected by base and manpower realignments (Brown, 1980, p. 287).

P. CASPAR W. WEINBERGER

1. Background

Caspar W. Weinberger served as the Secretary of Defense from January 21, 1981 to November 23, 1987. He enlisted in the U. S. Army in 1941 and worked his way up to captain in the pacific theater under General Douglas MacArthur. Weinberger had a

military background and an appreciation for military life. Following the war, Weinberger used his law degree and interest in politics to facilitate his election and appointment to several political positions in California. He was appointed by Governor Reagan to numerous state positions in the 1960s before moving on to Washington, where he served as the chairman of the Federal Trade Commission, the director of the Office of Management and Budget, and the Secretary of Health, Education and Welfare. Weinberger's last position before assuming office as the Secretary of Defense was as vice president and general counsel for the Bechtel Group (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Caspar Weinberger led the rebuilding of the military under President Reagan. He was known as a good administrator and cost cutter, but he also aggressively pushed the readiness, sustainability, and modernization of the Department and helped grow the budget significantly. He created solid relationships with the Service leaders by giving them more authority, while simultaneously maintaining centralized policy formation and decentralized execution (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Just as his predecessor did, Weinberger had many international situations to address. He had to deal with the Argentine invasion of the Falklands in 1982, the Palestine Liberation Organization fighting and Marine Corps involvement in Beirut in 1982, the invasion of Grenada in 1983, the conflicts with Libya from 1981 to 1986, and other issues in the Middle East involving Iran, Iraq, and others. He also spent a great deal of time establishing and improving relationships with China and Japan (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

2. Organizational Management

Upon assuming his position as Secretary of Defense, Caspar Weinberger defined his business management initiatives with five broad purposes: provide the best strategic thinking in order to adapt to changing threats and use our capabilities to the fullest; reduce costs and improve resource efficiency; streamline PPBS to reduce paperwork and redundancy; improve acquisitions by reducing costs, time delays, and unneeded regulations while incentivizing industry to invest in more economical production

processes; and eliminate waste, fraud, and abuse (Weinberger, 1982, p. I-43). The Secretary also placed great emphasis on centralized policy development but decentralized execution (Weinberger, 1982, p. I-46).

The Secretary was not alone in his desire to change the management of the Department. President Reagan had three major management initiatives that affected the Department. In 1982 he established the Private Sector Survey on Cost Control, also known as the Grace Commission, to review government management practices (Weinberger, 1984, p. 108). In 1985 he established the Blue Ribbon Commission on Defense Management to review the Department's management practices (Weinberger, 1986, p. 116). He also initiated "Reform '88", a government-wide review of administrative practices (Weinberger, 1984, p. 108). Congress was concerned with defense management issues as well, and in October 1985, the Senate Armed Services Committee (SASC) published a report called Defense Organization: The Need for Change that recommended far reaching changes (Weinberger, 1986, p. 116).

While the Department agreed with most of the Grace Commission recommendations, it disagreed with the projected three-year cost savings of $93 billion from implementing those changes (Weinberger, 1984, p. 108). It believed that many of the assumptions were unrealistic, that double counting had occurred, and that many of the recommended changes would require a much longer timeline to implement (Weinberger, 1984, p. 108). Further, it believed that eighty percent of the recommendations could not be changed by the Department alone but required Congressional action to implement (Weinberger, 1984, p. 108). The Department did implement many of the initiatives laid out in "Reform '88", mostly by improving internal controls, reducing fraud, improving the handling of revenues and disbursements and collection of debts, and looking for additional opportunities to improve efficiency and effectiveness (Weinberger, 1984, p. 109).

Secretary Weinberger's response to the many management reform studies was the development of the Program for Management Improvement. This program had five objectives: develop and implement a Management Improvement Plan (MIP); oversee management accomplishments through the DoD Council on Integrity and Management

Improvement (DCIMI); aggressively audit contracts; reduce fraud, waste, and abuse though greater use of the Inspector General (IG); and implement recommendations from external sources (Weinberger, 1987, p. 99). The MIP had 27 initiatives focused in four areas: procurement reform, financial management, productivity improvement, and internal management controls (Weinberger, 1987, p. 100).

One of the first priorities for change was the reorganization of the senior offices within the Department. The Department began using the newly promoted Assistant Secretary of Defense (Legislative Affairs) to work more closely with Congress (Weinberger, 1982, p. III-205). The Department created the position of Assistant Secretary of Defense (International Security Policy) to ensure the DoD was in compliance with the national security strategy (Weinberger, 1982, p. III-205). It also restored five Assistant Secretary positions that had been eliminated in previous administrations (Weinberger, 1982, p. 205). During FY 1984, two additional Assistant Secretary of Defense positions were created, the Assistant Secretary of Defense (C3I) and the Assistant Secretary of Defense (Reserve Affairs) (Weinberger, 1984, p. 107), and the Office of Test and Evaluation was created (Weinberger, 1984, p. 107). To implement management innovations and improvements, the Directorate for Management Improvement was established (Weinberger, 1984, p. 107).

Productivity and efficiency improvements continued to be implemented. Productivity improvements were made via the Efficiency Review Program, the issuance of the DoD Productivity Goals Statement, the use of Productivity Enhancing Capital Investment (PECI), emphasis on worker safety, and employee idea feedback (Weinberger, 1987, pp. 107-108). The DoD began using the Efficiency Review Program to apply industrial engineering techniques to manpower management (Weinberger, 1986, p. 109). It expanded investment in the PECI program to increase output, resulting in a $20 savings for each dollar invested (Weinberger, 1986, p. 109). A cornerstone of the PECI program was investment in microcomputers, with a movement toward buying rather than leasing ADP equipment (Weinberger, 1986, p. 110). The Department also encouraged "participatory management techniques" so that employees could creatively solve their own problems (Weinberger, 1986, p. 109). As of 1986, four additional

productivity improvement programs had been started, including a suggestion program, a productivity excellence award program, a quality circles program, and a productivity gain sharing program (Weinberger, 1986, p. 109).

The Department continued many productivity improvement programs initiated under previous administrations. It continued to review, reduce, and improve its regulations throughout the Department (Weinberger, 1982, p. III-210). It expanded improvements to health care (Weinberger, 1982, p. III-208), focusing on cost reduction through new data systems, eligibility screening, and more accurate manpower assessments (Weinberger, 1984, p. 109). It emphasized cost reduction across the DoD by reducing travel, purchase, payroll, overhead, and consulting costs (Weinberger, 1982, p. I-45), and dramatically expanded the use of competitive contracting. From FY 1980 to FY 1986, competitive contracts increased thirty-seven percent and in FY 1986 accounted for seventy-two percent of all contracts (Weinberger, 1986, p. 103).

The Department focused on reorganizing the DRB and streamlining the PPBS in order to more effectively translate policy into programs and budgets (Weinberger, 1982, p. I-44). The DRB was enlarged to include the Service Secretaries and the input of the unified and specified commanders (Weinberger, 1982, p. I-47) and the PPBS was revised and streamlined to reduce the paperwork by half and make it less top-heavy (Weinberger, 1982, p. I-46). The Secretary's Performance Review was created to incorporate periodic reviews of major programs by senior leaders, while participatory management was encouraged and management responsibilities were clarified at all levels (Weinberger, 1982, p. III-198).

The Department created the Advanced Procurement Planning System for Security Assistance (APPSSA) to facilitate co-development of weapons with allies and manage foreign military sales (Weinberger, 1982, p. III-208). It also created the Foreign Military Sales Financial Management Improvement Program (FFMIP) Office to manage the dramatic growth in foreign military sales (Weinberger, 1984, p. 108).

Secretary Weinberger continued to address the fraud, waste, and abuse problems that had plagued the Department. The position of Assistant Secretary of Defense

(Review and Oversight) was established to coordinate all efforts in this area (Weinberger, 1982, p. I-47), and the Department established a fraud, waste, and abuse hotline that anyone could call to report illegal activity (Weinberger, 1982, p. I-47). The greatest fraud, waste, and abuse cases were in health care and acquisitions (Weinberger, 1985, p. 91), often the result of poor internal controls. The DoD established the Defense Internal Management Control Program to identify and correct those internal management weaknesses before they cause further problems (Weinberger, 1985, p.94). DCIMI was established (Weinberger, 1982, p. III-197), similar in structure to an executive committee in a private company (Weinberger, 1987, p. 99), and the Department encouraged more aggressive investigating and prosecuting of fraud cases by the DoD IG (Weinberger, 1984, p. 106). To address contractor misdeeds, the Department gave the Defense Contract Audit Agency (DCAA) more power and greater scope in its review of contracts (Weinberger, 1984, p. 106).

3. Budgeting and Financial Management

Many financial management initiatives carried over from the previous administration. Of those, the consolidation of financial systems was the top priority (Weinberger, 1987, p. 105). Consolidation served two purposes: it reduced costs by eliminating redundant offices and system across departments, and it was the critical first step in preparing financial reports for Congress (Weinberger, 1986, p. 110). Under Weinberger, the DoD tried to get al.l of its 105 accounting systems approved by the Comptroller General (Weinberger, 1982, p. III-211). Other financial management improvements included more aggressive credit management and debt collection operations (Weinberger, 1982, p. III-210).

4. Acquisitions and Logistics

In 1981, shortly after assuming office, Secretary Weinberger ordered a complete review of the acquisition process (Weinberger, 1985, p. 82). The review confirmed that the Department's acquisition process still had many areas that needed dramatic improvement and costs reduction. Weinberger initiated the Defense Acquisitions Improvement Program (DAIP) as the roadmap to improving acquisitions (Weinberger, 1985, p. 82). The DAIP emphasized six areas: program stability, multi-year

procurement, economic production rates, realistic budgeting, improved readiness and integrated logistic support, and competition (Weinberger, 1985, pp. 83-87).

A major goal of the Department's cost reduction plan was to evaluate the relative value of the acquisition programs currently under development and retain only the most beneficial and economical ones. The Department began eliminating marginally useful programs and delaying others (Weinberger, 1982, p. I-45), eventually reducing the number of new programs from fifteen to three between FY 1983 and FY 1987 (Weinberger, 1986, p. 106). For the systems that were kept, the Department attempted to order in economic order quantities when possible, and buy systems that were generally lower cost (Weinberger, 1982, p. I-45).

Weinberger stressed long-range planning to arrive at more realistic and accurate cost estimates (Weinberger, 1982, p. I-46). One of main reasons the Department shifted its focus to long-range planning was to create program stability. It found that year-to-year changes in planned order quantities and budget al.locations dramatically affected program and unit costs. The Department took several steps to implement stability: it gave more power to the PM's (Weinberger, 1982, p. I-46), and it increased use of multi-year contracts. In FY 1985, the Department estimated cost savings from using multi-year contracts to be $4.4 billion (Weinberger, 1984, p. 101). More accurate cost estimation was critical as well, and was implemented in two ways: internally, the Department placed greater reliance on independent cost estimates (Weinberger, 1985, p. 86), and externally, fixed-price contracts became the standard in an effort to reduce the occurrence of low-ball bids by contractors (Weinberger, 1985, p. 86) who would try to profit later through change proposals.

The Department recognized the competition was critical to reducing costs and improving quality (Weinberger, 1985, p. 87), so it actively encouraged more contractors to bid for jobs and be innovative in their operations (Weinberger, 1982, p. I-46). It continued to focus on using minimal specifications and standards essential to meet program objectives (Weinberger, 1985, p. 83). To spread the benefits among more contractors, the DoD increased the use of dual sourcing for major weapon systems (Weinberger, 1986, p. 104).

The Department made several changes at the senior levels to further implement reform. The Department established the Under Secretary of Defense (Acquisitions) and created a Senior Acquisition Executive in each service to be responsible for all acquisitions programs (Weinberger, 1987, p. 114). To prevent redundant development of similar systems by separate services, the DoD started using the Joint Requirements and Management Board (JRMB) to discover and implement opportunities for joint system development (Weinberger, 1986, p. 107). The Department also began requesting that Congress revise the statutory thresholds and increased funding flexibility in the acquisitions process (Weinberger, 1984, p. 101). These requests were partially answered in FY 1986, when Congress doubled the dollar threshold that defined major weapon systems, allowing senior leaders to focus on the most important programs (Weinberger, 1985, p. 83). To further streamline the development process, the Department reduced the number of milestone decision reviews to two (Weinberger, 1985, p. 83).

Improved spare parts management continued to be a priority under Secretary Weinberger. The Department created the Spares Management Improvement Program to increase spares competition, use the DoD's purchasing power as customer leverage, and improve price control (Weinberger, 1986, p. 107). To head up all aspects of spares management, the Department created the position of Deputy Assistant Secretary of Defense (Spares Program Management) (Weinberger, 1986, p. 107). The Department established a program to end spare parts price abuse by contractors (Weinberger, 1984, p. 104) and began using competitive sourcing to foster price competition (Weinberger, 1985, p. 89). It also required mandatory use of the existing Spare Parts Program to standardize the parts used in the design of new equipment (Weinberger, 1984, p. 105). The Department purchased parts control software and began training parts procurers in both the use of the software and in sound buying practices (Weinberger, 1984, p. 105).

Additional improvements in logistics management included improved inventory record accuracy, greater use of the Defense Reutilization and Marketing System, logistics application of Automated Marking and Reading Symbols (LOGMARS), adoption of automated memory cards, and increased use of commercial transportation (Weinberger, 1986, p. 111). Personal property shipping offices were combined to improve efficiency

and reduce cost (Weinberger, 1982, p. III-209). The DoD created the Aeronautical Depot Maintenance Task Force to oversee depot maintenance, and centralized the management of 200,000 items under the Defense Logistics Agency (Weinberger, 1982, p. III-209).

5. Facilities and Energy

The Department of Defense created an experimental Model Installations Program to encourage base commanders to try new cost-saving measures and allow them to keep the savings for use elsewhere on their bases (Weinberger, 1986, p. 112). Part of those savings came from the expanded energy conservation program (Weinberger, 1986, p. 111). Another source of substantial savings came from the continued outsourcing of base functions via contract competitions (Weinberger, 1986, p. 112).

Q. FRANK C. CARLUCCI

1. Background

Frank C. Carlucci served as the Secretary of Defense from November 23, 1987 to January 20, 1989. He started his career in the Navy, then worked for twelve years at the State Department with assignments all around the world. After he left the State Department in 1969, he held leadership positions in several government agencies, including the Office of Economic Opportunity, the Office of Management and Budget, and the Department of Health, Education, and Welfare. At the latter two positions he worked directly for Caspar Weinberger. Carlucci also served as the deputy director of the Central Intelligence Agency before assuming the post of Deputy Secretary of Defense under Weinberger. Carlucci entered the private sector for four years as the chairman and chief executive officer of Sears World Trade, but ultimately ended up back in politics, first as an advisor to the President, then as Secretary of Defense (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

While his tenure as Secretary was short, Carlucci did attempt to make significant management reforms, especially in the areas of budgeting, procurement, weapons systems, and down-sizing. On assuming office, he was forced to prioritize Department funding and slash expenditures anywhere he could. The administration and Congress proposed dramatic budget cuts in defense for the FY 1989 budget, nearly $33 billion less than Reagan's original request. He recommended personnel reductions, the elimination

of lesser acquisition programs, the early retirement of numerous weapons platforms, and a down-sizing of the base and support structure. Carlucci also attempted to implement dramatic changes to acquisitions in response to the "Ill Wind" procurement fraud. In addition, he significantly improved relations between the Pentagon and Congress, relations that had been strained under Weinberger's administration (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Significant global events affected the time Carlucci could dedicate to management reform. Carlucci continued talks with both Japan and China. He emphasized the strengthening of NATO and allied nations. He tried to reestablish open shipping lanes in the Middle East, resulting in several clashes with Iran. He and President Reagan established more open communications with the Soviet Union, but still pushed for more work on the Strategic Defense Initiative (SDI) as a precaution. The Intermediate-Range Nuclear Forces (INF) Treaty of 1987 had been signed, and Carlucci had to fend off the State Department's push for a Strategic Arms Reduction Treaty (START) that might impair the development of SDI (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006). Of note, during Secretary of Defense Carlucci's time in office the term *Continuous Improvement* first appeared and the term *Streamlining* continued to be used regularly.

2. Organizational Management

Secretary Carlucci believed that the Department of Defense management process had two objectives: create an environment that would encourage managers to manage creatively, and establish sufficient rules and control mechanisms to identify poor management (Carlucci, 1989, p. 91). To attain those objectives and implement management improvements, he continued to use the DCIMI and MIP tools created in earlier administrations (Carlucci, 1988, p. 133). Carlucci used the MIP to establish priorities and ensure accountability and progress, while he used the DCIMI to coordinate and integrate the plan (Carlucci, 1988, p. 133). Carlucci's MIP had seven goals: simplify and improve the acquisition process; link mobilization and surge capabilities of the U.S. industrial base with the nation's warfighting requirements; strengthen financial management direction, coordination, and oversight; strengthen health program

management; improve force manpower and personnel programs; improve productivity; and improve the mechanisms for efficient and effective program management (Carlucci, 1988, p. 134).

The internal management control programs and fraud prevention activities initiated under the previous administration carried over and were expanded (Carlucci, 1989, p. 97). The DCAA developed a Contractor Risk Assessment Guide (CRAG) to improve contractor internal controls and encourage self-governance (Carlucci, 1989, p. 98). The IG created the Voluntary Disclosure Program where contractors could report suspected internal criminal wrongdoing and other problems before the government discovered them (Carlucci, 1989, p. 99) and Executive Order 11222 was issued, stating what was and was not ethical behavior (Carlucci, 1989, p. 97). To reinforce this, the DoD created the Standards of Conduct Program (Carlucci, 1989, p. 97). Finally, all employees with decision making responsibility were required to disclose financial interests in order to identify and prevent and possible conflicts of interest (Carlucci, 1989, p. 97).

To improve productivity, the Department implemented several new ideas. It set a target of three percent annual productivity improvement (Carlucci, 1988, p. 145). It began implementing productivity and quality (P&Q) teams, cross-functional teams at all levels that could quickly solve productivity and quality improvement issues (Carlucci, 1988, p. 145). The Department adopted a "total quality management approach" (TQM) while continuing the use of the Efficiency Review process and PECI (Carlucci, 1988, p. 146). It also provided financial incentives for workers who saved the Department money (Carlucci, 1988, p. 146).

As computer use was becoming more widespread, additional policies were needed. The Department created the Department of Defense Automated Information System (AIS) Strategic Planning Policy that required DoD components to develop annual strategic AIS plans, and to use those plans as the basis for annual budget requests (Carlucci, 1988, p. 144). It also attempted to limit the number of programming languages and promoted the use of the Ada programming language (Carlucci, 1988, p. 144).

The financial management reforms from the previous administration were carried over. These include consolidation of finance and accounting systems, improved cash management, more aggressive debt collection, tighter internal management controls, and expanded auditing by the DCAA and IG (Carlucci, 1988, pp. 139-143).

3. Acquisitions and Logistics

Many of the initiatives begun under previous administrations were adopted by Carlucci's administration. The Department continued to implement changes required under the Goldwater-Nichols DoD Reorganization and Acquisition Improvement Acts of 1986. The Department minimized unnecessary requirements, increased contractor flexibility as to how they executed contracts, and minimized government involvement in contractors' internal processes (Carlucci, 1988, p. 135). It continued moving to non-governmental standards, while procuring non-developmental items (NDI) and "off-the-shelf" products to reduce costs (Carlucci, 1988, p. 135). It also emphasized the modernization of contractor facilities and the support of key materials and production capabilities within the industrial base (Carlucci, 1989, pp. 121-122).

Program stability initiatives started under Weinberger continued, with particular emphasis on multi-year procurement, baselining (the creation of specific objectives, deviations from which trigger management review), and milestone authorization that granted full funding for an entire phase of development (Carlucci, 1988, p. 137). Emphasis on joint program management and competition reform carried over as well. As of 1988, 150 joint programs were in development and being screened by the Joint Requirements Oversight Council (JROC) (Carlucci, 1988, p. 137).

While many acquisition programs were already in place, Carlucci did effect several changes in acquisition reform. The Department began streamlining flag-level advocates in each Department, while requiring key people to attend streamlining training courses (Carlucci, 1988, p. 135). The concept of "value engineering" first appeared during Carlucci's administration. This idea was to analyze the function of systems, equipment, facilities, services, and supplies to achieve essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety (Carlucci, 1988, p. 135). Total quality management (TQM) was adopted as well. In the

DoD application, this concept had five key pillars: prevent rather than correct defects, focus on improving the process more than the output, continuously improve, foster teamwork within DoD and between DoD and industry, and apply TQM to all personnel at all levels (Carlucci, 1989, p. 120). The spare parts reforms, known as the Spares Management Improvement Program, initiated under the previous administration in 1983, were carried over and expanded (Carlucci, 1988, p. 139).

4. Facilities and Energy

Under Carlucci, the Department planned to dramatically expand military construction (Carlucci, 1988, p. 177). It needed to repair the facilities that had been neglected during the 1970s, build new facilities to support new weapon systems, and greatly expand family housing to accommodate the all-volunteer force (Carlucci, 1988, p. 177).

In May of 1988, the Commission on Base Realignment and Closure (BRAC) was created to develop the process and evaluation criteria for identifying and eliminating unneeded bases (Carlucci, 1989, p. 115). As part of the BRAC process, the Department was required to consider four key issues: environmental impact of base cleanup and closures, reuse or disposal of the properties, impact on the surrounding communities, and possible alternate use of excess facilities by other federal and state agencies (Carlucci, 1989, pp. 115-116).

R. RICHARD B. CHENEY

1. Background

Richard B. Cheney served as the Secretary of Defense from March 21, 1989 to January 20, 1993. A career politician, Cheney moved up through the political ranks of both the executive and legislative branches. Early in his career he worked in the Office of Economic Opportunity, on the White House staff, and as White House Chief of Staff. He then served six terms as a Republican in the House of Representatives before becoming the Secretary of Defense under President George H. W. Bush (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Richard Cheney left the daily management of the Department to his Deputy, while he focused most of his efforts on external matters. His political background served him well in maintaining close and positive relations with the President, other executive departments, and Congress. He had severe budget cut issues, just as Carlucci had, and maintained two overriding priorities when making budget decisions; protect manpower programs such as pay, training, housing allowance, and health care; and favor proven equipment over unproven technologies. When force cuts were required, he preferred to cut conventional forces over strategic ones (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

International events occupied much of Cheney's time, most notably the end of the Cold War. One of his biggest concerns was the control of nuclear weapons once held by the former Soviet Union. He had to address the coup in the Philippines and orchestrated the ousting and arrest of General Noriega in Panama for drug trafficking. He withheld the use of ground troops in the Bosnian civil war, while he dispatched thousands of troops to Somalia to deal with that civil strife. Cheney's largest military involvement came in 1990 when Iraq invaded Kuwait, and the U. S. responded with Operations Desert Shield and Desert Storm (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006). It was during this time that the term *Employee Empowerment* first appeared.

2. Organizational Management

The 1989 Defense Management Report to the President laid out the plan to implement the findings of the Packard Commission (Cheney, 1990, p. 14). Specifically, it identified the following areas for improvement: forging better links among national policy, military strategy, force structure, resources, and programs; enhancing programmatic and technical input during resource allocation discussions; reducing significantly the number of programs that overrun their budgets, are late, or are technically deficient; reducing overhead costs while maintaining military strength; establishing and enforcing high ethical standards of conduct in DoD and the defense industry; reducing micromanagement and simplifying the laws and regulations governing DoD; reversing the decline in the industrial base; and improving relations among

Congress, the DoD, and the defense industry (Cheney, 1990, pp. 15-17). Cheney concurred with many of those recommendations and either carried over existing initiatives or created new ones to implement those findings.

During Cheney's administration, centralized policy planning and decentralized execution became even more popular and expanded across the entire Department (Cheney, 1992, p. 31). The Defense Planning and Resource Board was reorganized to concentrate on effective planning; specifically, to create closer ties among national policy, military strategy, force structure, resources, and programs (Cheney, 1990, p. 14). The Under Secretary of Defense (Acquisition) and Under Secretary of Defense (Planning) were given more power and became more involved in the PPBS (Cheney, 1990, p. 15). In all planning decisions, efficient use of resources was emphasized (Cheney, 1990, p. 14).

The Department continued to emphasize reducing overhead costs, improving quality, and streamlining operations. One measure it implemented was the consolidation of the Contract Administration Service organizations (Cheney, 1990, p. 16). Another was the competitive sourcing of even more positions, facilitated by the Defense Management Improvement Act, the result of requests by the DoD for legislative changes (Cheney, 1991, p. 34). As an extension of the Standards of Conduct program that Carlucci started, the Department created the Ethics Council to develop ethics programs (Cheney, 1990, p. 16).

The Department continued the effort to standardize and automate management information systems, giving it the new title of Corporate Information Management (CIM) (Cheney, 1990, p. 16). The purpose of CIM was to reduce non-value added work and costs while improving business processes (Cheney, 1993, p. 31). CIM simplified processes, used economic analysis and benchmarking, used common systems, infrastructure, data definitions, and standards, and it centralized security control (Cheney, 1993, p. 32). The Department established the Center for Information Management within the Defense Information Systems Agency (DISA) to centralize information management policy making, and appointed a Director of Defense Information to lead the effort (Cheney, 1992, p. 32). To ensure compatibility and expandability for its information

systems, the Department emphasized open systems architecture (Cheney, 1992, p. 33). The backbone of this concept was the Defense Information Infrastructure (DII), established in 1992, which was to provide end-to-end information support (Cheney, 1993, p. 32). DISA initiated several programs as well: the DoD Data Administration Program, technical integration management, the DoD open systems architecture, the DoD Software Reuse Program, and the Defense Information Technology Service Organization (DITSO) (Cheney, 1993, pp. 32-33).

3. Budgeting and Financial Management

Secretary Cheney's most significant financial management initiative was the creation of the Defense Finance and Accounting Service (DFAS) in 1991 (Cheney, 1992, p. 32). While previous administrations had attempted to consolidate financial systems with limited success, DFAS was the broadest and most successful product of the consolidation effort. Following its introductions, DFAS expanded the types of financial operations it conducted while consolidating more functions from all Defense Department organizations (p. 32). As part of the consolidation effort, DFAS tried moving to a single system for payroll, travel payments, transportation, debt management, and Defense Business Operations Fund (DBOF) accounting (Cheney, 1993, p. 34). It also began a program to streamline all financial management regulations into a single set of fifteen volumes, reducing the number of pages by seventy-two percent (Cheney, 1993, p. 33). An additional effort was to create a standard travel system (Cheney, 1992, p. 32).

4. Acquisitions and Logistics

Just as in previous administrations, the dual goals of acquisitions reform under Cheney were efficiency and effectiveness (Cheney, 1991, p. 29). Changes were made at all levels, starting with the responsibilities of senior leaders. The JROC was given a larger role prior to the DAB, and the DAB began reviewing all programs to ensure they were mature enough to advance to the next phase (Cheney, 1990, p. 15). The DoD continued to give program managers more authority and longer tenures (Cheney, 1990, p. 15). Their chains of command were shortened as well, with the PM now reporting the Program Executive Officer (PEO), who reported to the Service Acquisition Executive

(SAE), who reported to the Under Secretary of Defense (Acquisitions) (Cheney, 1991, p. 29). Additionally, the acquisitions field within the military was turned into a full-time career field (Cheney, 1990, p. 15).

The Department attempted to limit reporting requirements for acquisitions programs by revising or cancelling 400 of the 500 acquisitions-related directives and instructions (Cheney, 1991, p. 30). It began the use of "zero-based review" of acquisition programs (Cheney, 1991, p. 30) and it continued emphasis on reducing the use of government standards and specifications (Cheney, 1991, p. 30). It completed a full rewrite of the Defense Federal Acquisition Regulation Supplement (DFARS), reducing it in size by fifty-two percent (Cheney, 1993, p. 38).

To further reduce cost overruns, prototyping and extensive testing of new systems was expanded (Cheney, 1990, p. 16) and risk reduction was given greater importance (Cheney, 1993, p. 37). The Department developed an official Science and Technology (S&T) strategy and created the Defense Technology Board to ensure S&T programs supported strategy (Cheney, 1993, p. 38). Testing and Evaluation (T&E) was centralized, and each service was assigned a lead role for specific T&E areas (Cheney, 1993, p. 38). The Department placed greater emphasis on technological superiority through increased research and development (Cheney, 1993, p. 37). However, to pass beyond the S&T phase, a program had to answer three questions: do we need it, does it work, and can we afford it (Cheney, 1993, p. 37). It is interesting to note that even with a greater emphasis on S&T, the Department planned to retain equipment for longer periods (Cheney, 1993, p. 36) and use non-developmental items whenever possible (Cheney, 1993, pp. 39-40).

Streamlining contract management was another important initiative for the administration (Cheney, 1992, p. 28). The Department consolidated the Contract Administration Services (CAS) under the newly created Defense Contact Management Command (DCMC) within the Defense Logistics Agency (DLA) (Cheney, 1991, p. 31). Within DCMC, emphasis was placed on employee empowerment, continuous improvement, and fulfilling customer requirements (Cheney, 1993, p. 35).

Program stability measures implemented in previous administrations were retained (Cheney, 1990, p. 15), while additional emphasis was given to arresting the decline in the industrial base. The DoD expanded the use of multi-year contracts, but severely limited the use of cost-sharing contracts for system development and the use of fixed-price contracts for high-risk development efforts (Cheney, 1990, p. 17). Additionally, it began limiting late design changes and using broad performance specifications (Cheney, 1990, p. 17). The Department continued the Voluntary Disclosure Program and CRAG, and began weighing more favorably contractors with good self-governance records (Cheney, 1990, p. 17). CRAG participation expanded significantly, reducing government audit time by 20,000 and 40,000 hours in 1989 and 1990, respectively (Cheney, 1991, p. 34). By 1990, $117 million had been recovered under the Voluntary Disclosure Program (Cheney, 1991, p. 34).

To improve the efficiency and quality of the workforce, the Department created the Acquisition Education, Training, and Career Development Policy (Cheney, 1991, p. 31). It began implementing private sector lessons learned such as reducing unneeded management layers, consolidating related functions, and concentrating on core functions (Cheney, 1991, p. 31). The Defense Acquisitions Workforce Improvement Act (DAWIA) was passed in 1991 and the Department began formulating its implementation policies (Cheney, 1992, p. 30). Additionally, the Defense Acquisitions University (DAU) was created from the numerous educational and defense institutions that had to that point provided acquisition education (Cheney, 1992, p. 31).

Under Cheney's administration, the Department adopted a three-pronged approach to improving logistics: improved logistics management and organization, use of ADP to manage logistics, and use of the Inventory Reduction Plan (IRP) to manage material (Cheney, 1992, p. 33). Estimated savings from logistics reform was $20 billion (Cheney, 1992, p. 33).

Organization of support functions changed significantly under Cheney. The Department established the Defense Business Operations Fund (DBOF) to allow managers to formulate a cost per unit of output and make investment decisions based upon that information (Cheney, 1992, p. 35). The structure identified each business area,

the products or services produced, and the total cost of operations (Cheney, 1992, p. 35). This structure, focused mainly on supply management, distribution, and depot maintenance, emphasized the actual cost of providing the service, thereby creating incentive to reduce costs and order parts wisely (Cheney, 1993, pp. 30-31).

More efficient management of the depots was one change under the DBOF structure. The Department established the Defense Depot Maintenance Council to manage the realignment and streamlining of the depot maintenance operations and facilities (Cheney, 1991, p. 32), with the objective of increasing utilization of and competition among existing facilities and contractors (Cheney, 1992, p. 34). It consolidated all general supply depot material distribution functions in CONUS under a single manager, with additional departments being considered (Cheney, 1991, p. 32).

To better manage parts, the DoD continued to transfer almost all consumables to DLA (Cheney, 1991, p. 32). Inventory Control Points (ICPs) were consolidated to provide supply support at the right place and time (Cheney, 1992, p. 35) and during this time, the concept of Total Asset Visibility (TAV) was being adopted in the supply chain (Cheney, 1992, p. 33).

The Department introduced several initiatives in hopes of reducing transportation costs. These initiatives included: the Guaranteed Traffic Program, the establishment of regional freight consolidation centers, the modification of issue priority group policies so that the Department would send non-critical materials by cheaper ground transportation rather than air, the expansion of direct shipments from vendors to users, and the conduct of prepayment audits of transportation bills (Cheney, 1992, p. 35). The DoD continued the consolidation of all Service commissaries under the Defense Commissary Agency (DeCA) (Cheney, 1992, p. 33). DeCA began adopting commercial practices such as centralized buying, just-in-time inventory, regional sales planning, and electronic ordering and billing (Cheney, 1993, p. 34).

5. Facilities and Energy

Facilities management continued to be important under Secretary Cheney. The Department consolidated base engineering services under Public Works Centers (PWC) in order to reduce maintenance costs, create installation master plans, and conduct economic analysis on all large projects (Cheney, 1993, p. 43).

S. LES ASPIN

1. Background

Les Aspin served as the Secretary of Defense from January 21, 1993 to February 3, 1994. Prior to his life in politics, Aspin had been a Rhodes Scholar at Oxford and held a Ph.D. in economics from the Massachusetts Institute of Technology. After a short tour as an army officer under Robert McNamara, he finally entered into politics. Aspin spent over twenty years in the House of Representatives and developed a strong interest in and knowledge of defense issues, serving many years on the House Armed Services Committee (HASC) before becoming its chairman in 1985 (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Les Aspin believed that the US needed a smaller military capable of operating in a changing security environment. He believed in creating a smaller military that was more sensitive to service members' issues, creating more opportunities for women as well as establishing the "don't ask, don't tell" policy for sexual orientation. While he wanted to shrink the Navy and the overall force structure, he understood the value and necessity of maintaining the industrial base and "a strong peacetime presence of U.S. forces around the world", capable of fighting two simultaneous regional conflicts if necessary. To achieve this Aspin ordered a bottom up review of the entire Department. He also intended to cut the defense budget and the SDI program significantly, although not as much as President Clinton would have liked (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

While Les Aspin had fewer international events to deal with during his time in office, the events that he did oversee were significant. He attempted to address political unrest in Haiti. The North Korean's continued their pursuit of nuclear weapons, causing

problems in the withdrawal of troops from the Korean peninsula. Iraq and Bosnia continued to be problems for the administration, although they did not require a commitment of American ground forces. The biggest international problem for Aspin was the loss of eighteen soldiers and injury of seventy-five more in Mogadishu, Somalia (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006). It was during Secretary Aspin's tenure that the terms *reengineering, best practices, world class, lean production, excellence*, and *Electronic Data Interchange (EDI)* first appear in a Secretary of Defense Annual report.

2. Organizational Management

The DoD created the position of Assistant Secretary of Defense (Economic Security) (Aspin, 1994, p. 91) to manage economic issues that impacted the DoD. It began using Process Action Teams (PAT), groups that were both cross-functional and cross-service, to address various management issues (Aspin, 1994, p. 108). One of the earliest applications of these teams was in the electronic commerce field, as two PATs were formed to deal with implementation of numerous Electronic Commerce/Electronic Data Interchange (EC/EDI) programs (Aspin, 1994, p. 110). Separately, the Department created the Armaments Cooperation Steering Committee to encourage joint weapons development, interoperability, and economic security (Aspin, 1994, p. 96).

3. Budgeting and Financial Management

According to Secretary Aspin, the Department's financial management was in disrepair because there was a legacy of vertically oriented disparate organizations, emphasis had been placed on combat over support, physical rather than financial controls predominated, and there was a general complacency in the Department over financial management issues (Aspin, 1994, p. 98). To address those problems, the Department implemented a six-element blueprint for financial management reform: strict compliance with current requirements; reengineering of business practices; standardization of definitions, concepts, and practices; design of modern finance and accounting systems; alignment of financial controls with management incentives; and practicing candor and engendering confidence (Aspin, 1994, p. 99).

To implement the blueprint, the Department used several tools. It generated a DBOF Improvement Plan to improve DBOF (Aspin, 1994, p. 100). It created the Senior Financial Management Oversight Council which provided the framework for reengineering and enforced accountability (Aspin, 1994, p. 101). It continued to consolidate and streamline financial management functions under DFAS using benchmarks from the civilian sector, while focusing on improved customer service (Aspin, 1994, p. 101). It created and submitted to OMB a Chief Financial Officer Master Plan to comply with the Chief Financial Officer's (CFO) Act of 1990 (Aspin, 1994, p. 102) which had challenged the Department to integrate its financial management systems and produce auditable financial statements (Aspin, 1994, p. 102). Finally, the Department created the Defense Business Management University (DBMU) to train the finance and accounting workforce (Aspin, 1994, p. 102).

4. Acquisitions and Logistics

Under Secretary Aspin, the Department focused on adopting "best practices of world-class customers" (Aspin, 1994, p. 102). One of those best practices was the concept of reengineering, in this case reengineering acquisitions. The reengineering of the acquisitions process focused on improving requirements determination and resource allocation, the actual acquisitions process, and contract terms and conditions (Aspin, 1994, p. 105). Requirements were to be stated in terms of performance desired (Aspin, 1994, p. 106), and evolutionary development and strict technology screening would be used to acquire the latest technology (Aspin, 1994, p. 106). Contractors would be brought in earlier in the process and they would use lean production to build the systems (Aspin, 1994, p. 106). The entire acquisitions process was to become simplified, more agile, and continuously improved (Aspin, 1994, p. 106).

One of Aspin's guiding documents in his acquisition reengineering effort was the National Performance Review (NPR). It provided the DoD with the following guidelines: move from rigid rules to guiding principles; remove bureaucracy; give line managers more authority and accountability; expand competitive sourcing; and foster competition, commercial practices, and excellence of vendor performance (Aspin, 1994, p. 106). The DoD established the Acquisition Reform Senior Steering Group to lead the

change effort (Aspin, 1994, p. 108). In conjunction with that, the Under Secretary of Defense (Acquisition Reform) began conducting town hall meetings at various field organizations to get feedback and hear issues concerning acquisition reform (Aspin, 1994, p. 108). Once problems or ideas were identified, the Department created PATs to analyze and improve those various processes (Aspin, 1994, p. 109).

The Department placed great emphasis on development of dual-use technologies (Aspin, 1994, p. 91). It believed that dual-use provided numerous benefits, to include the use of superior commercial technologies, cost reduction, a shortened acquisition cycle, and an expanded industrial base (Aspin, 1994, pp. 92-93). The DoD created the Technology Reinvestment Project (TRP) and Small Business Innovation Research (SBIR) program to encourage small businesses to develop dual-use technologies (Aspin, 1994, p. 91). It also limited the patent and technical data that it acquired from contractors, assuring the contractors that the Department would not take that data and turn it over to a competitor for actual production (Aspin, 1994, p. 92).

The Department took additional measures to reengineer acquisitions. It sought to create less rigid regulations while increasing judgment and risk-taking among decision makers (Aspin, 1994, p. 105). It continued to weigh past contractor performance more heavily in contractor selections (Aspin, 1994, p. 107) and it also began moving from a cost-based system to a price-based system in structuring contract terms (Aspin, 1994, p. 107). The Department recognized that with the end of the cold war the defense industrial base was too large and took the position that it would allow market forces to reshape the industry except in special circumstances (Aspin, 1994, p. 93).

The Department emphasized three efforts for both facilities and logistics: consolidation, privatization, and better business practices (Aspin, 1994, p. 123). Depot maintenance facilities continued to be consolidated and many operations were competitively sourced (Aspin, 1994, p. 127). Logistics operations were consolidated, and new logistics concepts such as In-Transit Visibility (ITV) were introduced. It used BRAC to eliminate excess capacity, continued to dispose of excess supply inventory, and

applied best commercial practices, especially technological advances such as the Logistics Corporate Information Management (CIM) program, across logistics operations (Aspin, 1994, pp. 125-129).

5. Facilities and Energy

Reduction of installations continued under Aspin. In 1993, the President announced an initiative to speed the transition of BRAC bases and assist the local communities affected by those closures (Aspin, 1994, p. 94). The Department expanded the Office of Economic Adjustment (OEA) to provide that assistance (Aspin, 1994, p. 95).

To improve installation management, Aspin pushed for base commanders to have more authority in the operation of their facilities (Aspin, 1994, p. 130) and he allowed the Department to give incentives to installations that operated more efficiently (Aspin, 1994, p. 130). As part of this, base commanders were required to create long-term base master plans with input from subordinates (Aspin, 1994, p. 130).

Energy management became an important issue under Aspin (Aspin, 1994, p. 133). To comply with the National Energy Policy Act of 1992 and President Clinton's Energy 2005 initiative, the DoD set several targets for energy use reductions (Aspin, 1994, p. 133) and it also allowed the Services to retain two-thirds of their energy cost savings, half of which could be used at the discretion of base commanders (Aspin, 1994, p. 133).

T. WILLIAM J. PERRY

1. Background

William J. Perry served as the Secretary of Defense from February 3, 1994 to January 23, 1997. Perry had a strong background in science and technology, serving as the director of the Electronic Defense Laboratories of Sylvania and GTE, as well as helping found an electronics company, ESL, Inc. He was the Under Secretary of Defense for Research and Engineering for four years before going back to the private sector to work in investment banking and academia. Perry was the Deputy Secretary of Defense

under Les Aspin before assuming the post in 1994 following Aspin's resignation (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Secretary Perry was actively involved in the internal operation of the department as well as external and international issues. He worked closely with the Service Secretaries on internal issues while maintaining a good rapport with Congress and the defense industry. His defense policy rested on the premise of a "preventive defense", the three core tenets of which included keeping threats from emerging, deterring those threats that already surfaced, and using military force when the first two fail. Perry continued the downsizing of the military, mostly in manpower and facilities, but increased emphasis on modernization and dramatic acquisitions reform that would ensure a ready force and an economically stable industrial base (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

Internal restructuring and acquisition reform highlighted Perry's administration, but international issues also commanded his attention. He involved himself extensively with foreign policy and pushed for stronger support of NATO, other nations in the Americas, and the newly democratized former communist countries, especially Russia. He orchestrated the reduction of forces in Japan following several crimes committed by U. S. service members and he committed air and ground forces to continue the peacekeeping actions in Bosnia, while still dealing with continued aggression by both Iraq and Iran. The terrorist attack on U.S. military personnel at the Khobar Towers in Saudi Arabia demanded a review of force protection procedures, reiterating the view that terrorists would now become a major threat in place of the former Soviet Union (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

2. Organizational Management

Globalization was a key business management consideration under Secretary Perry. With falling budgets and the loss of the Soviet Union as a competing superpower, the Department recognized that it was a smaller customer than in the past and its needs were changing (Perry, 1995, p. 93). The Department also acknowledged that with the globalization of companies, it too would have to rely more on international suppliers (Perry, 1995, p. 93). With the spread of networked computers and the internet, computer

security and fraud detection became an increasing concern for the Department (Perry, 1996, p. 108). The Department continued many business management initiatives from previous administrations. The Department actively addressed fraud, waste, and abuse prevention and reporting (Perry, 1995, p. 126), while privatization and outsourcing of various functions continued to be emphasized (Perry, 1996, p. 75).

3. Budgeting and Financial Management

Consolidation of financial management functions under DFAS continued. One of the benefits of the Chief Financial Officers Act was that it forced the Department to focus on financial management issues and define the metrics by which progress could be measured (Perry, 1995, p. 127). In 1994, the Department believed it could reduce pay systems from eighteen to two or three by 1996 (Perry, 1995, p. 123). The DoD continued the effort to standardize data, definitions, and concepts for its finance and accounting systems (Perry, 1995, p. 127). It also tried to adopt a standard general ledger and a standard budget and accounting classification architecture (Perry, 1995, p. 127).

The Department expanded the use of pre-validation for disbursements in order to prevent unmatched disbursements (Perry, 1995, p. 123). As part of the reengineering effort, DFAS expanded the use of EDI for most payments to and dealings with contractors (Perry, 1995, p. 124). DCAA and DCMC began working together to help contractors build solid internal controls, thus allowing less oversight (Perry, 1995, p. 129).

Successful programs from previous administrations expanded under Perry. Government credit and travel cards use continued to grow (Perry, 1995, p. 125) and the multitude of financial management regulations were consolidated (Perry, 1995, p. 128). To reengineer the travel effort, the Department created the Task Force to Reengineer Travel (Perry, 1995, p. 129). In response to the National Performance Review, the Department granted managers at lower levels the authority to solve financial management problems on their own (Perry, 1995, p. 129). In response to the Federal Managers' Financial Integrity Act of 1982 (FMFIA), the DoD created the Annual Statement of Assurance that identified internal control issues and what was being done to address them

(Perry, 1995, p. 128). To create lasting change, the Department began using the management techniques of consensus building and collaboration (Perry, 1996, p. 109).

4. Acquisitions and Logistics

Under Secretary Perry, the Defense Acquisition Reform vision was "That DoD will become the world's Smartest (use of best practices), Most Responsive Buyer (timely and flexible) of Best Value Goods and Services that meet our Warfighters' needs" (Perry, 1996, p. 111). In working toward this vision, Secretary Perry issued a paper titled Acquisition Reform: A Mandate for Change in February of 1994 (Perry, 1995, p. 101). In it, he established several reform goals: enhance the needs (requirements) determination process by integrating them in the PPBS and reducing DoD-unique products and processes; improve the systems acquisition process through commercial practices and better information collection in support of Major Defense Acquisition Program (MDAP) decisions; improve the procurement process by maximizing the use of technology and reducing non-value adding activities; improve contract administration through less intrusive process control monitoring; improve contract terms and conditions in legal, pricing, and financial areas; change the culture by improving the workforce; and define measures of success through metrics (Perry, 1995, pp. 102-106). Additionally, the DoD focused on improving the following areas: achievement of acquisition reform, increased emphasis on dual-use and commercial technologies, encouraging rationalization of the defense industry, recognizing commercial imperatives, and improving communication with the business community (Perry, 1995, p. 94). Part of the DoD's strategy was to insert commercial technology into defense systems, integrate defense and commercial production, and increase R&D of dual-use technologies (Perry, 1995, p. 94). Two examples include the Flat Panel Display Initiative and the National Shipbuilding Initiative (Perry, 1995, p. 94).

The position of Deputy Under Secretary of Defense (Acquisition Reform) was created to head up the reform effort (Perry, 1995, p. 97). To advise him, the Acquisition Reform Senior Steering Group (ARSSG) was created (Perry, 1995, p. 101). The DoD established the Acquisition Reform Communications Center (ARCC) under the DAU to prepare and disseminate information about acquisition reform (Perry, 1996, p. 116).

Secretary Perry placed great emphasis on relations with the defense industrial base. He believed that the downsizing and consolidation of defense contractors would mean lower costs for the Department from improved efficiency and reduced overhead (Perry, 1995, p. 93). The Department went so far as to offer reimbursement to companies for their restructuring activities which benefited the Department (Perry, 1995, p. 95). However, he also recognized that fewer contractors meant less competition, so he created the Defense Science Board Task Force on Antitrust Aspects of Defense Industry Consolidation to actively review mergers and acquisitions activities of defense contractors (Perry, 1995, p. 95). The Department revised and restructured the Defense Policy Advisory Committee on Trade to improve communications with industry (Perry, 1995, p. 96). To strike a balance between maintaining the industrial base and allowing market forces to shape the industry, the Department decided it would only actively maintain those industries that were unique and truly at risk of being lost or moving oversees (Perry, 1995, p. 96). The Department created the Defense Industrial Base Oversight Council to examine industrial base issues, while it started the Industrial Base Review to ensure that impacts on the industrial base would be considered in acquisitions, logistics, and budget decisions (Perry, 1995, p. 97). During 1995, the DoD developed assessment methods for identifying and dealing with required industrial capabilities and published the results in a how-to handbook titled Assessing Defense Industrial Capabilities (Perry, 1996, p. 72). Also during 1995, the Department actually assessed numerous industries and found that very few were indeed endangered by the reduced level of military spending (Perry, 1996, p. 73). A growing problem that the acquisitions community dealt with was bid protests from contractors who had not won contract competitions. To minimize this, the Department began pushing to reduce the number of competitors for some contracts, specifically those contractors that had no chance of winning the contract (Perry, 1996, p. 112).

In 1994 the Secretary of Defense issued a policy that required the DoD to state system requirements as performance specifications and let industry figure out the best way to achieve them. This covered new programs but did not help programs already being executed. To address this, he issued the Single Process Initiative (SPI) in

December 1995, allowing the DoD to start eliminating contractors' multiple, government-directed processes, narrowing down to a single process where possible. This reduced government costs, allowed contractors to survive budget fluctuations, and allowed the DoD access to more advanced technologies (Cohen, 1997, p. 107).

Cost control and reduction continued to be an issue with all new defense systems. The Department began testing a new concept called Cost As an Independent Variable (CAIV) in 1995 (CAIV means that once the system performance and target costs are decided on the basis of cost-performance tradeoffs, the acquisition process will make cost more a constraint, and less a variable, while nonetheless obtaining the military capability of the system) (Perry, 1996, p. 111). To help reduce system development costs and lead times, the DoD expanded the use of Intergrated Product Teams (IPTs) and EC/EDI systems (Perry, 1996, p. 115) and it continued to use PATs as well (Perry, 1995, p. 101). During 1994, the acquisitions threshold that required greater review and paperwork was raised to $100,000 (Perry, 1996, p. 112).

To maintain the country's technological advantage, and with the influence of the Revolution in Military Affairs (RMA), the Department expanded the Advanced Concept Technology Demonstration (ACTD) program, which was begun in 1992 under Cheney (Perry, 1995, pp. 107-108). This program attempted to rapidly insert new technologies into the operating forces through an expedited process of addressing user needs and having the users conduct field tests of potential systems (Perry, 1995, p. 108).

Section 5001(b) of Federal Acquisition Streamlining Act (FASA) of 1994 required an annual reporting of achievement toward the ninety percent of cost, schedule and performance goals for major and non-major programs, and decreasing by fifty percent or more the average period for converting emerging technology into initial operational capability (IOC) (Perry, 1996, p. 115). As of September 30, 1995, all but four programs met the ninety percent threshold (Perry, 1996, p. 115). Additionally, as of September 30, 1995, the average conversion time from emerging technology to IOC had fallen from 115 to 113 months. To achieve this, the DoD had increased the use of commercially available technologies, expanded performance specifications in lieu of

design-specific military specifications, focused on CAIV to determine tradeoffs early on, expanded the use of ACTD, streamlined internal acquisition oversight and review (Perry, 1996, p. 115).

The Department continued most logistics efforts begun during the previous administration. These included: reduce excess capacity in the distribution system via BRAC, reduce inventory (down to $77.5 billion through FY 1993), continue the Defense Total Asset Visibility (TAV) Initiative to improve customer support and asset management, and implement the best commercial practices and latest technologies (Perry, 1995, pp. 139-140). The Department continued to implement the DBOF Improvement Plan (Perry, 1995, p. 126). As part of the asset visibility effort, the Department began work on Intransit Visibility (ITV) through a prototype Global Transportation Network (Perry, 1995, pp. 144-145). The goals for this effort were to reduce stocks, increase responsiveness, reduce costs, and improve customer support (Perry, 1995, p. 145) and it also incorporated modern computerized information systems to help manage logistics flow (Perry, 1995, p. 143).

While depot maintenance consolidation continued (Perry, 1995, p. 98), the Department created a Government/Industry Task Force on Depot Maintenance to analyze and make recommendations for further improving depot maintenance. The task force made the following recommendations: replace the 60/40, government/contractor work split with something more in line with CORE, implement CORE, eliminate public-private and public-public competition and just focus on improving the depots, and let the private sector handle the entire process for upgrades from design through installation (Perry, 1995, p. 142). In response, the Department implemented a CORE methodology when reviewing facilities and personnel. This methodology identified critical depot capabilities and skills and ensured they would continue on at various facilities, while others were considered for outsourcing (Perry, 1995, p. 141). Additionally, the Department expanded the use of interservice depot support (Perry, 1995, p. 142). Interoperability and joint development of systems (Perry, 1995, pp. 97-98), and reducing military specifications and standards continued to be important (Perry, 1996, p. 114).

5. Facilities and Energy

BRAC remained a prominent topic, with emphasis on the following issues: jobs-centered property disposal for economic development and job creation, fast-track cleanup, transition coordinator use, redevelopment help, fostering community economic adjustment, and reinventing the homeless assistance process (Perry, 1995, p. 98).

U. WILLIAM S. COHEN

1. Background

William S. Cohen served as the Secretary of Defense from January 24, 1997 to January 20, 2001. President Clinton appointed Cohen to replace Perry for Clinton's second term in office. Cohen, a lawyer by education, spent most of his career as a Republican in the House of Representatives and the Senate. He served on several defense and intelligence committees, while helping write numerous laws concerning those two subjects. Clinton appointed him to carry on the changes that Perry had begun, and he did just that upon assuming the post (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

William Cohen continued many of the policies that Perry had put in place. Advanced weapons procurement and acquisition reform continued to be important, financed by a halt in DoD budget reductions and possible further manpower cuts if needed. His dilemma in preparing future budgets was the balance required between operations and maintenance funding, and modernization procurement, with the prospect of a flat defense budget in the next decade. Additionally, the defense industrial base had constricted dramatically and vertical integration became the norm for many defense contractors, a reasonable action by the contractors in response to years of budget and program cuts. Cohen worked with the Pentagon and Congress to address this concern hoping to ensure sufficient competition for future defense programs (http://www.defenselink.mil/specials/secdef_histories/, Accessed October 2006).

2. Organizational Management

On November 10, 1997, Secretary Cohen announced a sweeping program called the Defense Reform Initiative (DRI) to reform the business processes of the DoD. The

savings from the reforms would be used to fund the Revolution in Military Affairs (RMA) (Cohen, 1998, p. 149). The DRI focused on improving four areas. 1) Reengineer: adopt modern practices to achieve world-class performance, 2) consolidate: streamline to remove redundancy and maximize synergy, 3) compete: apply market mechanisms to lower cost, increase quality and customer service, 4) eliminate: reduce excess support structure (Cohen, 1998, p. 149-150). The DoD created the Defense Management Council, a combination of DoD leaders and Chief Executive Officers from private industry, to carry out the reform initiatives (Cohen, 2000, p. 137).

For reengineering, the Department had several objectives. By January 1, 2000, all contracting for major systems would be paperless. By FY 2000, ninety percent of all sub-$2500 purchases would be by government credit card. Regulations would no longer be printed in mass, but distributed electronically via compact disk and the World Wide Web. The travel system and household goods shipment systems would be reengineered. The "just-in-case" logistics mindset would be replaced by just-in-time delivery (Cohen, 1998, p. 150). Finally, across all Department functions, best business practices would be adopted (Cohen, 1998, p. 150).

To foster electronic commerce, the Department created the Joint Electronic Commerce Program Office (JECPO) in 1998 (Cohen, 1999, p. 148). The Department continued to implement more electronic commerce initiatives including electronic data management (EDM), electronic funds transfer (EFT), electronic data interchange (EDI), and digital signatures (Cohen, 1999, p. 153). Some notable accomplishments include the DoD electronic mall, which was a one-stop shop for all DoD electronic and commercial catalogs, and the Business Opportunities Home Page, which contractors use to view, bid on, and interact with possible DoD work projects (Cohen, 2000, p. 138). It created the Central Contractor Registration to automate payments to contractors (Cohen, 2000, p. 139). It also began to address the pending issue of the Year 2000, or Y2K, compliance of legacy computer systems (Cohen, 1999, p. 154). The term Electronic Business (EB) surfaced in 2000 as the framework within which all electronic business process initiatives were coordinated (Cohen, 2001, p. 196). As EB grew within the Department, so did computer security and fraud detection efforts (Cohen, 1997, p. 99).

The DoD began implementing "lessons learned" from the business community (Cohen, 2001, p. 195). The Department established an electronic forum called the Commercial Advocates Forum to accelerate the adoption of commercial items and best practices (Cohen, 1997, p. 106). It continued to adopt "best business practices", specifically in the areas of performance measurement, performance contracts, financial management reform, and electronic business (Cohen, 2001, p. 195). Ten agencies began developing annual performance contracts agreed to by the organization, its customers, the Defense Management Council, and OSD (Cohen, 2001, p. 195). The Department began acting on General Accounting Office (GAO) recommendations to establish performance scorecards and metrics to track the achievements of business practice reform (Cohen, 2000, p. 141). It was believed that this would help institutionalize the reform measures (Cohen, 2000, p. 141). By 2000, the DoD had created forty-one performance measures that focused on cost savings, process efficiency, and improved customer service (Cohen, 2001, p.195). It also began studying civilian business models to identify a useable change management model (Cohen, 2000, p. 151). The use of PATs continued to grow (Cohen, 1997, p. 107).

For consolidation, the Department established three guiding principles: The Department headquarters should be flexible, OSD should focus on corporate level tasks, and operational management should be executed at the lowest level possible through employee empowerment (Cohen, 1998, p. 150). Specifically, the Department set targets to dramatically reduce most headquarters (Cohen, 1998, p. 151).

For competition, the Department adopted the use of OMB Circular A-76, originally issued in 1966 and subsequently revised, as its governing document in making outsourcing and competitive sourcing decisions (Cohen, 1998, p. 151). The Department continued its move toward outsourcing, privatization, and competitive sourcing. Secretary Cohen established three core tenets for the Department to abide by when making those types of decisions: the DoD would not outsource core capabilities, a competitive commercial market had to already exist, and the decision had to provide the

Department the best value and be better than what the Department could do internally (Cohen, 1997, p. 119). The Competitive Sourcing and Privatization Directorate was established to monitor this initiative (Cohen, 1999, p. 149).

The Department expanded its use of competitive sourcing for support functions and expected savings of twenty percent (Cohen, 2001, p. 197). As of 2000, it was reviewing an additional 279,600 positions for possible competitive sourcing with an expected savings of $12.4 billion (Cohen, 2001, p. 198). Interestingly, the Department had already reallocated those expected savings to other programs (Cohen, 2001, p. 198). Also in 2000, the Department created several pilot programs to test the possibility of outsourcing the entire household goods shipment process and expedite payment to shippers (Cohen, 2001, p. 197).

For elimination, the Department focused on the following to reduce overhead: request two more rounds of BRAC, consolidate and regionalize support agencies, privatize family housing, privatize utilities, and integrate energy management (Cohen, 1998, p. 152). The Department created the Defense Working Capital Task Force to identify potential problems in current business operations and propose remedies for them (Cohen, 1999, p. 148). The Department created the Office of Chancellor for Education and Professional Development to assist the civilian workforce (Cohen, 1999, p. 149).

The Department planned to institutionalize continuous improvement or change management throughout the DoD enterprise to ensure a virtual learning environment (Cohen, 2001, p. 214). The DoD intended to implement proven enterprise change models by ensuring leaders were committed to change, establishing action acceleration workshops, initiating rapid improvement teams for specific processes, expanding the support provided by the change management center, ensuring accountability of managers, and using outcome driven performance scorecards (Cohen, 2001, p. 214).

3. Budgeting and Financial Management

Most of the financial management programs initiated under previous administrations were continued, while improvements were made to the Defense Civilian Pay System (DCPS), Defense Joint Military Pay System (DJMS), Marine Corps Total

Force System (MCTFS), Defense Transportation Payment System (DTRS), the Defense Retiree and Annuitant System, and the Defense Debt Management System (Cohen, 1997, pp. 96-97). Garnishment operations, government purchase card use, and standardization of data all continued to grow (Cohen, 1997, pp. 100-102). To reengineer travel, the Department created a Program Management Office to design and acquire a new Defense Travel System (DTS). The all-electronic system was to be paperless and seamless while reducing costs and improving customer service (Cohen, 1997, p. 101). The Defense Cash Accountability System reduced the Department's disbursing cycle time from over ninety days to two days in 2000 (Cohen, 2001, p. 202).

The Department continued its pursuit of auditable financial statements by consolidating finance and accounting systems, and trying to make them compatible with Generally Accepted Accounting Principles (GAAP) (Cohen, 1997, p. 97). In attempting to consolidate financial management systems, the Department began to recognize an enormous problem: that financial data fed into the finance systems came from a multitude of legacy feeder systems that were incompatible and difficult to change (Cohen, 2000, pp. 144-145). To address the problem, the Financial and Feeder System Compliance Process was created (Cohen, 2001, p. 201). The Department had reduced the number of finance and accounting systems from 324 in 1991 to 76 in 2000, with a goal of 37 by 2005 (Cohen, 2001, p. 200). The consolidation and automation of systems already accomplished by 2000 had allowed the average civilian payroll technician to handle 2,200 accounts, compared to 380 in 1991 (Cohen, 2001, p. 200).

DFAS continued to implement the U. S. Government Standard General Ledger to provide a clear audit trail for financial transactions (Cohen, 2001, p. 200). Another core requirement for auditable financial statements is an accurate accounting of real property and inventory. Thus, the Department created and began loading all capital assets into the Defense Property Accountability System (Cohen, 1997, p. 99).

The DoD continued to reduce problem disbursements and overpayments through tighter internal controls (Cohen, 1997, p. 98). Part of those controls included the Program Budget Accounting System (PBAS), which standardized the distribution of funds (Cohen, 1997, p. 98). To streamline the contractor payment process, the

Department expanded the use of direct submission of vouchers to DFAS (Cohen, 1997, p. 99). It created the Central Contractor Registration (CCR) as a central registration point for all contractors (Cohen, 2001, p. 202). The CCR held contractor data required for business dealings, specifically payment information, and worked in conjunction with the Defense Procurement Payment System to expedite the payments (Cohen, 2001, p. 202). DCAA continued to expedite the auditing process as well (Cohen, 1999, p. 154).

In 1999, DFAS was working to develop the DFAS Corporate Information Infrastructure (DCII) as the underlying infrastructure that would tie all financial management systems and data together (Cohen, 2000, p. 146). As part of this, Electronic Funds Transfer (EFT) became the standard method for paying contractors and personnel (Cohen, 1997, p. 99). To improve document production and sharing while reducing costs, the Department began testing of several EDI, Electronic Data Management (EDM), and Electronic Data Access programs (Cohen, 1997, p. 100). One of the critical obstacles to any of the electronic initiatives was how to capture signatures. In response, the Department began a dedicated effort to create an acceptable method of digital signatures (Cohen, 1998, p. 160). The Department began a concerted effort to create financial controls that properly incentivized managers at all levels (Cohen, 1997, p. 102). Consensus and collaboration continued to be critical to ensuring lasting change (Cohen, 1997, p. 102).

Secretary Cohen adopted or initiated other programs as well. The Department expanded competitive sourcing of services to improve customer service and reduce cost (Cohen, 1998, p. 156), identifying eighty-five percent of all positions as available for competitive sourcing. DFAS created a Fraud and Internal Control Office to reduce fraud and improve information assurance (Cohen, 2000, p. 144). It also appointed a Director of Internal Review to oversee the effort (Cohen, 2001, p. 200). Additionally, the Department created the Certified Defense Financial Manager Program to train and certify financial managers (Cohen, 2001, p. 203).

4. Acquisitions and Logistics

In FY 1998, Secretary Cohen laid out twelve acquisition reform goals for the year 2000: 1) Deliver MDAPs in twenty five percent less time. 2) Achieve ninety pecent

visibility of material assets and reduce order to receipt time by fifty percent. 3) Use government credit card for ninety percent of all micropurchases. 4) Create world-class learning organization by offering over fourty hours of education to acquisition workforce. 5) With no topline budget change, increase procurement to at least $54 billion. 6) Dispose of fifty percent of surplus property and privatize 30,000 family housing units. 7) Decrease paper transactions by fifty percent. 8) Reduce toxic chemical release by twenty percent. 9) Eliminate management layers and reduce acquisitions workforce by fifteen percent. 10) Establish a good cost accounting system for life-cycle costs. 11) Reduce National Defense Stockpile by $3 billion and excess supply by $12 billion. 12) Minimize cost growth to no greater than one percent annually (Cohen, 1998, p. 153).

Acquisitions reform required a review of all acquisitions regulations. The review led to a complete rewrite of the DoD 5000 series, which emphasized minimizing mandatory direction, policy integration, decentralized policy execution, institutionalization of new ways of doing business (such as IPTs), regulatory streamlining, streamlining paperwork, simplifying the acquisition decision process, and encouraging innovation (e.g. ACTDs and rapid prototyping) (Cohen, 1997, p. 105).

Revolution in Military Affairs (RMA) was a driving force behind acquisition reform, so the Department created the Revolution in Business Affairs (RBA) to meet the RMA objectives (Cohen, 2001, p. 205). The three top goals of RBA were: field high-quality defense products quickly and support them responsively, with the objective of reducing average acquisition cycle time (measured from initial start to IOC) for all MDAPs since FY 1992 by 25% and by 50% for all programs started after FY 2001 and reduce logistics response time from 36 days in FY 1997 to 18 days by FY 2000; lower total operating costs in order to minimize cost growth to no more than 1% per year and reduce annual logistics support costs by 10% from FY 1997; reduce overhead costs of logistics and acquisition infrastructure from 64% of total obligational authority (TOA) in FY 1997 to 60% in FY 2001 (Cohen, 2001, p. 206).

As of September 30, 2000, progress on the above objectives was underway. All but nine MDAPs were meeting 90% of cost, schedule, and performance goals; conversion of new technology took 99 months (vs. 115 month baseline); spare parts delivery took 18

days and there was 94% asset visibility, reducing supply inventory from $67 billion in FY 1996 to $58.9 billion in FY 1999; MDAP average cost growth was between -.3 and 3.1 %; weapon system logistics costs were $77.9 billion in FY 2000, just behind the $76.7 billion target; and logistics and infrastructure costs were 60% of TOA in FY 2000 (Cohen, 2001, pp. 206-207).

As part of the Federal Acquisition Streamlining Act (FASA) of 1994, the Department began testing simplified acquisition procedures (SAP) for commercial items between $100,000 and $5 million, streamlining the acquisition process by eliminating non-value-adding activities, and facilitating the use of EC/EDI programs (Cohen, 1997, p. 104). In order to ensure timely access to affordable cutting edge technologies in the commercial sector, the Department started the Commercial Technology Insertion Program (CTIP) (Cohen, 1997, p. 114). This avoided the time and expense of research, development, and testing for systems that would never materialize (Cohen, 1997, p. 114).

The DoD gave more power to the Director, Operational Test and Evaluation (DOT&E) in order to promote early involvement by the operational tester, leverage developmental test and evaluation and training events for operational assessments, increase the use of modeling and simulation to supplement testing, and expand participation by operational testers in Advanced Concept Technology Demonstration (ACTD) programs (Cohen, 2000, p. 155). The Department emphasized the cost/performance tradeoff, incremental systems development, and evolutionary acquisitions in the design and procurement of new systems (Cohen, 2001, p. 211). The adoption of dual-use technologies grew under the Dual-Use Applications Program (DUAP) (Cohen, 1997, p. 105).

Management and education of the acquisitions workforce became a high priority for Cohen. Under his leadership, the Department created a pilot program to test a better way to manage the civilian workforce, one that encouraged flexibility, innovation, and risk management (Cohen, 1998, p. 168). It began using satellite broadcasts to train workers on a multitude of new systems, including FASA implementation, SAT and Federal Acquisitions Computer Network (FACENET), Single Process Initiative (SPI), the Overarching and Working-level IPT Process, and EC/EDI (Cohen, 1997, p. 106). On

May 31, 1996, all acquisitions personnel stopped work and discussed institutionalizing acquisition reform initiatives. It was called Acquisition Reform Day (Cohen, 1997, p. 106).

Continuous process improvement became the new buzzword in acquisition reform (Cohen, 1997, p. 106). The Department created the Electronic Process Initiatives Committee (EPIC) to focus senior level management on the use of electronic systems (Cohen, 1997, p. 108). The Department adopted email, internet homepages, satellite broadcasts, and hardcopy publications to distribute acquisition reform information (Cohen, 1998, p. 162). It also emphasized continuous learning (Cohen, 2000, p. 156), with a proposed requirement for at least eighty hours of education for each employee every two years (Cohen, 2001, pp.213-214). The Department created the Defense Acquisition Deskbook, an electronic reference tool that presented current acquisitions information to people at all levels and provided a means of communication between the front line workers and senior level decision makers (Cohen, 1997, p. 106).

The Department carried over many programs that concerned relations with the defense industry. These included reducing military specifications, reviewing mergers and acquisitions, preserving essential industrial capabilities, and reducing domestic source restrictions (Cohen, 1997, pp. 111-113). The SPI program initiated by Secretary Perry was expanded, reducing the compliance and reporting burden imposed on contractors by the Department (Cohen, 1997, p. 107). Program stability continued to be important, and the Department established an outyear acquisitions program stability reserve to offset the cost increases caused by technical difficulties in weapon system development (Cohen, 1998, p. 169). To further encourage contractors to compete for government contracts and to make their dealings with the Department easier, the Department expedited movement toward standard business practices and reports that were being use in the private sector (Cohen, 1999, p. 157). It also used the Past Performance Information (PPI) in contractor selection (Cohen, 2000, p. 154). Performance-based contracting became the preferred contracting method, as it is based upon stated performance requirements rather than specific design details (Cohen, 1998, p. 168).

The encouragement of small businesses continued to be important, especially as a means of developing and acquiring new technologies (Cohen, 1997, pp. 108, 116). Awards to small businesses, small disadvantaged businesses (SDB), and women owned small businesses (WOSB) grew rapidly (Cohen, 1997, pp. 115-116). Also, the mentor/protégé program that matched experience larger contractors with inexperienced smaller ones continued to be successful (Cohen, 1997, p. 117).

As required under section 5001 (b) of FASA passed in 1994, Secretary Cohen began reporting on the status of MDAP programs. In 1996, all but two MDAPs met the 90% threshold for cost, schedule, and performance, and the average time to IOC was 115 months (Cohen, 1997, pp. 108-109). The average time for programs started since 1992 was 88 months (Cohen, 1997, pp. 108-109). By 2000, all but nine MDAPs met the 90% threshold, but the average time to IOC fell to 113 months (Cohen, 2001, p. 206). The average time for programs started since 1992 rose to 99 months (Cohen, 2001, p. 207).

On April 1, 1998, Secretary Cohen submitted a report to Congress that identified acquisitions streamlining actions the Department had initiated: a smaller workforce, fewer organizations, manage suppliers, focus on total ownership cost (TOC), establish and execute budgets, reduce cycle times, simplifying contracting (Cohen, 1999, pp. 164-165). As of 2000, DoD had reduced the acquisition and technology workforce by fifty percent since 1990 (Cohen, 2001, p. 208).

The Department emphasized holding PMs accountable for reducing life cycle costs (LCC) (Cohen, 2000, p. 155). It established the following objectives for reducing TOC: for systems in acquisition, surpass or achieve aggressive CAIV unit cost and TOC targets that are 20 to 50% below historical norms, for fielded systems, reduce logistics support cost per weapon system per year compared to FY 1997 baselines as follows: seven percent by FY 2000, 10% by FY 2001, 20% by FY 2005, with an FY 1997 baseline of $82.5 billion (Cohen, 2000, p. 154).

In 1997, the Department began integrating environmental impacts into program acquisition decisions, since acquisition programs account for 80% of all Department hazardous material (Cohen, 1998, p. 170). The Joint Group on Acquisition Pollutions

Prevention (JG-APP) was created to lead the effort (Cohen, 1998, p. 170). The Department also required that every weapon system program implement environment, safety, and occupational health (OSH) into the acquisitions process (Cohen, 1999, p. 165). The Department created the Institutionalization of Pollution Prevention to Achieve Compliance program and the Joint Acquisition Sustainment Pollution Prevention Activity to reduce hazardous waste the production and operation of weapon systems (Cohen, 2000, p. 156).

The DoD believed it needed to take advantage of the benefits of globalization from both a cost perspective and an alliance perspective, but manage the possible reliance on foreign countries for critical supplies (Cohen, 2000, p. 164). Encouraging competition at all levels, both domestically and globally, was one of the key initiatives (Cohen, 2000, p. 164). The Department actually encouraged contractors to share technology globally, especially through trans-Atlantic industrial linkages, and to compete in foreign markets (Cohen, 2001, p. 235). International cooperation continued to be important, both for interoperability of systems and to help shoulder the development costs (Cohen, 2000, p. 168). In 1998, the Department stated that it would focus on managing suppliers rather than supplies, and engineering systems, rather than components (Cohen, 1999, p. 164).

Secretary Cohen's proposed improvements to the logistics system were part of what he called a "logistics transformation" (Cohen, 2000, p. 139). The objective was to create a "seamless logistics system" that would provide responsive reach back for logistics support from anywhere in the world (Cohen, 1997, p. 138). A vital part of this was the implementation of just-in-time and lean logistics programs (Cohen, 1997, p. 137). Additionally, the Department adopted a policy of selectively outsourcing weapon system support and functions, as well as encouraging the direct shipment of items from suppliers to the end users (Cohen, 2000, p. 140). To track all of the parts within the system, it looked at using automated identification technology to create total asset visibility (Cohen, 2000, p. 140).

Most logistics initiatives begun under previous administrations were continued (Cohen, 2000, p. 139). These existing programs included reducing life-cycle costs of weapon systems, streamlining the logistics infrastructure, reducing logistics response

times, creating total asset visibility, privatizing and outsourcing functions, consolidating depot activities but maintaining CORE capabilities, modernizing logistics business systems, and reengineering transportation (Cohen, 1997, pp. 137-140). To reduce total ownership costs (TOC), the Department emphasized better planning in the development of weapon systems, improved logistics support of fielded systems, and improved reporting of total ownership costs for decision making purposes (Cohen, 1998, p. 170). As part of transportation reengineering, the Department streamlined the documentation and finance processes and appointed a full-time Reengineering Team to champion the effort (Cohen, 1998, p. 170).

5. Facilities and Energy

As part of the Acquisition Year 2000 goals, the Department set a target for disposing of 50% of surplus property and privatizing 30,000 housing units (Cohen, 1998, p. 176). Additionally, the Department set a goal of eliminating inadequate housing by 2010 (Cohen, 2000, p. 160).

The Department continued to use BRAC to downsize its infrastructure (Cohen, 1999, p. 171). In the FY 2000 report, the Department declared BRAC to be the single most important reform initiative because of the enormous cost savings involved (Cohen, 2000, p. 140). The Department wanted two additional rounds of BRAC to eliminate the estimated 23% excess base capacity (Cohen, 2001, p. 220). Some of the duties of the newly created Installations Policy Board included the integration and coordination of various installation initiatives (Cohen, 2000, p. 157), in particular expediting the turnover of former bases to civilian use and encouraging job development in the surrounding communities (Cohen, 1999, p. 171).

While BRAC was used to reduce the amount of infrastructure, better management practices were implemented to make more efficient use of existing facilities. With fewer bases, joint use of facilities and regional contracting to support base functions were encouraged (Cohen, 2000, p. 158). The Department privatized much of the utility infrastructure and focused instead on managing the energy demands of the bases (Cohen, 2000, p. 160). To ensure adequate investment in the remaining infrastructure, the Department created the Facilities Sustainment Model (FSM) to forecast annual funding

requirements to sustain the inventory level and the Facilities Aging Model (FAM) to understand the relationship between capital investment in a facility and its remaining useful life (Cohen, 2001, pp. 228-229). It also demolished old buildings and began leasing out excess space in underutilized ones (Cohen, 2000, p. 140). Force protection measures were incorporated into new construction and existing facilities were modified to be more protected (Cohen, 2000, p. 158). The Department continued to focus on conserving energy and began implementing sustainable designs in all new buildings to be built after FY 2000 (Cohen, 1999, p. 169). The DoD began creating a database of all leased property in order to improve management of those facilities (Cohen, 1999, p.168).

V. DONALD H. RUMSFELD

1. Background

Donald H. Rumsfeld served his second term as the Secretary of Defense from January 20, 2001 until announcing his resignation on November 8, 2006. After his first term as Secretary, Rumsfeld moved into the private sector. From 1977 to 2001, he served in numerous senior positions at two pharmaceutical companies and a broadband technology company. He also continued his public service while in the private sector by serving on a multitude of commissions, boards, and panels (http://www.defenselink.mil/bios/secdef_bio.html, Accessed October 2006).

Donald Rumsfeld formulated several significant initiatives during his term as the twenty-first Secretary of Defense. Following the September 11, 2001 attack on the World Trade Center, Rumsfeld led the development of the war on terror strategy. He orchestrated the war efforts for both Afghanistan and Iraq. He reorganized the defense command structure, known as the Unified Command Plan, which added two new combatant commands and disestablished others. He also reorganized the forward deployment of forces, moving some away from Europe and Korea (http://www.defenselink.mil/bios/secdef_bio.html, Accessed October 2006). Rumsfeld tried to insert many management and acquisitions reforms, often based upon the successful commercial practices he had used in business.

2. Organizational Management

Rumsfeld claimed that the DoD lagged behind the commercial sector in its business management activities, that it encouraged risk avoidance, and that it had no overarching strategy for improving business practices (Rumsfeld, 2002, pp. 105-106). Under Rumsfeld, the Department's goals for the revitalization of the Defense establishment included the following: reduce cycle time for decisions on weapons development and logistics support, shorten and bring realism to program budgeting, reduce inefficiencies, attract good people, maintain technological advantage, properly size and modernize the defense infrastructure, and develop performance metrics (Rumsfeld, 2002, p. 106). He intended to create "excellence" in everything the Department did (Rumsfeld, 2003, p. 52).

Several management themes prevailed within Rumsfeld's reform agenda, known as "transformation" (Rumsfeld, 2002, p. 105). He emphasized minimizing institutional risk to increase effectiveness, efficiency, and accountability (Rumsfeld, 2002, p. 105). He placed heavy emphasis on the creation and use of measurements and metrics to quantify performance improvements (Rumsfeld, 2002, p. 105). He planned to remove stovepipes, share data rapidly, accelerate and institutionalize change, share and implement best practices, encourage innovation and risk-taking, and remove non-value-adding layers of bureaucracy (Rumsfeld, 2002, p. 107). To focus the Department's resources on core defense functions, DoD planned to outsource non-core functions based on the success of outsourcing military housing and utility systems (Rumsfeld, 2002, p. 108). To reduce overhead and direct costs, and to associate investments with the returns they provide, the department began linking defense resources to key performance goals (Rumsfeld, 2004, p. 54). The Department introduced the National Security Personnel System to implement information-age best practices for personnel management (Rumsfeld, 2004, p. 43). Electronic data systems continued to proliferate throughout the Department and were lumped under the overarching theme of "e-government" (Rumsfeld, 2004, p.44). In addition to Rumsfeld's transformation goals, the Department also had to comply with President Bush's Management Agenda of 2001. This agenda included:

strategic management of human capital, improved financial performance, competitive sourcing, e-government, and budget and performance integration (Rumsfeld, 2004, p. 43).

Secretary Rumsfeld implemented numerous changes, starting with the senior levels of the Department. To streamline the overhead structure and flattening the organization, the Department planned to reduce headquarters staffs by 15% from FY 1999 to FY 2003, as well as realign and consolidate OSD and the services (Rumsfeld, 2002, p. 107). He created the Senior Executive Council (SEC), the Business Initiative Council, and the Defense Business Practices Implementation Board (DBPIB) to improve business processes (Rumsfeld, 2002, p. 106).

The SEC was tasked with reviewing the business practices of defense agencies and comparing them to similar private sector operations (Rumsfeld, 2002, p. 109). In 2002, the SEC recommended several actions to improve business processes. These included: institutionalize performance management; improve business practices by pooling unused cell phone minutes, recovery auditing, web-based invoicing, and improved financial management (FM) practices and management of Defense Working Capital Funds (DWCF); implement net-centric business transformation and e-government; pursue commercial activities and competitive sourcing programs; reengineer the personnel security program by transferring investigations to OPM; outsource document automation and production service away from DLA (Rumsfeld, 2003, p. 64). The DBPIB, composed of senior executives and experts from the business community, was intended to help the DoD maximize management reform efforts by advising the SEC (p. 110).

3. Budgeting and Financial Management

The Comptroller, Under Secretary of Defense (Acquisitions, Technology, and Logistics), and Chief Information Officer (CIO) initiated a $100 million program called the Financial Management Modernization Program to modernize the financial reporting systems (Rumsfeld, 2002, p. 109). Within it, the Business Financial Management Modernization Program Office was created to champion the transformation (Rumsfeld, 2003, p. 51). While consolidation of financial management systems (Rumsfeld, 2002, p.

109) and competitive sourcing (Rumsfeld, 2004, p. 44) of support functions continued, the Department began work on the Financial Improvement and Audit Readiness (FIAR) plan that laid out how the Department would achieve an unqualified audit opinion (Rumsfeld, 2005, p. 18). One of the long-term goals of financial management reform was to receive a favorable audit opinion by 2007 (Rumsfeld, 2004, p. 49). The FIAR, along with the Business Management Modernization Plan (BMMP), relied on three core principles: clear standards, clear lines of authority, and tiered accountability (Rumsfeld, 2005, p. 18).

The Department used the Joint Planning Guidance (JPG) to provide explicit guidance for budget and program management (Rumsfeld, 2004, pp. 45-46). It also issued the first Strategic Planning Guidance (Rumsfeld, 2004, p. 46). The Department combined the programming and budgeting data of all the Services to streamline the process and reduce paperwork by one third (Rumsfeld, 2004, p. 46). It also adopted a two-year budgeting cycle to free up manpower and reduce redundant work (Rumsfeld, 2004, p. 46)

The Department used budget and performance indicators to exercise performance-based budgeting (Rumsfeld, 2003, p. 52). It also began using a balanced scorecard to measure performance within financial management (Rumsfeld, 2004, p. 47). As a critical component of this, the Department emphasized accurate and timely reporting by the services and the sharing of that information across the DoD to all decision makers (Rumsfeld, 2003, p. 55)

4. Acquisitions and Logistics

In his FY 2003 report, the Secretary established the following acquisition excellence goals: achieving credibility and effectiveness through the revision of DoD 5000.1 and 5000.2 and utilizing CAIG estimates for full life cycle costs; revitalizing the acquisition workforce through performance based pay and promotion system pilots; improving the industrial base by using "price-based" acquisitions (paying the market price) to encourage smaller companies to compete; rationalizing the defense systems infrastructure with the defense strategy (BRAC, joint facilities and equipment); and initiating high-leverage technologies (by using ACTD to get weapons quickly)

(Rumsfeld, 2003, p. 54). The following year, in his FY 2004 report, the Secretary established the following acquisition transformation goals: acquisition excellence with integrity, logistics integration and efficiency, systems integration and engineering for mission success, technology dominance, resource rationalized, industrial base strengthening, and motivating an agile workforce (Rumsfeld, 2004, p. 52)

In an effort to achieve acquisition and technology excellence, the Department placed emphasis on accelerating the fielding of systems through new development techniques and the use of benchmarking (Rumsfeld, 2004, p. 42) and best business practices (Rumsfeld, 2002, p. 110). To do this, it emphasized rapid acquisition of demonstrated technology, time-phased requirements and evolutionary development, and integrated test and evaluation (Rumsfeld, 2002, p. 111). The Department continued to use the ACTD programs to quickly field new technologies (Rumsfeld, 2002, p. 116). The Department set a goal of reducing MDAP cycle time to sixty-six months for all programs started after FY 2001 (Rumsfeld, 2003, p. 61).

The control of cost and schedule growth in acquisitions programs received much attention during Rumsfeld's administration. The Department stated in its FY 2002 report that the FY 2003 budget would fund acquisition programs at realistic levels, unlike previous practices (Rumsfeld, 2002, p. 110). The Department focused on measuring and reducing MDAP acquisition cost growth and O&S cost growth in an attempt to be on a downward trend by the end of FY 2003, then no cost growth thereafter (Rumsfeld, 2003, pp. 61-62). It also adopted new processes that focused on mature technology and evolutionary acquisitions to reduce the average program development time from nine years (Rumsfeld, 2002, p. 110). In order to further increase competition among defense contractors and entice new competitors into the market, the Department planned to lower the barriers to entry and improve the profitability of contracting with the Department (Rumsfeld, 2002, p. 116).

The Department of Defense continued reviewing how to improve the PPBS and acquisitions systems, and had eliminated thirty-one of seventy-two acquisitions-related advisory boards through 2001 (Rumsfeld, 2002, p. 108). The Department emphasized increased visibility of trade space, the tradeoff between investment and risk (Rumsfeld,

2003, p. 54). As of September 30, 2001, all but eleven MDAPs met the 90% of cost, schedule, and performance goals (Rumsfeld, 2002, p. 111). New technology conversion since 1992 was down to 95 months in 2001 (Rumsfeld, 2002, p. 112).

The logistics transformation that Rumsfeld envisioned required several changes to current operations. The Future Logistics Enterprise was created to improve logistics operations through enterprise integration and end-to-end customer service, while remaining flexible enough to respond to any challenge (Rumsfeld, 2002, p. 113). To measure performance and focus improvements, the Department created a Logistics Balanced Scorecard (Rumsfeld, 2004, p. 63). The scorecard was then submitted to the Joint Logistics Board to process the results and recommend changes (Rumsfeld, 2004, p. 63). The Department began using the best business practice of Customer Wait Time (CWT) to measure logistics effectiveness (Rumsfeld, 2003, p. 63). While the concept of total asset visibility had been initiated in previous administrations, the implementation of it improved significantly with the adoption of radio frequency identification (RFID) tags (Rumsfeld, 2005, p. 23)

5. Facilities and Energy

The Department created a Facilities Strategic Plan which ensured facilities were the right size and in the right location, maintained and funded properly, and their improvements were measured with the right metrics (Rumsfeld, 2002, p. 114). To improve facilities management and reduce the estimated twenty to twenty-five percent excess base capacity, the Department created the Efficient Facilities Initiative (EFI) (Rumsfeld, 2002, p. 113). EFI had three components: obtain an additional round of BRAC, improve the base closure process, and develop tools for efficiently operating enduring facilities (Rumsfeld, 2002, p. 113). During 2002, the Department established the process for BRAC 2005 (Rumsfeld, 2003, p. 60). The Department began measuring the share of the defense budget spent of infrastructure and using it as the metric for measuring infrastructure reductions (Rumsfeld, 2004, p. 55).

Management of existing facilities was of great importance to the administration. The Department continued to develop a real property inventory system to track all real property owned by the Department and measure the facilities readiness (Rumsfeld, 2004,

p. 58). DoD began using the Facilities Recapitalization Metric (FRM) to measure the rate at which facilities were being recapitalized, with the target being 67 years by 2007 and the current level in 2003 at 136 years, down from 200+ years in 1999 (Rumsfeld, 2003, p. 58). It also used the Facilities Sustainment Model (FSM) to determine how much to spend on facilities (Rumsfeld, 2004, p. 56). The DoD continued using housing privatization, competitive sourcing initiatives, and best business practices to operate more efficiently (Rumsfeld, 2002, p. 113). It also planned to continue leasing excess facility space (Rumsfeld, 2002, p. 114).

IV. ANALYSIS OF MANAGEMENT REFORM WITHIN THE DEPARTMENT OF DEFENSE

A. INTRODUCTION

1. Analysis Techniques

Chapter III presented a narrative history of the management reform projects of the secretaries of defense. In this chapter we will attempt to categorize those reform efforts in order to discover trends, much as Paul Light defined categories and then used them to evaluate legislative reforms (Light, 1997).

The first category we use is the *Type of Initiative*. Is it the introduction of a new concept, like Total Quality Management; the creation of a new plan or program, like the Cost-Reduction Plan; the creation of a new organization, such as a new Undersecretary of Defense; or is it a report or legislation, like a National Security Act Amendment? Some laws are included as Secretary of Defense management reform initiatives because they were requested or tailored by the Secretary of Defense but required legislation to implement.

The second category we will use is *Area of Change*. Those areas are: Organizational Structure; Budgeting, Planning and Programming; Financial Management; Acquisition and Logistics; and Facilities and Energy.

Next we will subjectively evaluate the magnitude of that change, by putting each one identified into one of the categories described below. Because of the peculiarities of defense management reform these definitions were synthesized into the following categories based on an understanding of the literature described in Chapter II.

Revolutionary Change: The new organization, process or concept is a new, distinct entity from the old. It is a "zero-based" reorganization where there was a distinct leap from one state to another without passage through identifiable middle-states (states that are somewhat like the old state and somewhat like the new state). Indicators of a revolutionary change may be creation of organizations with new names, made up of new groups of people, or implementing processes that seek to achieve new goals that did not

exist before. Things are "created" in a revolutionary change and they are likely to be isolated and episodic. A good example of a revolutionary change is the introduction of the PPBS system to replace several old systems.

Evolutionary Change: The new organization, plan or concept is a logical off-shoot of the old organization, plan or concept. It is an incremental change, or modification to the previous state. Indicators of an evolutionary change may new reporting requirements or chains of command but with the same people or departments, process changes that do not change the basic inputs and goals of the process, or new ways of doing the same thing. Organizational name changes, or mission modifications where most employees or tasks remain unchanged are probably evolutionary. Things are "updated" in an evolutionary change, and they may be episodic or continuous. A good example of an evolutionary change is Secretary of Defense Richardson's increase in the future weapons planning projections in the PPBS from five-to-eight years.

No Change Observed: For our purposes this means that we did not observe a revolutionary or evolutionary change in a particular organization or process in our research of Secretary of Defense annual reports. Change may have occurred, but it was not reported in the Secretary of Defense reports in a way that fit into one of the above categories. A good example of no change is when a secretary re-stresses economy and efficiency, but does not implement any specific measures to increase economy or efficiency.

Finally, we will subjectively categorize each reform effort into one or more of Paul Light's four "tides": Scientific Management, which espouses efficiency, analysis, chain of command changes; War on Waste, which seeks economy; Watchful Eye, which institutes inspection, oversight, or reporting requirements, and Liberation Management, which lets managers manage, stresses decentralization, or incorporates best practices (Light, 1997, p.1).

2. Introduction to the Data

We pulled 514 concepts, plans, programs, reports and organizations from the narrative history presented in Chapter 3. Each item was rated in each of the four

categories presented previously, as well as a fifth describing whether the initiative was new. Our purpose was not to analyze any individual reform initiatives, but rather to look at a large set of data to identify possible trends for further study. Therefore we have not studied individual initiatives in depth and it may be the case that we have incorrectly categorized one or more initiatives in one or more categories. We do not believe that errors of this type will skew the overall trends. The results are displayed in Appendix A.

Figure 1 shows the total number of new initiatives introduced by each Secretary of Defense, regardless of the magnitude or nature of the changes. There is a clear upward trend in the number if initiatives introduced by each administration, with a few significant outliers. Secretary of Defense Johnson, for example, was a prolific reformer, possibly because he had the benefit of observing Secretary Forrestal's administration and the problems it had initially. Secretary Weinberger and Secretary Cohen's high level of reforms seems to correspond with the overall emphasis placed on governmental reform in the executive branch during their terms.

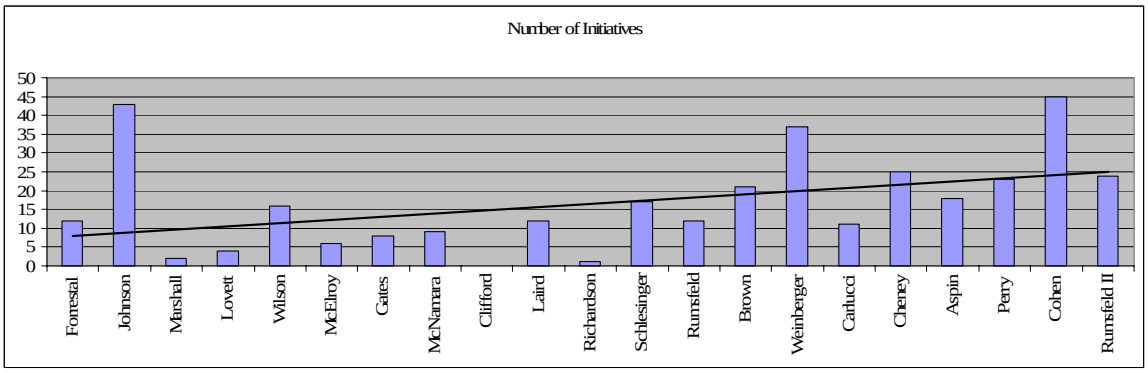

Figure 1. Reform Initiatives of each Administration

It might not be correct, however, to assume that later Secretaries of Defense were significantly busier than their predecessors. Figure 2 shows the number of management reform initiatives per month in office for each Secretary of Defense. There is still an upward trend, but it is not nearly as steep. Of note, Secretaries Johnson and Cohen still stand out, as does Aspen, but Secretary Weinberger recedes below the average.

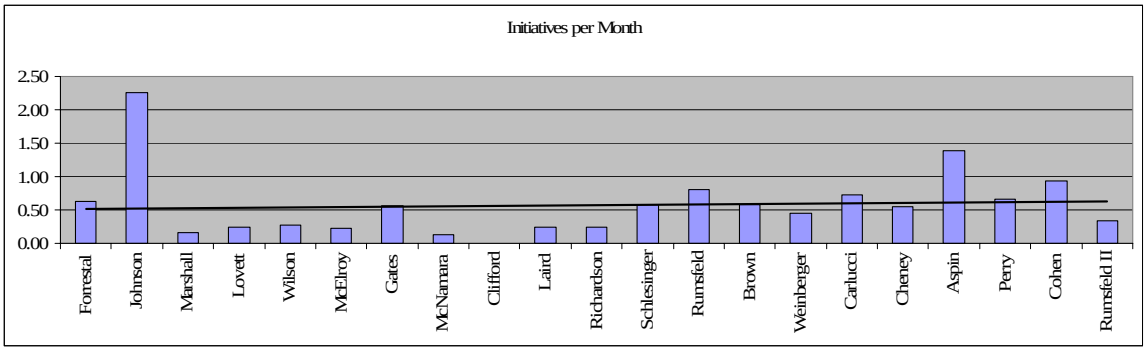

Figure 2. Reform Initiatives per Month in Office

B. DETAILED ANALYSIS

1. Type of Change

There were several major ways in which change initiatives were introduced. We split them into four categories: Concepts, Plans or Programs, Creation of New Organizations, and Reports or Legislation. Figure 3 shows the relative use of each type of initiative during each administration. The early Secretaries almost all concentrated on the introduction of new Concepts. While the later ones used a more mixed agenda, most of them still focused on the use of Plans and Programs.

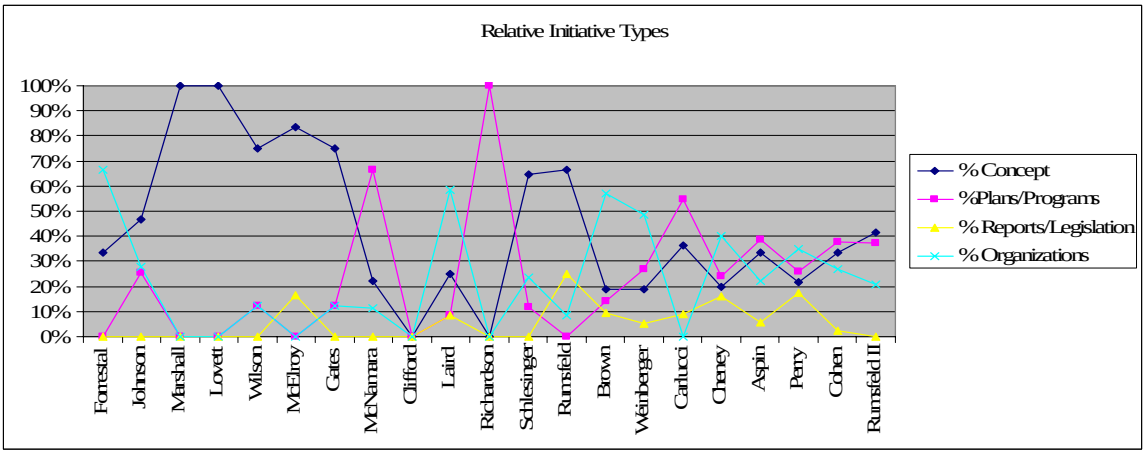

Figure 3. Relative Initiative Types

2. Area of Change

Figure 4 shows the number of reform initiatives each Secretary of Defense made in each of the areas: Organizational Structure; Financial Management; Acquisition and

Logistics; Budgeting, Plans and Programs; Financial Management; and Facilities and Energy. The early secretaries of defense concentrated their energy on reforms in organizational structure. Because the separate military departments were just coming together, these organizational structure reform initiatives generally consisted of centralization of command and decision making, elimination of separate boards and committees and creation of joint boards and committees. Financial Management comes to the fore for the first time under Secretary McElroy, who introduced accrual accounting, cost and work standards and comparative cost studies. In the latter part of the century, Acquisition and Logistics reform took center stage, peaking under Perry and Cohen, but remaining high on everyone's list.

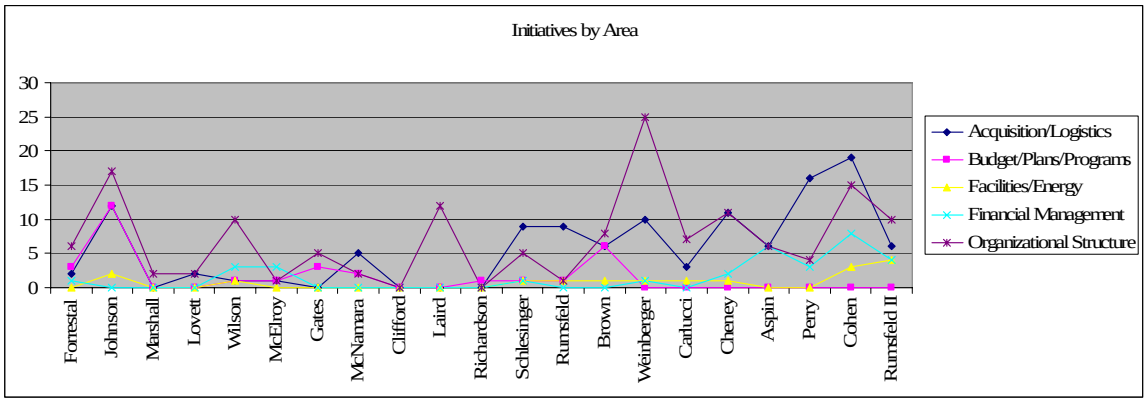

Figure 4. Initiatives by Area

Another way to consider the areas of concentration for each Secretary of Defense is to look at the number of initiatives in each area as a percentage of the total number of initiatives that he introduced. Figure 5 shows that the Secretaries varied widely in their areas of concentration. Secretaries Forrestal and Johnson spread their efforts across the spectrum, but Secretary Marshall concentrated almost exclusively on Organizational Structure, as did Secretary Laird later. Secretary Richardson spent his energies on Budgeting Planning and Programming. Many of the later secretaries seemed less likely to concentrate in one particular area than the early ones. Of note, Secretary Rumsfeld concentrated on Acquisition and Logistics during his first term and Organizational Structure in his second. Although most reform initiatives dealt with Organizational Structure or Acquisitions and Logistics, there are no long periods in which any one area

of reform dominates. Many Secretaries of Defense seem to leave the reform initiatives of their immediate predecessors in place when they take office, and concentrate their efforts on a new area.

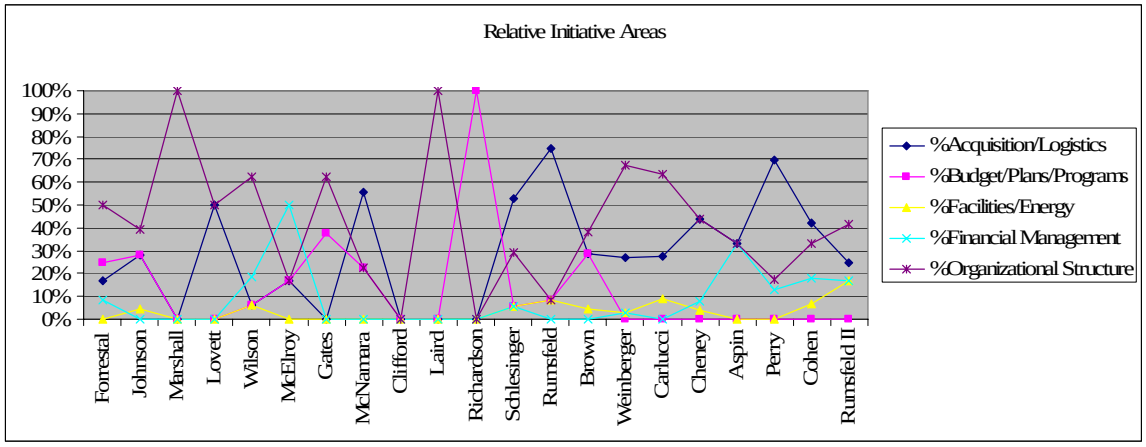

Figure 5. Relative Areas of Concentration

3. Magnitude of Change

Another important consideration is the magnitude of each reform. In some cases a Secretary of Defense may have made a few large reforms, while another may have made many small reforms. In some cases a claimed reform may not have been a reform at all. Figure 6 shows the number of Revolutionary changes made by each Secretary of Defense. The overall trend is slightly upward, however a few early Secretaries of Defense, in particular Johnson and Gates, made the most Revolutionary changes.

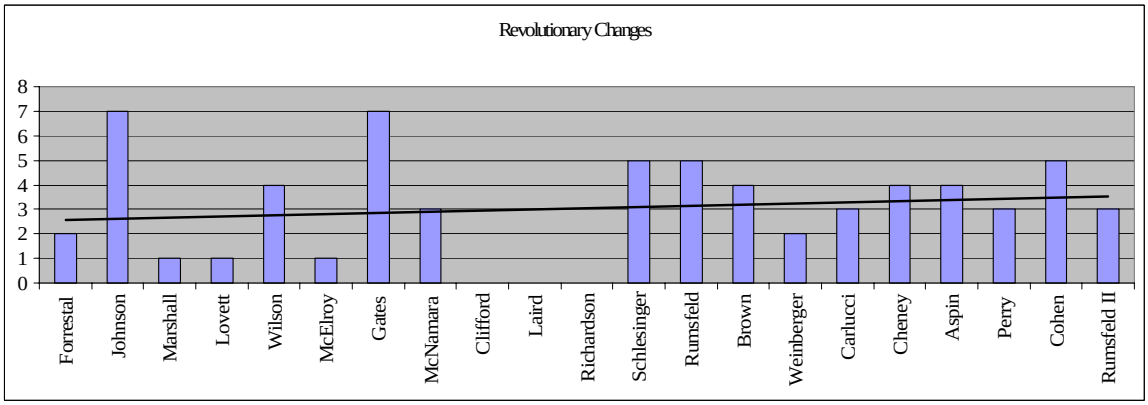

Figure 6. Revolutionary Changes

While some Secretaries made more Revolutionary changes than others, it may be important to look at the relative mix of the magnitudes of the changes that each one made. Figure 7 shows the percentage of Revolutionary, Evolutionary and Not Observed changes that each Secretary of Defense made. This gives a little insight into the reform initiatives that the total numbers given in Figure 6 do not. Although Secretary Johnson made more Revolutionary changes than anyone else except Gates, they actually made up only a small part of his total changes, the majority of which were Evolutionary. The same is true of Secretary Cohen. On the other hand, the majority of the changes made by Secretary Gates appear to be Revolutionary.

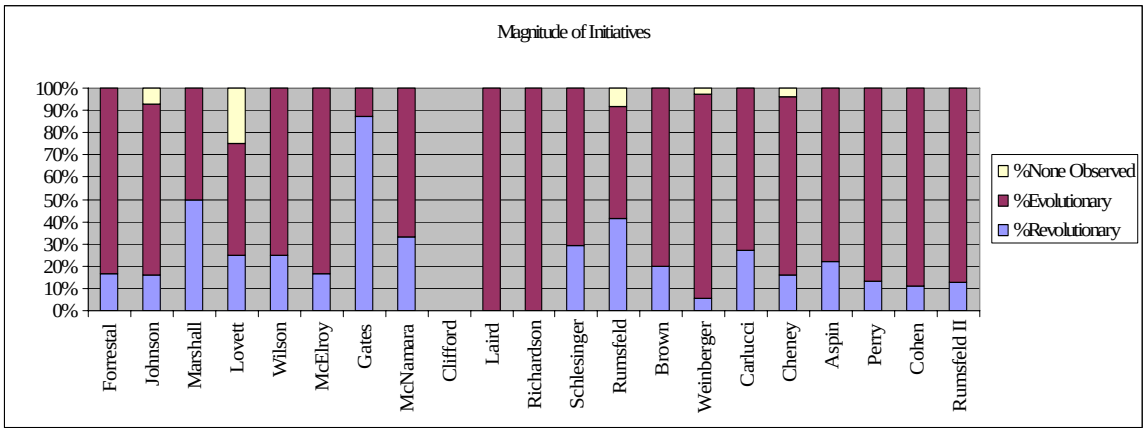

Figure 7. Relative Mix of Initiative Magnitudes

4. Tides of Reform

Paul Light defined the four *Tides of Reform* for use in evaluating legislated reform initiatives (Light, 1997, p.1); however, they are applicable to reforms in the Department of Defense as well. The Scientific Management Tide, which seeks efficient management practices, is dominant in every administration, but there are other trends as well. Figure 8 shows the relative mix of reform Tides in each administration's reform agenda. The early Secretaries concentrate on economy and efficiency, which translates to War on Waste and Scientific Management. Starting with Gates and McNamara we begin to see some Watchful Eye-type reforms, increasing oversight and control. More recently we begin to see the emergence of Liberation Management reforms, using modern management and business concepts to let managers manage.

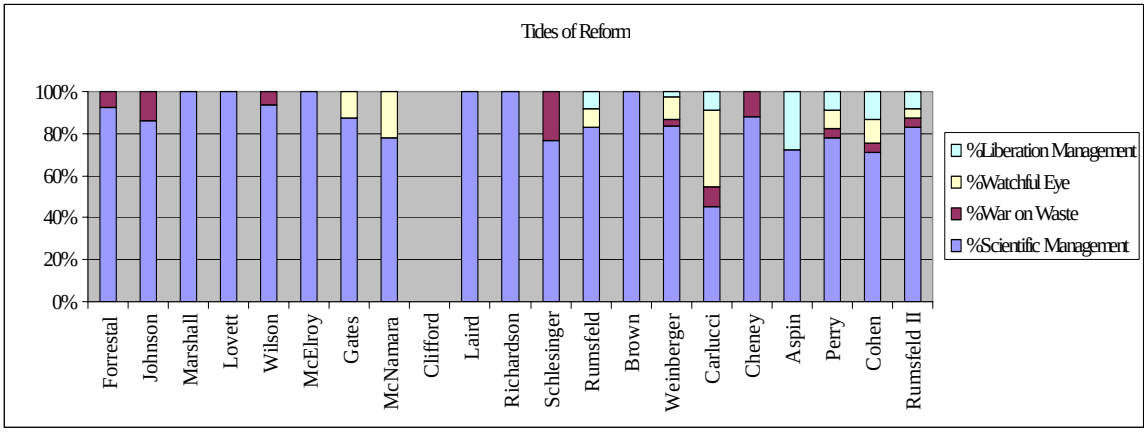

Figure 8. Relative Mix of Tides of Reform

V. CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

Management reform has been the subject of much debate and effort within the Department of Defense and in legislative and academic circles for the past six decades. The findings of this study reveal that in all probability, future administrations will attempt management reforms for years to come. The findings also suggest that the many of those future management reforms will simply be the same old ideas wrapped in the terminology of the latest management fad. Regardless of their titles, the objectives will likely remain unchanged. Those common objectives include the following:

- Maximize the efficient use of assets, whether they are capital, human, or fiscal assets, through increased productivity and reduced costs.
- Apply those assets effectively toward attaining goals.
- Measure the progress toward those goals.
- Remove non-value added activities, to include management layers, management systems, redundant processes, and financial and logistics systems.

Several trends became evident in the analysis of data. The structure of the Department was the highest priority in the earlier years, but tapered off in the later ones. It appears that once the areas of responsibility and chain of command had matured and been exercised through numerous global crises, a sound organizational framework was gradually developed that has endured the last few decades with only incremental changes. The focus on acquisitions has accelerated in recent years, perhaps because of the total dollar value of acquisitions, or because of the dramatic costs and schedule growth of high-technology systems. Since Forrestal began the drawdown of the support structure following World War II, the elimination of excess base capacity and the more efficient use of facilities has been an unstoppable progression. The establishment of the BRAC Commission formalized the process, but the objectives remain virtually unchanged.

B. RECOMMENDATIONS FOR FURTHER STUDY

Defense management reform is, by its very definition, broad-scoped. This project has identified general management reform trends across 21 Secretaries of Defense and 58 years of annual reports. The volume of information, as well as its diversity in format and substance, did not lend itself to in-depth analysis of any particular reform trend or functional area given the scope of this report. As such, several additional studies are recommended to expand upon those trends identified herein.

In Chapter III, the data were presented in four broad categories. Those categories include organizational management, budgeting and financial management, acquisitions and logistics, and facilities and energy. The authors used the categories merely to present related data in a logical manner. However, the data could just as easily be presented and analyzed in a variety of other ways. Additionally, each category was a collection of numerous sub-categories, each of which could be analyzed as stand alone subjects. Additionally, the data we used were pulled only from the Annual Reports of the Secretaries of Defense, so they only included those reform initiatives that the Secretaries chose to brief the Congress on. It seems likely that they would tend to emphasize their successes and downplay their failures. It would be interesting to look at internal OSD documents to try to find initiatives that were not as publicized.

The Analysis in Chapter IV was based on a very broad look at each reform initiative. To gain deeper insight into whether a given change was really revolutionary or evolutionary would require an in-depth study of the conditions and situation prior to, during and after a change. We also did not attempt to determine whether or not a given management reform initiative was successful in the short or long-run.

APPENDIX

Type Codes	Area Codes	Magnitude Codes	Tide Codes
1-Organization	1-Organizational Structure	1-Revolutionary	1-Scientific
2-Concept	2-Financial Management	2-Evolutionary	2-War on Waste
3-Plan/Program	3-Budgeting, Planning and Programming	3-None Observed	3-Watchful Eye
4-Report/Legislation	4-Acquisition and Logistics		4-Liberation Management
	5-Facilities and Energy		

Secretary	Term	Type	Area	Magnitude	Tide	New
Forrestal	Economy and efficiency	2	1	2	1,2	Y
Forrestal	Standardized procedures	2	1	2	1	Y
Forrestal	Reporting of obligations and funds available to Congress	2	3	2	1	Y
Forrestal	Grouping all costs (except personnel) related to an identifiable program, then grouping those programs by primary function	2	3	1	1	Y
Forrestal	Unified theater commands	1	1	1	1	Y
Forrestal	Joint Committee on Accounting Policy	1	2	2	1	Y
Forrestal	Interdepartmental Forms Standardization and Control Board	1	3	2	1	Y
Forrestal	Committee on Civilian Components	1	1	2	1	Y
Forrestal	Committee on Service Pay	1	1	2	1	Y
Forrestal	Committee on Medical and Hospital Services	1	1	2	1	Y
Forrestal	Research and Development Board	1	4	2	1	Y
Forrestal	Munitions Board	1	4	2	1	Y
Johnson	Coordination of foreign policies and military policies via the National Security Council (NSC)	2	3	2	1	Y
Johnson	Physically rearranged the Pentagon offices	2	1	2	1	Y
Johnson	No service can be permitted to exercise exclusive judgment on how much money it should get or how it should be spent	2	3	1	1	Y
Johnson	Eliminated many boards, but he created many joint boards and committees.	2	1	2	1	Y
Johnson	Economy and efficiency	2	1	3	1,2	N
Johnson	Reprogramming	2	3	3	1	Y
Johnson	Use of “woman-power” was stressed	2	1	2	1	Y
Johnson	Standardizing the budget request process among the services	2	3	2	1	Y
Johnson	Coordinated budget planning and execution	2	3	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Johnson	Performance budgeting, use of working capital funds, revision of appropriation structures, refinement of estimating standards, and use of inventory data in determining budget requirements	2	3	1	1	Y
Johnson	Began providing budgetary guidance to the services.	2	3	1	1	Y
Johnson	Coordination of purchases across the services	2	4	1	1	Y
Johnson	Planning for defense mobilization	2	3	2	1	N
Johnson	Include civilian industry in defense mobilization planning	2	3	2	1	Y
Johnson	Advanced supply management techniques	2	4	2	1	Y
Johnson	Common systems among the services	2	4	2	1	Y
Johnson	Identify and remove production bottlenecks of vital resources	2	3	2	1	Y
Johnson	Preferential treatment toward small businesses	2	4	2	1	Y
Johnson	Assigned the purchase of specific-type items to specific military departments	2	4	2	1	Y
Johnson	The use of working capital funds for procurement of common items	2	5	2	1	Y
Johnson	DOD needed to sponsor basic research	2	4	3	1	Y
Johnson	Each military department was responsible for its own research and development	2	4	3	1	Y
Johnson	Joint intelligence board	1	1	2	1	Y
Johnson	Joint staff board	1	1	2	1	Y
Johnson	Joint communications board	1	1	2	1	Y
Johnson	Joint military transportation board	1	1	2	1	Y
Johnson	Joint munitions allocations board	1	1	2	1	Y
Johnson	Joint meteorology board	1	1	2	1	Y
Johnson	Joint civil affairs board	1	1	2	1	Y
Johnson	More unified commands	1	1	2	1	N
Johnson	Office of Progress Reports and Statistics	1	1	1	1	Y
Johnson	Department of Defense Management Committee	1	3	2	1	Y
Johnson	Tasked the JCS to form an advisory budget review committee	1	3	2	1	Y
Johnson	Production Allocation Board	1	4	2	1	Y
Johnson	Small Business Office (SOB)	1	4	2	1	Y
Johnson	Enormous effort to remove personnel from administrative and non-combat positions and add them to combat forces	3	1	2	1	Y
Johnson	100 “useless” boards and committees were eliminated	3	1	2	2	Y
Johnson	Duplicate foreign attaches removed	3	1	2	2	Y
Johnson	Meteorology stations were removed	3	1	2	2	Y
Johnson	Segregation was eliminated	3	1	2	1	Y
Johnson	145,000 civilian employees were eliminated	3	1	2	2	Y
Johnson	51 military bases were closed	3	5	2	2	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Johnson	The military departments were instructed to consolidate services such as transportation, cold-storage, telephone systems and hospitals	3	4	2	2	Y
Johnson	Continuing the push to unify the Department of Defense budget	3	3	2	1	N
Johnson	Created comptrollers, implemented performance budgeting, authorized working capital funds (which were already in use), and created a uniform fiscal system under Title IV	3	3	1	1	Y
Johnson	Government employee suggestion system	3	4	2	1	Y
Johnson	Business administration training for DoD employees	3	4	1	1	Y
Marshall	Centralizing manpower management	2	1	1	1	Y
Marshall	Consolidating responsibility to focus effort on specific problems	2	1	3	1	N
Marshall	Clarifying duties and chains of command within OSD	2	1	2	1	Y
Marshall	Each manager and employee contribute ideas to increase the efficiency of their organization	2	1	2	1	N
Marshall	Expanding the use of women in administrative positions to free up men for combat units	2	1	2	2	N
Marshall	The consolidation of individual service boards into joint boards and committees	2	1	3	1	N
Marshall	Directly recruited personnel with industry experience in specific areas	2	1	3	1	N
Marshall	Working capital funds	2	5	3	1	N
Marshall	Deconflicting military and civilian requirements	2	4	3	1	N
Marshall	Interdepartmental sharing of stocks among the services	2	4	2	1	N
Marshall	Joint Intelligence Agency and the Joint Parachute Test Agency	1	1	3	1	N
Marshall	The Division of Manpower Utilization	1	1	3	1	N
Marshall	Standards Agency	1	4	2	1	N
Marshall	Joint Procurement Agencies	1	4	2	1	N
Marshall	Blanket five percent reduction in military personnel in the Washington D.C. area	3	1	2	2	N
Lovett	Thoughtful and deliberate “evolutionary” changes	2	1	2	1	Y
Lovett	Economy and efficiency	2	1	3	1	N
Lovett	Manpower controls with personnel ceilings	2	1	2	1	N
Lovett	Conducted utilization surveys to ensure manpower was used efficiently	2	1	2	1	Y
Lovett	Conflicting goals of obtaining the lowest price while maintaining social programs	2	4	3	1	Y
Lovett	Military remove standard packaging requirements	2	4	2	1	N
Lovett	Live production capacity within the economy, rather than stockpiles of materiel	2	4	1	1	Y
Lovett	Created civilian expert committees	1	1	2	1	N
Lovett	Armed Services Procurement Regulations Committee	1	4	2	1	N
Lovett	Defense Supply Management Agency	1	4	2	1	N
Wilson	Centralize policymaking and simultaneously decentralize operations	2	1	1	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Wilson	Making the civilian service secretaries his principle agents	2	1	1	1	Y
Wilson	Increased civilian control	2	1	2	1	Y
Wilson	Review of the organization of the military departments to give the civilian service secretaries more control	2	1	2	1	Y
Wilson	Took the JCS out of the chain of command	2	1	2	1	Y
Wilson	Transferred some of the joint boards from the OSD and gave the authority back to the services	2	1	2	1	Y
Wilson	Efficiency and economy	2	1	3	1	N
Wilson	That improvements in weapon systems and technology can reduce the manpower requirement needed to support the force	2	1	2	1	Y
Wilson	Constant improvement of management methods and procedures to make incorporating efficiency an ongoing process	2	1	2	1	Y
Wilson	Tighten his budget control over the services	2	3	2	1	N
Wilson	Generation of accurate performance reports for managers at all levels	2	2	2	1	Y
Wilson	Performance-type budget	2	3	3	1	N
Wilson	No weapon system would be authorized for procurement unless there was funding for the entire end item, including necessary spares	2	3	2	1	Y
Wilson	Commitment accounting	2	2	2	1	Y
Wilson	Uniform procedures for transportation rate negotiations	2	1	2	1	N
Wilson	Substituted better material planning and standardization for inventory balances	2	4	3	1	N
Wilson	Need for electronic data processing equipment in supply management	2	4	2	1	Y
Wilson	Six additional Assistant Secretaries of Defense	1	1	1	1	Y
Wilson	Assistant Secretary in charge of Financial Management for each military department	1	2	2	1	Y
Wilson	Reorganization Plan no. 6	3	1	1	1	Y
Wilson	Employee suggestion program	3	1	3	1	N
Wilson	A 12% reduction in headquarters staffs	3	1	2	2	N
Wilson	Single-manager program	3	4	2	1	N
Wilson	Assigned total life-cycle management of a common good to a specific service	3	4	2	1	N
Wilson	120 government-owned telecommunication systems were sold to private companies	3	5	2	2	Y
McElroy	Monetary accounting system for items of supply	2	4	1	1	Y
McElroy	Working-capital funds were required to adopt accrual accounting	2	2	2	1	Y
McElroy	Realistic cost and work standards	2	2	2	1	Y
McElroy	Comparative cost studies	2	2	2	1	Y
McElroy	Increase the defensive power of the United States without significantly increasing the defense budget	2	3	2	1	Y
McElroy	Armed Forces Supply Support Center	1	4	3	1	N

Secretary	Term	Type	Area	Magnitude	Tide	New
McElroy	33 commodity coordination groups	1	4	3	1	N
McElroy	A defense-wide study of supply management and organizational procedures	3	4	2	1	N
McElroy	Defense Reorganization Act of 1958	4	1	2	1	Y
Gates	Unification of purpose, rather than unification of things" remained the ultimate goal	2	1	3	1	N
Gates	Organization was simply a "means to an end"	2	1	3	1	N
Gates	Structure of the JCS was changed from a committee structure to a unified staff system	2	1	1	1	Y
Gates	JCS were given operational responsibility for the unified and specified commands	2	1	1	1	Y
Gates	Authority of the chief military officers in each service was changed from "command authority" to "supervisory authority	2	1	1	1	Y
Gates	Power of the Secretary of Defense had reached its zenith.	2	1	3	1	N
Gates	Changed the managerial focus from committees to staffs	2	1	1	1	Y
Gates	Used the improved reports and more efficient staff to dig deeper into the service budget requests	2	3	2	3	Y
Gates	Congress began budgeting by purpose (O&M, MILCON, etc) rather than by service for the first time	2	3	1	1	Y
Gates	Director of Defense Research and Engineering	1	1	2	1	N
Gates	Statistical Services Center	1	3	1	1	Y
Gates	Abolished 200 of the 300 joint committees in operation	3	1	2	2	N
Gates	Started weekly meetings between the JCS and the Secretary of Defense	3	1	1	1	Y
McNamara	Continuous improvement of management activities	2	1	2	1	N
McNamara	Streamlining the decision making process by emphasizing the role of the individual in solving problems	2	1	1	1	Y
McNamara	Increased reliance on scientific and technical evaluation over human judgment in decision making	2	3	1	1	Y
McNamara	The use of statistical analysis techniques to identify the relevant factors in complex problems	2	3	2	1	N
McNamara	Data processing equipment to aid in estimating future requirements	2	4	2	1	N
McNamara	Push the responsibility for making decisions to the lowest level that had "the necessary ability and information to apply approved policy	2	1	3	1	N
McNamara	Efficiency and economy	2	1	3	1	N
McNamara	Consolidated telephone and transportation offices	2	5	3	1	N
McNamara	Defense Supply Agency (DSA)	1	4	3	1	N
McNamara	Defense Intelligence Agency (DIA)	1	4	3	1	N
McNamara	Logistics Management Institute	1	4	2	1	Y
McNamara	Planning, Programming and Budgeting System (PPBS)	3	3	1	1	Y
McNamara	Project PRIME (Priority Management Efforts)	3	1	2	1	Y
McNamara	Resource Management Systems	3	4	2	1	N
McNamara	Five-year cost savings plan	3	4	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
McNamara	Project HindSight	3	4	2	1	Y
McNamara	Project THEMIS	3	4	2	1	N
McNamara	Monthly status reports of over 200 major systems	3	4	2	3	Y
McNamara	Development 2 Papers (DCPs)	3	4	2	3	Y
Laird	Orderly, step-by-step approach to implementing management and organizational changes	2	1	3	1	N
Laird	More reliance on people and less on elaborate decision-making procedures	2	1	2	1	Y
Laird	Participatory decision making, defined decentralization, and delegation of authority under specific guidance	2	1	2	1	Y
Laird	Reduce, or at least standardize, congressional oversight of the military	2	1	2	1	Y
Laird	Assistant Secretary of Defense (Intelligence and Telecommunications)	1	1	2	1	Y
Laird	Central Security Service	1	1	2	1	Y
Laird	Defense Investigative Service	1	1	2	1	Y
Laird	Defense Mapping Agency	1	1	2	1	Y
Laird	Director of Net Assessments	1	1	2	1	Y
Laird	Defense Systems Acquisition Review Council (DSARC)	1	1	2	1	Y
Laird	Cost Analysis Improvement Group (CAIG)	1	1	2	1	Y
Laird	Logistics Performance Measurement and Evaluation System	3	1	2	1	Y
Laird	Blue Ribbon Committee, chaired by Gilbert Fitzhugh	4	1	2	1	Y
Richardson	Increasing planning for weapons systems out beyond the five-to-eight years in the PPBS	3	3	2	1	Y
Schlesinger	Improved planning and management guidance given to the services	2	3	2	1	N
Schlesinger	Introduced management by objective (MBO)	2	1	1	1	Y
Schlesinger	Introduced extended planning annexes	2	3	2	2	Y
Schlesinger	Introduced design to cost	2	4	2	1	Y
Schlesinger	"Fly before Buy"	2	4	2	1	Y
Schlesinger	Required operational test and evaluation (OT&E) before purchase	2	4	3	1	N
Schlesinger	Started prototype programs with no obligation to buy	2	4	2	1	Y
Schlesinger	Focused on low cost systems development	2	4	2	1	N
Schlesinger	Created a Hi-Low strategy	2	4	1	1	Y
Schlesinger	Emphasized fewer military-specific characteristics	2	4	2	1	Y
Schlesinger	Emphasized off-the-shelf products	2	4	2	1	Y
Schlesinger	Encouraged development of dual-use technologies	2	4	2	1	Y
Schlesinger	Emphasized flexibility in contractor designs	2	4	2	1	Y
Schlesinger	Reduced flight, steaming, and operating hours to save fuel	2	5	1	2	Y
Schlesinger	Created a task force, headed by the Assistant Secretary of Defense (Comptroller) to standardize defense management systems wherever possible and reduce redundancy	1	2	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Schlesinger	Created Deputy Director of Defense for Research and Engineering	1	1	2	1	Y
Schlesinger	Defense Property Disposal Service	1	4	2	2	N
Schlesinger	Created Defense Energy Task Group to deal with energy management in light of the oil embargo	1	5	1	2	Y
Schlesinger	Created the Director for Energy	1	1	2	2	Y
Schlesinger	Established a program under the Assistant Secretary of Defense (Installations and Logistics) to promote productivity improvements throughout DoD, foster the development and use of productivity measures, and create a good worker/manager environment	3	1	2	1	Y
Schlesinger	Implemented Mission 2 Papers (MCP)	3	4	2	1	Y
Rumsfeld	Included Office of Management and Budget (OMB) earlier in budgeting	2	3	2	1	N
Rumsfeld	Emphasized efficiency and effectiveness	2	3	2	1	N
Rumsfeld	Increased productivity to comply with Presidential Management Initiative	2	1	2	1	N
Rumsfeld	Reduced the use of advisory groups and tightened internal controls over the remaining ones	2	1	2	1	Y
Rumsfeld	Expanded Design-to-Cost 2	2	4	2	1	N
Rumsfeld	Expanded the use of Life Cycle Cost (LCC) estimates	2	4	2	1	N
Rumsfeld	Created three milestone reviews to be used by the DSARC	2	4	1	1	Y
Rumsfeld	Conducted "Forward Look" study	2	4	2	1	Y
Rumsfeld	Relied more on contractors for product performance and involve less government oversight in corporate management procedures	2	4	1	4	Y
Rumsfeld	Included operations and support (O&S) costs in programs	2	4	2	1	Y
Rumsfeld	Independent cost estimates for major weapon systems	2	4	2	1	N
Rumsfeld	First addressed corruption	2	4	1	3	Y
Rumsfeld	Required standard cost accounting system use at depot maintenance facilities	2	4	2	1	Y
Rumsfeld	Implemented changes recommended by the Commission on Government Procurement	1	4	3	1	N
Rumsfeld	Implemented changes recommended by the Acquisition Advisory Group	1	4	3	1	N
Rumsfeld	Expanded Industrial Preparedness Planning (IPP	1	4	2	1	N
Rumsfeld	Established Investment Policy Study Group	1	4	2	1	Y
Rumsfeld	Made changes to the Future Years Defense Program (FYDP) and PPBS	3	3	2	1	N
Rumsfeld	Required 2% productivity improvement for the Department	3	1	2	1	N
Rumsfeld	Used Production Readiness Reviews	3	4	3	1	N
Rumsfeld	Made incremental budgeting changes to comply with Congressional Budget Act of 1974	4	3	2	1	Y
Rumsfeld	Created Profit '76 to incentivize industry	4	4	1	1	Y
Rumsfeld	Pushed for the Naval Petroleum Reserve Production Act of 1976	4	5	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Brown	Introduced zero based budgeting	2	3	1	1	Y
Brown	Used capital investment incentives	2	4	3	1	N
Brown	Used multi-year contracts to reduce unit cost and bought at the most efficient production rates	2	4	2	1	Y
Brown	Encouraged parallel development and leader/follower production, greater use of concurrent development for competing systems, modifying rather than replacing exiting systems when possible, consolidating similar programs, earlier examination of system affordability, emphasizing acquisition schedules based on operational needs rather than technological opportunities, cancelling low-payoff programs, increasing NATO joint development, improving efficiency of the industrial base; and earlier and more detailed consideration of reliability and maintenance factors	2	4	2	1	N
Brown	Streamlined the DSARC process	2	4	2	1	N
Brown	Involved industry participation in the 2 phase of a program	2	4	2	1	N
Brown	Stated program objectives in terms of mission requirements rather than specific technological requirements	2	4	1	1	Y
Brown	Reduced fraud and waste	2	1	2	2	N
Brown	Included foreign policy and arms control considerations in new programs	2	4	2	1	Y
Brown	Made improvements to the National Military Command Structure (NMCS)	1	1	2	1	N
Brown	Director, Planning and Evaluation was made an Assistant Secretary of Defense for Program Analysis and Evaluation	1	1	2	1	Y
Brown	Created the Tri-service Medical Information System	1	1	2	1	Y
Brown	Created the Defense Eligibility Enrollment Reporting System (DEERS)	1	1	2	1	Y
Brown	Established the Civilian-Military Contingency Hospital System (CMCHS)	1	1	2	1	Y
Brown	Created the Defense Resource Board	1	3	2	1	Y
Brown	Defense Science Board Task Force	1	3	2	1	Y
Brown	C3 Directorate within OJCS	1	3	2	1	Y
Brown	Integrated the World-Wide Military Command and Control System Engineering Organization into the Defense Communications Agency	1	1	2	1	Y
Brown	Reorganized OASD (C3I)	1	1	2	1	N
Brown	Phased in changes to comply with the Civil Service Reform Act of 1978	1	1	1	1	Y
Brown	Created the Commercial Commodity Acquisition Program (CCAP)	1	4	2	1	Y
Brown	Created the Secondary Item Stockage Policy Analysis Working Group	1	4	2	1	Y
Brown	Created the Office of Economic Adjustment (OEA)	1	5	2	1	Y
Brown	Initiated the DoD Productivity Program	3	1	2	1	Y
Brown	Created a Consolidated Guidance document	3	3	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Brown	Established a Joint Strategic Planning Document (JSPD) and Joint Program Assessment Memorandum (JPAM) in lieu of Joint Strategic Objectives Plan (JSOP) and Joint Forces Memorandum (JFM)	3	3	2	1	Y
Brown	Expanded the Energy Conservation Investment Program	3	5	2	2	N
Brown	Conducted the Defense Reorganization Study	4	1	2	1	Y
Brown	Helped create the Federal Employees Compensation Reform Act	4	1	1	2	Y
Brown	Issued the Defense Production Management directive	4	4	2	1	Y
Weinberger	Streamlined PPBS	2	3	2	1	N
Weinberger	Centralized policy development but decentralized execution	2	1	2	1	N
Weinberger	Emphasized worker safety	2	1	2	1	Y
Weinberger	Encouraged employee idea feedback	2	1	2	4	N
Weinberger	Used participatory management techniques	2	1	2	4	Y
Weinberger	Gave DCAA more power	2	1	2	3	N
Weinberger	More aggressive credit management and debt collection operation	2	2	2	3	N
Weinberger	Made a complete review of the acquisitions process	2	4	2	1	N
Weinberger	Focused on program stability to stop cost growth	2	4	1	1	Y
Weinberger	Expanded multi-year procurement, baselining	2	4	2	1	Y
Weinberger	Started dual sourcing for major weapon systems	2	4	2	1	Y
Weinberger	Reduced the number of milestone decision reviews to two	2	4	2	1	Y
Weinberger	Outsourced base functions via contract competitions	2	5	3	1	Y
Weinberger	Implemented changes recommended by the Private Sector Survey on Cost Control Grace Commission	1	1	2	1	Y
Weinberger	Helped create the Blue Ribbon Commission on Defense Management	1	1	2	1	Y
Weinberger	Created the DoD Council on Integrity and Management Improvement (DCIMI)	1	1	2	3	Y
Weinberger	Created the Assistant Secretary of Defense for Legislative Affairs	1	1	2	1	Y
Weinberger	Created the Assistant Secretary of Defense for International Security Policy	1	1	2	1	Y
Weinberger	Restored five Assistant Secretary positions	1	1	2	1	Y
Weinberger	Created the Assistant Secretary of Defense for C3I, and the Assistant Secretary of Defense for Reserve Affairs	1	1	2	1	Y
Weinberger	Created the Office of Test and Evaluation	1	1	2	1	Y
Weinberger	Created the Directorate for Management Improvement	1	1	2	1	Y
Weinberger	Implemented Productivity Enhancing Capital Investment (PECI)	1	1	2	1	Y
Weinberger	Created the Foreign Military Sales Financial Management Improvement Program (FFMIP) Office	1	2	2	1	Y
Weinberger	Created the Assistant Secretary of Defense for Review and Oversight	1	1	2	3	Y
Weinberger	Established the Defense Internal Management Control Program	1	1	2	3	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Weinberger	Established Under Secretary of Defense for Acquisitions	1	1	2	1	Y
Weinberger	Created a Senior Acquisition Executive in each service	1	1	2	1	Y
Weinberger	Created the Joint Requirements and Management Board (JRMB)	1	1	2	1	Y
Weinberger	Created the Deputy Assistant Secretary of Defense for Spares Program Management	1	1	2	1	Y
Weinberger	Expanded the Defense Reutilization and Marketing System	1	4	2	2	N
Weinberger	Created the Aeronautical Depot Maintenance Task Force	1	4	2	1	Y
Weinberger	Created the Program for Management Improvement	3	1	2	1	Y
Weinberger	Created the Management Improvement Plan (MIP	3	1	2	1	Y
Weinberger	Began the Efficiency Review Program	3	1	2	1	Y
Weinberger	Issued DoD Productivity Goals Statement	3	1	2	1	Y
Weinberger	Created the Secretary's Performance Review	3	1	2	3	Y
Weinberger	Created the Advanced Procurement Planning System for Security Assistance (APPSSA)	3	4	2	1	Y
Weinberger	Initiated the Defense Acquisitions Improvement Program (DAIP)	3	4	2	1	Y
Weinberger	Created the Spares Management Improvement Program	3	4	2	1	Y
Weinberger	Increased use of the Spare Parts Program	3	4	2	1	N
Weinberger	Adopted the Automated Marking and Reading Symbols (LOGMARS	3	4	2	1	Y
Weinberger	Created the Model Installations Program	3	4	1	1	Y
Weinberger	Expanded the energy conservation program	3	5	2	1	N
Weinberger	Helped implement Reform '88	4	1	2	2	Y
Carlucci	Encouraged managers to manage creatively, and establish sufficient rules and control mechanisms to identify poor management	2	1	2	4	Y
Carlucci	Introduced total quality management (TQM)	2	1	1	1	Y
Carlucci	Adopted ADA as the standard programming language	2	1	2	1	Y
Carlucci	Encouraged non-developmental items and "off-the-shelf" products	2	4	3	1	N
Carlucci	Used multi-year procurement, baselining	2	4	3	1	N
Carlucci	Introduced value engineering	2	4	2	1	Y
Carlucci	Created the Contractor Risk Assessment Guide (CRAG)	3	4	2	3	Y
Carlucci	Created the Voluntary Disclosure Program	3	4	2	3	Y
Carlucci	Created the Standards of Conduct Program	3	1	2	3	Y
Carlucci	Targeted 3% annual productivity improvement	3	1	2	1	N
Carlucci	Created productivity and quality (P&Q) teams	3	1	1	1	Y
Carlucci	Used Efficiency Review process	3	1	3	1	N
Carlucci	Created financial incentives for workers who saved the Department money	3	1	2	4	N
Carlucci	Developed the Department of Defense Automated Information System (AIS) Strategic Planning Policy	3	1	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Carlucci	Created the Base Realignment and Closure (BRAC) Commission	3	5	1	2	Y
Carlucci	Issued Executive Order 11222	4	1	2	3	Y
Cheney	Centralized policy planning and decentralized execution	2	1	2	1	N
Cheney	Encouraged open systems architecture	2	1	2	1	Y
Cheney	Began technical integration management	2	1	2	1	Y
Cheney	Emphasized efficiency and effectiveness	2	1	2	1	N
Cheney	Did a zero-based review of acquisition programs	2	4	2	1	Y
Cheney	Emphasized Non-Developmental Items (NDI	2	4	3	1	N
Cheney	Limited late design changes	2	4	2	1	Y
Cheney	Introduced Total Asset Visibility (TAV)	2	4	1	1	Y
Cheney	Reorganized the Defense Planning and Resource Board	1	3	2	1	N
Cheney	Consolidated the Contract Administration Services organizations	1	1	2	2	Y
Cheney	Created the Ethics Council	1	1	2	2	Y
Cheney	Created the Center for Information Management within the Defense Information Systems Agency (DISA)	1	1	2	1	Y
Cheney	Created the Defense Information Technology Service Organization (DITSO)	1	1	2	1	Y
Cheney	Created the Defense Finance and Accounting Service (DFAS)	1	2	1	1	Y
Cheney	Created the Defense Technology Board	1	4	2	1	Y
Cheney	Consolidated Contract Administration Services (CAS)	1	4	2	1	N
Cheney	Created the Defense Contact Management Command (DCMC)	1	4	2	1	Y
Cheney	Defense Acquisitions University (DAU)	1	4	2	1	Y
Cheney	Consolidated Inventory Control Points (ICPs)	1	4	2	1	N
Cheney	Consolidated the Defense Commissary Agency (DeCA)	1	4	2	1	Y
Cheney	Created Public Works Centers (PWC)	1	5	2	1	Y
Cheney	Created the Corporate Information Management (CIM)	3	1	2	1	Y
Cheney	Started the Defense Information Infrastructure	3	1	2	1	Y
Cheney	Started the DoD Data Administration Program	3	1	2	1	Y
Cheney	Started the DoD Software Reuse Program	3	1	2	1	Y
Cheney	Created the Defense Business Operations Fund (DBOF	3	2	1	1	Y
Cheney	PM's now reported to Program Executive Officer (PEO) then Service Acquisitions Executive	3	4	2	1	N
Cheney	Emphasized the Inventory Reduction Plan (IRP)	3	4	2	2	Y
Cheney	Implemented the 1989 Defense Management Report to the President	4	1	2	1	Y
Cheney	Competitively sourced positions via Defense Management Improvement Act	4	1	2	1	N
Cheney	Rewrote the Defense Federal Acquisition Regulation Supplement (DFARS)	4	4	2	1	N
Cheney	Created an official Science and Technology (S&T) strategy	4	4	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Cheney	Started the acquisition Education, Training, and Career Development Policy	4	4	2	1	Y
Cheney	Helped develop DAWIA, the Defense Acquisitions Workforce Improvement Act	4	4	1	1	Y
Aspin	Introduced Reengineering	2	1	1	1	Y
Aspin	Introduced Best Practices	2	1	2	4	Y
Aspin	Introduced Lean Production	2	1	2	1	Y
Aspin	Emphasized Electronic Commerce/Electronic Data Interchange (EC/EDI)	2	1	2	1	N
Aspin	Adopted benchmarking	2	1	2	4	Y
Aspin	Encouraged evolutionary development	2	4	2	1	N
Aspin	Emphasized continuous improvement	2	1	2	4	N
Aspin	Emphasized dual use technologies	2	4	3	1	N
Aspin	Consolidated logistics operations	2	1	2	1	N
Aspin	Privatized logistics and facilities functions	2	1	2	1	N
Aspin	Introduced In-Transit Visibility (ITV)	2	4	2	1	Y
Aspin	Created Process Action Teams (PAT),	1	1	2	1	N
Aspin	Created the Assistant Secretary of Defense for Economic Security	1	1	2	1	Y
Aspin	Created the Armaments Cooperation Steering Committee	1	1	2	1	N
Aspin	Created the Senior Financial Management Oversight Council	1	2	2	1	Y
Aspin	Started the Business Management University (DBMU)	1	2	2	4	Y
Aspin	Created the Acquisition Reform Senior Steering Group	1	4	2	1	Y
Aspin	Expanded BRAC	1	5	2	2	N
Aspin	Created a six-element blueprint for financial management reform	3	2	2	1	Y
Aspin	Developed the DBOF Improvement Plan	3	2	2	1	Y
Aspin	Created the Chief Financial Officer Master Plan	3	2	1	1	Y
Aspin	Town hall meetings were conducted by USD (AR)	3	4	2	1	Y
Aspin	Created the Technology Reinvestment Project (TRP)	3	4	2	1	Y
Aspin	Created the Small Business Innovation Research (SBIR)	3	4	2	1	Y
Aspin	Created the Logistics Corporate Information Management (CIM) program	3	4	2	4	Y
Aspin	Expanded OEA	3	5	2	1	N
Perry	Electronic commerce (EC) was expanded	2	1	2	1	N
Perry	Introduced IPTs	2	1	2	1	Y
Perry	Emphasized Consensus building and collaboration	2	1	2	4	Y
Perry	Recognized and dealt with globalization	2	1	1	1	Y
Perry	Expanded privatization	2	1	2	1	N
Perry	Expanded outsourcing	2	1	2	1	N
Perry	Standardized data, definitions, and 2s for financial systems	2	2	2	1	N

Secretary	Term	Type	Area	Magnitude	Tide	New
Perry	Required performance specifications in stead of technical ones	2	4	2	1	N
Perry	Adopted Cost as an Independent Variable (CAIV)	2	4	1	1	Y
Perry	Raised the acquisitions threshold	2	4	2	2	N
Perry	Introduced Intransit Visibility (ITV) via the Global Transportation network	2	4	2	1	N
Perry	Expanded interservice depot support	2	4	2	1	N
Perry	Created the Task Force to Reengineer Travel	1	2	2	1	Y
Perry	Created the Deputy Under Secretary of Defense for Acquisition Reform	1	1	2	1	Y
Perry	Created the Acquisition Reform Senior Steering Group (ARSSG)	1	4	2	1	Y
Perry	Established the Acquisition Reform Communications Center (ARCC)	1	4	2	4	Y
Perry	Started the Defense Science Board Task Force on Antitrust Aspects of Defense Industry Consolidation	1	4	1	3	Y
Perry	Restructured the Defense Policy Advisory Committee on Trade	1	4	2	1	N
Perry	Created the Defense Industrial Base Oversight Council	1	4	2	1	Y
Perry	Created the Government/Industry Task Force on Depot Maintenance	1	4	2	2	Y
Perry	Continued consolidating DFAS	3	2	2	1	N
Perry	Tried adopting a standard general ledger and a standard budget and accounting classification architecture	3	2	2	1	Y
Perry	DCAA assisted contractors in establishing internal controls	3	2	2	3	N
Perry	Government credit and travel cards expanded	3	2	2	1	N
Perry	Inserted commercial technology	3	4	2	1	Y
Perry	Expanded dual use technologies	3	4	2	1	Y
Perry	Started the Industrial Base Review	3	4	2	1	Y
Perry	Created the Single Process Initiative (SPI) to help existing programs	3	4	2	1	Y
Perry	Expanded the Advanced 2 Technology Demonstration (ACTD) program	3	4	2	1	N
Perry	Used the Defense Total Asset Visibility (TAV) Initiative	3	4	3	1	N
Perry	Used the DBOF Improvement Plan	3	2	3	1	N
Perry	Consolidated depot maintenance	3	4	3	2	N
Perry	Introduced CORE for depot maintenance	3	4	2	1	Y
Perry	Complied with Chief Financial Officers Act	4	2	2	1	N
Perry	Implemented additional financial internal controls and created the Annual Statement of Assurance	4	2	2	3	Y
Perry	Wrote Acquisition Reform: A Mandate for Change to lay out reform goals	4	4	2	1	Y
Perry	Implemented changes to adhere to Federal Acquisition Streamlining Act (FASA) of 1994	4	4	2	1	Y
Cohen	Pushed for paperless processes	2	1	2	2	Y
Cohen	Expanded use of World Wide Web	2	1	2	1	N

Secretary	Term	Type	Area	Magnitude	Tide	New
Cohen	Introduced just-in-time delivery	2	4	1	1	Y
Cohen	Adopted best business practices	2	1	2	4	N
Cohen	Adopted electronic data management (EDM)	2	1	2	1	N
Cohen	Implemented electronic funds transfer (EFT)	2	1	2	1	Y
Cohen	Addressed digital signatures	2	1	2	1	Y
Cohen	Introduced Electronic Business (EB)	2	1	2	1	Y
Cohen	Adopted lessons learned from business	2	1	2	4	N
Cohen	Consolidated more functions	2	1	2	1	N
Cohen	Conducted outsourcing and competitive sourcing	2	1	2	1	N
Cohen	Emphasized continuous improvement	2	1	2	4	N
Cohen	Addressed change management	2	1	2	1	N
Cohen	Tested Electronic Data Access	2	2	2	1	N
Cohen	Emphasized Consensus and collaboration	2	1	3	4	N
Cohen	Expanded competitive sourcing of services	2	1	2	1	N
Cohen	Emphasized information assurance	2	2	2	3	N
Cohen	Established a cost accounting system for life-cycle costs	2	4	2	1	N
Cohen	Reduced National Defense Stockpile	2	4	2	2	Y
Cohen	Adopted rapid prototyping	2	4	2	1	N
Cohen	Created the Revolution in Business Affairs (RBA)	2	4	2	1	Y
Cohen	Emphasized incremental systems development	2	4	2	1	N
Cohen	Pushed for evolutionary acquisitions	2	4	2	1	N
Cohen	Emphasized continuous learning	2	1	2	4	N
Cohen	Used Past Performance Information (PPI)	2	4	2	1	Y
Cohen	Favored small disadvantaged businesses (SDB)	2	4	2	1	N
Cohen	Favored women owned small businesses (WOSB	2	4	2	1	N
Cohen	Placed greater focus on TOC	2	4	2	1	N
Cohen	Tried to reduce development cycle times	2	4	2	1	N
Cohen	Tried to reduce life cycle costs (LCC)	2	4	2	1	N
Cohen	Incorporated occupational health (OSH) into acquisitions process	2	4	2	1	Y
Cohen	Expanded globalization-related programs	2	4	2	1	N
Cohen	Focused on managing suppliers rather than supplies	2	4	1	1	Y
Cohen	Focused on engineering systems rather than components	2	4	1	1	Y
Cohen	Attempted a logistics transformation to create seamless logistics	2	4	2	1	Y
Cohen	Created the Transportation Reengineering Team	2	4	2	1	Y
Cohen	Created the Installations Policy Board	2	5	2	1	Y
Cohen	Encouraged joint use of facilities	2	5	2	1	N
Cohen	Encouraged regional contracting	2	5	2	1	N
Cohen	Created the Defense Management Council	1	1	2	4	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Cohen	Created the Joint Electronic Commerce Program Office (JECPO)	1	1	2	1	Y
Cohen	Created the DoD electronic mall	1	1	2	1	Y
Cohen	Established the Competitive Sourcing and Privatization Directorate	1	1	2	1	Y
Cohen	Created the Defense Working Capital Task Force	1	1	2	1	Y
Cohen	Created the Office of Chancellor for Education and Professional Development	1	1	2	4	Y
Cohen	Created the Program Management Office to design and acquire a new Defense Travel System (DTS)	1	2	2	1	Y
Cohen	Created the Fraud and Internal Control Office	1	2	2	3	Y
Cohen	Appointed a Director of Internal Review	1	1	2	3	Y
Cohen	Emphasized Operational Test and Evaluation (DOT&E)	1	4	2	1	N
Cohen	Started the Electronic Process Initiatives Committee (EPIC)	1	4	2	1	Y
Cohen	Created the Joint Group on Acquisition Pollutions Prevention (JG-APP)	1	4	2	1	Y
Cohen	Created the Joint Acquisition Sustainment Pollution Prevention Activity	1	4	2	1	Y
Cohen	Created the Defense Reform Initiative (DRI)	3	1	2	1	Y
Cohen	Created the Business Opportunities Home Page	3	1	2	1	Y
Cohen	Created the Central Contractor Registration	3	1	2	1	Y
Cohen	Created the Commercial Advocates Forum	3	1	2	4	Y
Cohen	Created performance scorecards and metrics	3	1	2	4	N
Cohen	Improved the Defense Civilian Pay System (DCPS)	3	2	2	1	N
Cohen	Improved the Defense Joint Military Pay System (DJMS)	3	2	2	1	N
Cohen	Improved the Marine Corps Total Force System (MCTFS)	3	2	2	1	N
Cohen	Improved the Defense Transportation Payment System (DTRS)	3	2	2	1	N
Cohen	Improved the Defense Retiree and Annuitant System	3	2	2	1	N
Cohen	Improved the Defense Debt Management System	3	2	2	1	N
Cohen	Improved the Defense Cash Accountability System	3	2	2	1	N
Cohen	Established the Financial and Feeder System Compliance Process	3	2	2	1	Y
Cohen	Tried to adopted the U. S. Government Standard General Ledger	3	2	2	1	N
Cohen	Created the Defense Property Accountability System	3	2	1	1	Y
Cohen	Created the Program Budget Accounting System (PBAS)	3	2	2	3	Y
Cohen	Integrated the Defense Procurement Payment System	3	2	2	1	N
Cohen	Began developing the DFAS Corporate Information Infrastructure (DCII)	3	2	2	1	Y
Cohen	Created the Certified Defense Financial Manager Program	3	2	2	4	Y
Cohen	Simplified acquisition procedures (SAPs) for commercial items between $100,000 and $5 million	3	4	2	2	N

Secretary	Term	Type	Area	Magnitude	Tide	New
Cohen	Created the Commercial Technology Insertion Program (CTIP)	3	4	2	1	Y
Cohen	Expanded the Dual Use Applications Program (DUAP)	3	4	2	1	N
Cohen	Created Federal Acquisitions Computer Network (FACENET)	3	4	2	4	Y
Cohen	Started Acquisition Reform Day	3	4	2	4	Y
Cohen	Created the outyear acquisitions program stability reserve	3	4	2	1	Y
Cohen	Expanded the mentor/protégé program	3	4	2	1	N
Cohen	Created the Institutionalization of Pollution Prevention to Achieve Compliance program	3	4	2	1	Y
Cohen	Developed a Facilities Sustainment Model (FSM)	3	5	1	1	Y
Cohen	Developed a Facilities Aging Model (FAM)	3	5	2	1	Y
Cohen	Rewrote the DoD5000 series	4	4	2	1	N
Cohen	Created the Defense Acquisition Deskbook	4	4	2	1	Y
Rumsfeld II	Sought Excellence in everything	2	1	1	4	Y
Rumsfeld II	His buzzword was Transformation	2	1	2	4	N
Rumsfeld II	Removed non-value-adding layers	2	1	2	1	N
Rumsfeld II	Emphasized e-government	2	1	2	1	Y
Rumsfeld II	Emphasized strategic management of human capital	2	1	2	1	Y
Rumsfeld II	Emphasized net-centric operations	2	1	2	1	Y
Rumsfeld II	Adopted a two-year budgeting cycle	2	3	2	2	N
Rumsfeld II	Adopted the use of balanced scorecards	2	1	2	3	Y
Rumsfeld II	Adopted "price-based" acquisitions	2	4	2	1	Y
Rumsfeld II	Tried to create an agile workforce	2	4	2	4	Y
Rumsfeld II	Tried to reduce MDAP cycle time	2	4	2	1	N
Rumsfeld II	Tried to reduce cost and schedule growth	2	4	2	1	N
Rumsfeld II	Tried to reduced O&S costs	2	4	2	1	N
Rumsfeld II	Emphasized trade space, the tradeoff between investment and risk	2	4	2	1	Y
Rumsfeld II	Created the Logistics Balanced Scorecard	2	4	2	1	Y
Rumsfeld II	Adopted Customer Wait Time (CWT)	2	4	1	1	Y
Rumsfeld II	Created the Senior Executive Council (SEC)	1	1	2	1	Y
Rumsfeld II	Created the Business Initiative Council	1	1	2	1	Y
Rumsfeld II	Created the Defense Business Practices Implementation Board (DBPIB)	1	1	2	1	Y
Rumsfeld II	Established the Business Financial Management Modernization Program Office	1	2	2	1	Y
Rumsfeld II	Developed the Joint Logistics Board	1	4	2	1	Y
Rumsfeld II	Created the Unified Command Plan	3	1	2	1	Y
Rumsfeld II	Introduced the National Security Personnel System	3	1	1	1	Y
Rumsfeld II	Improved the DWCF	3	1	2	1	N
Rumsfeld II	Created the Financial Management Modernization Program	3	2	2	1	Y

Secretary	Term	Type	Area	Magnitude	Tide	New
Rumsfeld II	Created the Financial Improvement and Audit Readiness (FIAR) plan	3	2	2	1	Y
Rumsfeld II	Created the Business Management Modernization Plan (BMMP),	3	2	2	1	Y
Rumsfeld II	Improved guidance in the Joint Planning Guidance (JPG)	3	3	2	1	N
Rumsfeld II	Created the Strategic Planning Guidance	3	3	2	1	N
Rumsfeld II	Created the Future Logistics Enterprise	3	4	2	1	Y
Rumsfeld II	Created a Facilities Strategic Plan	3	5	2	1	Y
Rumsfeld II	Created the Efficient Facilities Initiative (EFI)	3	5	2	2	Y
Rumsfeld II	Developed the Facilities Recapitalization Metric (FRM)	3	5	2	1	Y
Rumsfeld II	Used the Facilities Sustainment Model (FSM)	3	5	3	1	N

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LIST OF REFERENCES

Ackerman, L. S. (1986). Development, transition or transformation: The question of change in organizations. *OD Practitioner, 18*(4), 1-8.

Aspin, L. (1994). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Borklund, C. W. (1966). *Men of the pentagon, from Forrestal to McNamara*. New York: F. A. Praeger.

Brown, H. (1978). *Department of defense annual report fiscal year 1979*. Washington D.C.: United States Government Printing Office.

Brown, H. (1979). *Department of defense annual report fiscal year 1980*. Washington D.C.: United States Government Printing Office.

Brown, H. (1980). *Department of defense annual report fiscal year 1981*. Washington D.C.: United States Government Printing Office.

Brown, H. (1981). *Department of defense annual report fiscal year 1982*. Washington D.C.: United States Government Printing Office.

Carlucci, F. C. (1988). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Carlucci, F. C. (1989). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Carnevale, D. G. (2003). *Organizational development in the public sector*. Boulder, Colo: Westview Press.

Cheney, R. B. (1990). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cheney, R. B. (1991). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cheney, R. B. (1992). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cheney, R. B. (1993). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Clifford, C. M. (1969). *The 1970 defense budget and defense program for FYs 70-74*. Washington D.C.: United States Government Printing Office.

Cohen, W. S. (1997). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cohen, W. S. (1998). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cohen, W. S. (1999). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cohen, W. S. (2000). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Cohen, W. S. (2001). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Dawe, R. L., & Jones, L. R. (2005). Transformation of national defense business management. [Transformation of National Defense Business Management] *International Public Management Review, 6*(2), 9-70.

Downs, G. W., & Larkey, P. D. (1986). *The search for government efficiency: From hubris to helplessness* (1st ed.). Philadelphia: Temple University Press.

Forrestal, J. V. (1948). *First report of the secretary of defense 1948*. Washington D.C.: United States Government Printing Office.

Gates, T. S. (1960). *Annual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Gates, T. S. (1961). *Annual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Golembiewski, R., Billingsley, K., & Yeager, S. (1976). Measuring change and persistence in human affairs: Types of change generated by OD designs. [Electronic version]. *The Journal of Applied Behavioral Science, 12*(2), 133-157. Retrieved November 15, 2006,

Johnson, L. A. (1950a). *Second report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Johnson, L. A. (1950b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Johnson, L. A. (1950c). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Jones, D. C. (1982). Why the joint chiefs must change. *Armed Forces Journal International*, 64.

Jones, L. R., Guthrie, J., & Steane, P. (2001). *Learning from international public management reform* (1st ed.). Amsterdam; New York: JAI.

Jones, L. R., Schedler, K., & Mussari, R. (2004). *Strategies for public management reform* (1st ed.). Amsterdam; Boston: Elsevier.

Kelman, S. (2005). *Unleashing change: A study of organizational renewal in government*. Washington, D.C.: Brookings Institution Press.

Kettl, D. F. (2005). *The global public management revolution* (2nd ed.). Washington, D.C.: Brookings Institution Press.

Kinnard, D. (1980). *The secretary of defense*. Lexington: University Press of Kentucky.

Kintner, W. R. (1958). *Forging a new sword, a study of the department of defense* (1st ed.). New York: Harper.

Laird, M. R. (1970). *FY 71 defense program and budget*. Washington D.C.: United States Government Printing Office.

Laird, M. R. (1971). *Statement of secretary of defense Melvin R. Laird before the senate armed services committee*. Washington D.C.: United States Government Printing Office.

Laird, M. R. (1972). *Secretary of defense Melvin R. Laird's annual defense report*. Washington D.C.: United States Government Printing Office.

Lovett, R., A. (1952a). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Lovett, R., A. (1952b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Lovett, R., A. (1953). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Marshall, G. C. (1951a). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Marshall, G. C. (1951b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

McElroy, N., H. (1958). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

McElroy, N., H. (1959). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

McElroy, N., H., & Wilson, C. E. (1958). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1962). *Department of defense annual report for fiscal year 1961*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1963). *Department of defense annual report for fiscal year 1962*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1964). *Department of defense annual report for fiscal year 1963*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1966). *Department of defense annual report for fiscal year 1964*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1967a). *Department of defense annual report for fiscal year 1965*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1967b). *Department of defense annual report for fiscal year 1966*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1968). *Statement of secretary of defense Robert S. McNamara before the senate armed services committee*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1969). *Department of defense annual report for fiscal year 1967*. Washington D.C.: United States Government Printing Office.

McNamara, R. S. (1971). *Department of defense annual report for fiscal year 1968*. Washington D.C.: United States Government Printing Office.

Perry, W. J. (1995). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Perry, W. J. (1996). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Pfiffner, J. P. (1998). *American tradition of administrative reform*. Y. H. Cho, & H. G. Frederickson (Eds.), *The white house and the blue house: Government reform in the United States and Korea* (). Lanham, MD: University Press of American. Retrieved 7 November, from http://mason.gmu.edu/~pubp502/pfiffner-readings-admin.htm.

Richardson, E. L. (1973). *Secretary of defense Elliot L. Richardson's annual defense department report*. Washington D.C.: United States Government Printing Office.

Rumsfeld, D. H. (1976). *Annual defense department report FY 1977*. Washington D.C.: United States Government Printing Office.

Rumsfeld, D. H. (2002). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Rumsfeld, D. H. (2003). *Annual report to the president and the congress*. Washington D.C.: United States Government Printing Office.

Rumsfeld, D. H. (2004). *Annual report to the president and congress*. Washington D.C.: United States Government Printing Office.

Rumsfeld, D. H. (2005). *Annual report to the president and congress*. Washington D.C.: United States Government Printing Office.

Schlesinger, J. R. (1974). *Annual defense department report FY 1975*. Washington D.C.: United States Government Printing Office.

Stewart, R. W. (2004a). In Stewart R. W. (Ed.), *American military history*. Washington D.C.: Center of Military History, United States Army.

Stewart, R. W. (2004b). In Stewart R. W. (Ed.), *American military history*. Washington D.C.: Center of Military History, United States Army.

Trewhitt, H. L. (1971). *McNamara* (1st ed.). New York: Harper & Row.

United States. General Accounting Office. (2002). *Major management challenges and program risks: Department of defense*. Washington, D.C.: The Office.

Warren, D. R., & United States. General Accounting Office. (1998). *Defense management: Challenges facing DOD in implementing defense reform initiatives*. Washington, D.C.: General Accounting Office.

Weinberger, C. W. (1982). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Weinberger, C. W. (1984). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Weinberger, C. W. (1985). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Weinberger, C. W. (1986). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Weinberger, C. W. (1987). *Annual report to the congress*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1953). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1954). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1955a). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1955b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1956a). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1956b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1957a). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

Wilson, C. E. (1957b). *Semiannual report of the secretary of defense*. Washington D.C.: United States Government Printing Office.

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