THE DRIVE TO IMPROVE PERFORMANCE IN THE FEDERAL GOVERNMENT: A LONGITUDINAL CASE STUDY OF MANAGING FOR RESULTS

by

Fred L. Ames

A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Public Policy

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Date: _____ Spring Semester 2015
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DEDICATION

This is dedicated to my mother Beverly and father Bernie. They gave me early opportunities in my life that set me off on a course to achieve my potential. My father exemplified dedication to purpose, always do your best and continuous self-improvement. For instilling those attributes, I will always be deeply grateful.

ACKNOWLEDGEMENTS

I would like to thank my dissertation committee, Mark Addleson, Chair, Jim Pfiffner, Tojo Thatchenkery and Lori Brainard, external reader, for their keen guidance. I particularly commend Mark for helping me see the forest for the trees. His observations led to immeasurable improvements in the organization of the dissertation and presentation of my findings and results. Jim, also my academic advisor, was always there throughout my seven year pursuit of this degree.

I especially thank my family for their support and understanding. Daughters Caroline and Courtney provided unwavering backing throughout this endeavor. I will be ever indebted to my wife, Toni, for her help as my "writer-editor." She astutely "guided" this engineer's use of the written word. Her "suggestions" made a profound difference in all of my studies.

A very special recognition for my United States Coast Guard colleagues— retired and active duty, military and civilian. Besides permitting me to perform an in-depth study of the Marine Safety program, all participants gave me virtually unlimited access and were most gracious of their time. I hope that I represented them and the Service accurately. If not, it is strictly my oversight. The Coast Guard has a great story to tell and is justly proud of its accomplishments to make our maritime commerce safer and more environmentally conscience.

I make a special call out to my team of coworkers at the Office of the United States Trade Representative. Their unwavering devotion to duty helped me balance work with academics.

And lastly, my sincere appreciation to the cadre of dedicated faculty and staff of George Mason University and the School of Policy, Government, and International Affairs. You made my personal journey extremely enjoyable and professionally rewarding.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ABS	American Bureau of Shipping
ACP	Alternative Compliance Program
AtoN	Aids to Navigation
AWO	American Waterways Operators
BSEE	Bureau of Safety and Environmental Enforcement
CGHQs	USCG Headquarters
CGMIX	Coast Guard Maritime Information Exchange
CRS	Congressional Research Service
CSE	Child Support Enforcement Program
DCO	Deputy Commandant for Operations
DHS	Department of Homeland Security
DOD	Department of Defense
DoT	Department of Transportation
FAA	Federal Aviation Administration
FBC	Faster-Better-Cheaper
FOIA	Freedom of Information Act
FTE	Full-Time Equivalents
FY	Fiscal Year
FYHSP	Coast Guard Future Years Homeland Security Programs
GAO	Government Accountability Office
GFOA	Government Finance Officers Association
GPRA	Government Performance and Results Act
GPRAMA	Government Performance and Results Act Modernization Act
HIS	Homeland Security Institute
IMO	International Maritime Organization
IRB	Institutional Review Board
JPL	Jet Propulsion Laboratory
LEIS	Law Enforcement Information System
LMR	Living Marine Resources
LNG	Liquid Natural Gas
M	CGHQs Marine Safety Program Office
MARPOL	International Convention for the Prevention of Pollution from Ships
MBO	Management by Objectives

MEP	Marine Environmental Protection
MER	Marine Environmental Response
MISLE	Marine Information for Safety and Law Enforcement
MMS	Minerals Management Service
MoU	Memorandum of Understanding
MS	Marine Safety
MSC	Marine Safety Center
MSEP	Marine Safety Enhancement Plan
MSIS/MSIS2	Marine Safety Information System
MSPP	Marine Safety Performance Plan
NASA	National Aeronautics and Space Administration
NPM	New Public Management
NPR	National Performance Review
NTSB	National Transportation Safety Board
O	CGHQs Operations Program Office
OIRA	Office of Research Integrity and Assurance
OLE	Other Law Enforcement
OMB	Office of Management and Budget
OPA 90	Oil Pollution Act of 1990
OPC	Organizational Performance Consultants
OAP	Operations Ashore – Prevention
P	CGHQs Prevention Program Office
PART	Program Assessment Rating Tool
PPBS	Planning Programming and Budgeting System
PQS	Professional Qualification Standards
PRA	Paperwork Reduction Act
PSC	Port State Control
PSIX	Port State Information eXchange
PTP	Prevention Through People
PTSA	Port and Tanker Safety Act
PWCS	Ports, Waterways, and Coastal Security
PWSA	Ports and Waterways Safety Act
PY	Promotion Year
QHSR	Quadrennial Homeland Security Review
QUALSHIP 21	Quality Shipping for the 21st Century
R	CGHQs Response Program Office
R&D	Research and Development
ROI	Return on Investment
SAR	Search and Rescue
SMS	Safety Management Systems

SOLAS	Safety of Life at Sea
TQM	Total Quality Management
TSA	Transportation Safety Administration
TSCA	Towing Safety Advisory Committee
TVBP	Towing Vessel Bridging Program
UNCTAD	United Nations Conference on Trade and Development
USCG	United States Coast Guard
VLCC	Very Large Crude Carrier
VTS	Vessel Traffic Services
ZBB	Zero Base Budgeting

ABSTRACT

THE DRIVE TO IMPROVE PERFORMANCE IN THE FEDERAL GOVERNMENT: A LONGITUDINAL CASE STUDY OF MANAGING FOR RESULTS

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George Mason University, 2015

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Performance-based program management systems were introduced to the federal government over the last twenty years to answer a number of management challenges. However, scholars continue to note serious shortcomings in this approach. This research examines performance management issues through a longitudinal case study of a large 'high-performing' federal agency over more than three decades. In particular, the study analyzes the effects of government-wide management initiatives on the United States Coast Guard Marine Safety program. The inquiry further investigates the association between performance management and budget decisions.

This study is especially useful for federal program administrators. It documents the significant and varied management challenges of highly complex federal programs, especially those of a regulatory nature with diverse stakeholders. The findings support the critique that the application of performance management to the federal government is

laden with overly simplistic assumptions for the multifaceted operating environment. It demonstrates many of the pitfalls and consequences of the one-size-fits-all approach in an "environment of high uncertainty." The study also illustrates that there are two diametrically contrasting approaches to performance management: (1) top-down centrally-mandated methodologies that require standard compliance across the federal government and (2) voluntary activities that organizations and programs take to improve decision-making and outcomes. It argues that it is unreasonable to manage complex government programs within an environment of high ambiguity using the former approach.

As a practical benefit for the Coast Guard, the study documents the history of the Marine Safety program management practices and challenges. This detailed account is a key to organizational learning and should assist the decision-making ability of both current and future Service leaders and program managers.

Other attributes include the capture of the unique perspectives of those who designed and implemented Marine Safety program performance management. This effort improves our understanding of the meaning for the participants and their specific context and circumstances. The process that shaped the participants' actions and their results are revealed. Unanticipated outcomes and effects were uncovered. Through illumination of the relationship between federal performance management initiatives and the Coast Guard Marine Safety program, this dissertation is a substantive contribution to the

understanding of public sector management policy.

CHAPTER 1 - INTRODUCTION

Overview of Study

> To a greater or lesser extent, virtually all presidents come into office focused on leaving a policy legacy that will stand for generations. But it often turns out that operations and management trip them up. (Shoop November 2013).
>
> Sir Michael Barber, who was the British government's chief performance officer from 2001 to 2005, said that while most politicians think the relative importance of policy and implementation is 90-to-10, in reality it's the reverse. (Clark, Timothy 2013).
>
> Brill tells the story of 'an Obama administration obsessed with health care reform policy but above the nitty-gritty of implementing it.' (Clark, Charles 2014b).
>
> Our political system has long been admired and wondered at by Americans and outsiders who marvel at its ability to govern for 225 years a remarkably dynamic, diverse society. Yet most Americans today believe that our government is failing to deliver what it promises, and they have lost confidence in its effectiveness. (Schuck 2014, p.14).

Public administration is important. As inferred in these quotes on the heels of the rollout of Healthcare.gov, successive administrations fail to make the critical connection between policy and administration or management. Why, in spite of a large literature and ongoing training in bureaucratic management practices, do administrations have serious management issues? The implementation of the Affordable Health care Act, the response to Hurricane Katrina, and well-publicized backlogs in health care appointments in the Department of Veterans Affairs are just a few examples. Sometimes, agencies get things right. Witness the Super Storm Sandy response. Is this by coincidence or by design?

Why do well-meaning federal management reforms fail to achieve meaningful results?

Over the past 60 years, successive federal government administrations introduced a series of management reforms from the private sector, including the Planning Programming and Budgeting Sys-tem (PPBS) in 1965, management by objectives (MBO) in the early 1970s, Zero Base Budgeting (ZBB) in 1977, and Total Quality Management (TQM) in the 1980's and 1990's. Each reform had its high expectations and significant resource investment. In the end, the promises of improved management were unfulfilled.

The history of performance management, also known as performance-based management, is included in Chapter 2. Briefly, its foundation is in the industrial revolution. The application of efficiency and economy to American government operations originates from civil service reform in the late 1800's and Frederick Taylor's Scientific Management (Taylor 1912). This philosophy sought to measure and increase worker efficiency and thereby factory productivity. Contemporary performance management theory can be attributed to the creation of the concept of a "balanced scorecard." The first balanced scorecard was fashioned at Analog Devices over the period of 1986-1992 (Schneiderman 2006). Robert Kaplan and David Norton are credited with introducing this approach in a series of articles in the Harvard Business Review from 1992-1996 (Kaplan and Norton 1992, 1993, 1996).

Performance management comes in various sizes and approaches. The classic approach involves a structured planning and implementation process. It starts with establishment of goals at the topmost organizational-level or at the individual program-

level. These strategic-type goals may be further translated into more short-term operational goals and objectives. Once these are defined, outcome or output measures are developed that enable assessment of results (usually quantitative) to the desired goals and objectives. Next, information or data collection processes are established. Finally, data collection takes place and the information (results) are analyzed against the goals and objectives to determine the level of accomplishment. Based on these results, program or process interventions are made to correct, as necessary, the trajectory to the goals. The process is cyclical. Goals and objectives are to be revised, measures refined, and data collection improved to achieve ever higher levels of program or process performance. This performance management theory assumes that the goals and measures can be defined without ambiguity and that data to measure progress is readily available. .

As performance management theory evolved from its origins in the private sector, it was adopted in the public sector. The Clinton Administration launched the National Performance Review (NPR) in 1993. This reinvention effort was intended to create a government that "works better and costs less." Among other initiatives, the NPR called for setting and meeting customer service standards. Concurrently, Congress significantly altered federal government management by establishing the Government Performance and Results Act of 1993 (PL 103-62) (GPRA 1993). GPRA established the basic performance planning and reporting framework. Congress determined the need for this legislation in part due to the public's lack of confidence in the institutions of American government to function effectively. The Senate Committee on Governmental Affairs believed that waste and poor performance would continue unless the behavior of federal

agencies could be altered (GPRA 1993).

The statute established a government-wide management and accountability system. In lieu of measuring activities (number of times a process action was taken), GPRA embraced the classic performance management approach and called for assessing program results or outcomes that affect the public. The belief was that a system of setting goals for program performance and measuring results would improve government effectiveness and efficiency. GPRA required agencies to develop and submit five-year strategic plans, annual performance plans and annual performance reports to Congress and the Office of Management and Budget (OMB). In 2002, the Bush Administration implemented their variation on a performance management system, the Program Assessment Rating Tool (PART). PART was intended to address the Administration's perception of GPRA shortcomings. In 2009, the Obama Administration launched the latest executive branch effort, an initiative to create a select few High Priority Performance Goals. The key elements of this Administration's approach to improving government are (1) leaders set clear, ambitious, outcome-focused goals, (2) agencies measure, analyze and communicate performance information to drive progress on their priorities, and (3) leaders frequently review progress on their priority goals (Metzenbaum 2011).

Congress, OMB and the Government Accountability Office (GAO) continue to forge ahead with evermore detailed and burdensome performance management requirements applied across the board to radically disparate programs. Citing continued failure to realize GRPA's goals over almost two decades, Congress revised the GPRA

statute through the Government Performance and Results Act Modernization Act (GPRAMA 2010). This legislation introduced 152 changes to the 1993 Act. However, it did not materially alter the underlying requirements and the assurance of eliminating waste and inefficiency by improving management and accountability. Even more recently, Representative Tom Latham, R-Iowa, unveiled the "Lean and Responsive Government Act" to require agencies to adopt steps to "set clear, measurable goals, analytically evaluate overly bureaucratic systems, and reduce Washing-ton red-tape in a sustainable manner." Changing the current law, he would link "continuous process improvement to the annual congressional budgetary requests for each federal agency" (Clarke, Charles 2014e).

Proponents of performance management systems see them as the answer to a number of agency management challenges. With the latest Congressional mandate, OMB called for immediate attention to GPRAMA as the way of improving federal government programs in a climate of waste and inefficiency. From the introduction of GPRA in 1993 through two decades, little appears to have changed; presumably waste and inefficiency still reign. The simultaneous achievement of performance manage-ment goals—improved program performance, accountability, resource allocation and public confidence—remains elusive. Recent examples highlighted in the media include wasteful conference spending by components of the General Services Administration, mismanagement of burials and records at Arlington National Cemetery, the Minerals Management Service's limited oversight contributed to the Deepwater Horizon explosion and oil spill, a government contractor's drive for quantity vice quality production of

personnel security background investigations, and the VA's reporting of altered medical appointment wait time data. On the other hand, there are examples where the performance manage-ment approach can contribute to improving federal programs. However, the time, effort and resources to do so is considerable and the pathway fraught with hazards.

Scholars and the government have produced extensive literature on reasons for performance management failures. Consistently there is a rush to assign blame and somehow find the right "fix" for the failures. This practice of short-term focus on the symptoms of performance failure, inherent in our highly-politicized, media-driven environment, does little to help legislators, policy makers and administrators understand, let alone address, the root causes. GAO's June 2013 report on GPRAMA implementation found that agencies continue to face long-standing issues with measuring performance, such as obtaining complete, timely, and accurate performance information across various programs and activities (GAO 2013b). GAO March 2014 study notes that agencies are not collecting the necessary performance data. Moreover, even where agencies are collecting performance information, GAO's periodic surveys of federal managers between 1997 and 2013 have found little improvement in managers' re-ported use of performance information to improve results (GAO 2014a). In July 2014, GAO found that, among other things, high turnover of agency priority goal leaders was one of the key contributing causes to this lack of progress (GAO 2014b). In the most recent report in this series, the GAO found that most agencies have shown little progress in using performance data. Government-wide compliance with GPRA has declined since

2007 and more than four years after the Government Performance and Results Modernization Act was enacted (GAO 2014c).

As noted above, the assumptions of this performance management theory are that the goals and measures can be defined without ambiguity and that data to measure progress is readily available. The reality of federal government operations is far different. The supposition that programs function in a stable environment and have static leadership, human capital, tasks, projects, processes, and initiatives, and unambiguous objectives and goals is erroneous. Agencies' external environment of stakeholders, politics and appropriations is often highly volatile. Likewise, there are impediments that are internal to the organization. This is analogous to navigating a ship. As the journey begins, there may-be a clear destination (goal), competent Captain and crew (leadership and workforce), good navigation equipment and charts (information systems and metrics to keep on track). However, once the ship sets sail, complexity and ambiguity strike in unexpected ways. For example, the weather turns adverse, the crew is sick and someone discovers that the fuel tanks were only filled halfway or the fuel is contaminated with water. Predictability is lost and the journey cannot go on as planned; serious adjustments must be made that may even include terminating the voyage. Similarly, the underlying key assumptions of a centrally-mandated performance management approach do not hold up. The situation is complex and uncertainty; many factors change, such as goals, resources, information, leadership, employee competency, political direction and stakeholder needs. In this volatile environment, the promises of the top down, centrally-mandated performance management approach to manage and change government pro-

grams fade away.

As described, many complex factors affect the ability of federal agencies to successfully deploy performance management systems. To best understand these factors and their impact, federal government policy makers and administrators need the evidence that can be revealed from in-depth, micro-level longitudinal analyses. This research addresses a gap in this knowledge through a longitudinal case study of an important regulatory program in a large 'high-performing' federal agency's program over the five government-wide management initiatives since the 1980's (three executive branch and two congressional). The agency is the United States Coast Guard (USCG), a component of the Department of Homeland Security (DHS). It addresses the question, "Why is it unrealistic to expect that a centrally-mandated performance management approach is the means to improve government programs?"

The study addresses the research proposition, "It is unrealistic to expect that a centrally-mandated performance management approach is the means to improve government programs." In particular, it evaluates the effects of GPRA[1] and these other initiatives on this program. The research particularly investigates the relationship between performance management and budget decisions. It illuminates salient performance management challenges inherent in the federal government: constrained resources, assumed relationship of accountability-performance, cost and availability of information, indistinct and contradictory program outcomes, and the impact of exogenous events. This dissertation makes a notable contribution to public sector management

[1] As used from this point forward, GPRA refers to the 1993 statute (GRPA) and the 2010 amendment (GPRAMA).

policy and the field of Public Administration. It is intended to be of interest to scholars and of use to practitioners.

Framework

The theory of performance management systems is that they encourage managers to focus on and achieve organizational objectives. The premise is that structured program outcomes or objectives and results measurement will enable senior administrators and others to use this information to improve their agency's performance. The federal government initiative embodied in GPRA promises simultaneous achievement of multiple performance management goals. These goals are improved program performance (efficiency and effectiveness), accountability, resource allocation and public confidence. The proffered success of the performance management approach relies on rational choice theory. In effect, performance improvement will be achieved from a straightforward analysis of data and logical actions of management to move towards the established goals. The rational choice theory falls apart, however, in a political environment of many and varied stakeholders with great complexity and instability. For example, real world issues of collective action, social norms and social structure all come into play (Scott 2000).

The literature is replete with studies, analyses and essays on the shortcomings or failures of performance management systems to deliver as advertised. This longitudinal analysis of the application of performance management to a complex program at a large "high-performing" federal agency complements the existing literature. Such a study further illuminates particular challenges and successes in adopting a private sector

performance management model in the federal government.

Based on decades of personal experience with federal government management and performance management literature review, the author hypothesizes that among many, there are three major impediments to the application of performance management theory in federal government agencies. One is the top-down Congress- and OMB-driven management accountability process, with contradictory purposes (different ideas of what the program is expected to accomplish and who can be held responsible). Second, it is extremely difficult to develop appropriate and meaningful outcome measures that can be clearly (line of sight) affected by program initiatives. Third, in practice, agencies experience an ever-shifting "change in focus" due to significant exogenous events that may be politically-driven or caused by both man-made and natural disasters.

Based on the researcher's experience, the goals of this research can be categorized into three areas: personal, practical and intellectual (Maxwell 2005). On a personal level, the author has been involved in the majority of the federal government management improvement efforts through more than four decades of federal service. The time, effort and resources that have gone into the series of management practices are immeasurable. The federal government piles on substantial regulations and requirements to ensure broad compliance. Besides seeking information on the feasibility and cost of performance management, the value of this effort must be determined. The return on investment, if any, should be quantified.

At a practical level, establishing performance goals, measuring results and using that information to make decisions has a place. However, the applications of federal

government performance management are too ambitious and laden with overly simplistic assumptions for the complex organizational environment. These assumptions include resource abundance; readily available, reliable and unambiguous information; unequivocal program outcomes; accountability drives performance; and no or limited exogenous events (relatively stable and measureable world). Illustration of the pitfalls and consequences of the one-size-fits all approach in an "environment of high uncertainty" will add to the understanding of the practical limitations of applying the performance management approach. This knowledge could further inform practitioners when mandating or designing performance results-based systems. Yet another practical benefit for the agency studied is to document the history of management practices and challenges. Although arguably never fully accomplished, providing a detailed history is key to organizational learning and would be indispensable for improving the decision-making ability of future agency leaders and managers.

At the intellectual level, there are multiple goals. These include capturing the unique perspectives of those who design and implement performance management systems. We can improve our understanding of the meaning for the participants and their specific context and circumstances. The process that shapes the participants' actions and their results can be revealed. Unanticipated outcomes and effects can be uncovered.

The United States Coast Guard has a long and proud tradition of serving the country and marine industry through its Marine Safety program. U.S. safety standards, U.S. inspections, and the U.S. licensing system have been models for the rest of the world. The Coast Guard ensures the safety of maritime transportation and commerce

through a layered, interwoven system of authorities, compliance, collaboration, enforcement and public dialogue. Marine Safety is a large, highly complex program with diverse stakeholders, substantial resources and critical performance consequences. It is one of eleven (11) statutory missions of the Service. When these are listed in order of percentage of operating expenses, Marine Safety ranks in the middle as number six (6). This mission area was funded at $580 million out of the $8.6 billion discretionary portion of the Coast Guard's Fiscal Year 2013 budget.

But why would a study of Coast Guard program management make a substantive contribution to public sector management policy? This is best answered by an observation of longtime government scholar and reform advocate Paul C. Light, professor of public policy at New York University. "Among DHS' components, the Coast Guard is one of Light's favorites. 'It's been good for two centuries. And for the past 30 years, I don't know of a more committed or innovative workforce in pursuing its mission,' he says, pointing out that Coast Guard ships were first on the Gulf Coast scene after Hurricane Katrina hit in 2005" (Clark, Charles 2014a).

This research examines performance management issues through a longitudinal qualitative case study of the Marine Safety program over the five government-wide management initiatives since the 1980's (three executive branch and two congressional). The selection of this program is most appropriate as it was cited by GAO in its GPRA implementation executive guide as one of the early (1994) successful pilot programs (GAO 1996a). The research centers on the Marine Safety program's continued GPRA implementation challenges. Furthermore, the study pays particular attention to the ever-

present theme of federal performance management that it will assist federal agencies, departments and OMB in resource allocation and Congress in the authorization and appropriation processes. This includes determining (1) what programs should be funded (Congressional authorization), (2) program funding levels and how to distribute resources across the numerous and varied departments and agencies (Congressional appropriations) and (3) how to spend resources to accomplish the often multiple missions at the department or agency level (resource allocation). The study also illustrates that there are two diametrically contrasting approaches to performance management: (1) top-down centrally-mandated methodologies that require standard compliance across the federal government and (2) voluntary activities that organizations and programs take to improve decision-making and outcomes.

Research Inquiry

There is one main research proposition, "It is unrealistic to expect that a centrally-mandated performance management approach is the means to improve government programs." In answering this inquiry, the study describes the effects of GPRA and the other centrally-mandated contemporary management initiatives on the Marine Safety program. It further explains the voluntary activities that the program took to improve decision-making and outcomes. The research reveals the challenges of applying performance management to a global-reach regulatory program within a complex and ever-changing environment. It highlights the performance-based management approaches that have worked well for Marine Safety program and delineates the inherent implementation challenges within the Coast Guard. This inquiry illuminates the salient

limitations of performance management in the federal government in general, to include unstable external and internal environments, constrained resources, no relationship of performance to accountability, cost and availability of information, indistinct and contradictory program outcomes, and the impact of exogenous events.

Methodology

This research uses qualitative methods. The study is based primarily on personal interviews and document review. Participants included some of the most senior military officers, retired and currently serving on active duty, members of the Senior Executive Service (SES), as well as more junior personnel (military and civilian) that have been or are currently involved in the Marine Safety program, performance management, strategic planning and resource management.

Having obtained permission from the Vice Commandant to conduct the study, cooperation was first sought from the Deputy Commandant for Operations (CG-DCO) whose overall responsibilities include the Marine Safety program. Other key participants included the Assistant Commandant for Prevention Policy (CG-5P), Prevention Policy Directors (CG-5PC and CG-5PS), Director of Operations Resource Management (CG-DCO-8), Emerging Policy Staff (CG-DCO-X), Chief, Office of Performance Management (CG-0954), and Assistant Commandant for Resources and Chief Financial Officer (CG-8) and Office of Planning & Performance (CG-81).

Site selection was driven by the location of the Marine Safety related organizations and units. This included USCG Headquarters (CGHQs) in Washington, DC, a major port field command (Coast Guard Sector Baltimore), and a National Center of Expertise

(Coast Guard Marine Safety Center). Selection of participants was purposeful and ensured all key and historical aspects of the Marine Safety program were reviewed. Participants included both current and past leaders who served in critical Marine Safety decision-making roles, especially those with a wide ranging Marine Safety program career path, serving over three decades of historical interest. Key maritime industry leaders (interest group representatives) were also sought to contribute. These included the American Bureau of Shipping (ABS) and the American Waterways Operators (AWO).

Information was collected from diverse sources and with varied methods over the period of the study (1980's to present). Data collection activities involved in-depth interviews of the participants. An interview guide (set of questions or areas of inquiry, Appendix E) was used. Inquiries were pertinent to the specific role of the participant. For example, Marine Safety program personnel have different expertise and perspectives from those on the planning, performance and resource staffs. The detailed history of the Marine Safety program was examined through analysis of the numerous program, budget, operations and strategic documents, legislative history, committee reports, and NPR, GPRA, PART and GPRAMA information. This included a wealth of internally and externally produced studies, analyses and evaluations. Sources were the USCG's Maritime Safety program library which included leadership speeches and letters, independent evaluations, and the Marine Safety Performance Plan. Pertinent GAO reports, Congressional records, Agency and Department strategic plans, annual performance reports and OMB evaluations, and other government sources external to the Coast Guard were examined. CGHQs, District, field unit and National Centers of

Expertise plans, evaluations and performance information were obtained.

The information collected was transformed into categories and themes. Because this research produced a large amount of data, systematic management was critical. The analytic procedures followed seven phases: (a) organizing the data; (b) immersion in the data; (c) generation categories and themes; (d) coding the data; (e) sorting in logical typologies; and (g) presenting the study (Marshall and Rossman 2006, 156). Following this initial categorization, substantive and theoretical constructs were developed. The researcher was guided by the thematic code development detailed by Richard Boyatzis (1998).

Qualitative case studies provide in-depth and vivid descriptions of the specific situation (case) that are often superior to the information yielded by other types of research. However, the applicability to the broader field, or the ability to "scale up," is often questionable. This study proposes that the Coast Guard Marine Safety program's performance management and resource allocation decision experience can inform other federal government programs, especially those of a regulatory nature, that face similar challenges. This argument is addressed through both data collection activities and complementary external research. Study participants were inquired about other performance management and budget decision experiences that they observed outside of the Marine Safety program but within the Coast Guard and in certain instances, experiences with performance management while employed by other federal agencies. Through analysis of available research (e.g. GAO's reports on government-wide GPRA implementation and Congressional hearings on other agencies' performance), this study

supports similar findings across the federal government.

Organization of the Study

Chapter 2 provides a short history of contemporary performance management theory and its application to the public sector. This provides the foundation for my research by describing the inherent challenges of these approaches. Chapter 3 presents the research context and supports my objective of illuminating particular challenges and successes in adopting a private sector performance management model in the federal government. Further, it describes the research approach and the process of analysis, and addresses potential limitations and ethical issues. Chapter 4 introduces the Coast Guard Marine Safety mission, the public program of study, as background for the findings. Chapter 5 presents the salient issues of the centrally-mandated, top-down performance management approach experienced by the Marine Safety program. Chapter 6 illustrates the Marine Safety program's voluntary activities for improving decision-making and outcomes. Finally, in Chapter 7, I provide a summary of findings and my conclusions and recommendations.

CHAPTER 2 - CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The performance management movement in the Federal government is important from a public policy perspective. The basic assumption is that performance-based management has worked well in business and can be readily applied to government. The public sector should adopt yet another "good" management practice from the private sector. In simple terms, performance management systems will encourage managers to seek achievement of organizational objectives. The articulated goals have remained consistent over the last two decades—improved program performance through greater efficiency, effectiveness, and accountability, and better resource allocation and increased public confidence. However, the intended outcomes continue to remain elusive. Given an unwavering belief in the 'failures' of government and the time and resources expended by Congress and the executive, why does this remain a problem? One reason is that performance management is imbedded in industrial-age factory-based management theory. Factory-type processes lent themselves to detailed management of many aspects of workers' performance. Achieving great performance in our contemporary people-oriented knowledge organizations, such as the federal government, requires a vastly different approach.

The Application of Contemporary Performance Management Theory

Overview

Performance management, also known as performance-based management, seeks to improve program efficiency and effectiveness while ensuring accountability for results. Through six decades federal government administrations introduced a series of performance management reforms that originated in the private sector (McMurtry 2005). Notable past initiatives include the Planning Programming and Budgeting System (PPBS) in 1965, management by objectives (MBO) in the early 1970s and Zero Base Budgeting (ZBB) in 1977, and Total Quality Management (TQM) in the 1980's and early 1990's. TQM was adopted first within the Department of Defense (DOD) and then spread across government. The Privatization Movement rose in the 1980's. Privatization advocates believed that public and private sectors are more alike. They argued that many government services can be delivered more efficiently and economically by the private sector (Moe 1987). After widespread use, these systems vanished or were greatly diminished because they did not live up to their hype (Rose 1977 and Perrin 1998). In 1993 with little reference to these often less than stellar attempts to bring private sector management concepts into the federal government, Congress passed a formal performance management statute, the Government Performance and Results Act (GPRA). About the same time as the Act's enactment, the Clinton Administration launched the National Performance Review (NPR). In 2002 the Bush Administration devised the Program Assessment Rating Tool (PART). Subsequently the legislation was updated as the Obama Administration promulgated its own performance management approach in

2009. In an effort to address what GAO determined to be serious weaknesses in the implementation of GPRA, the statute was amended in 2010 as the Government Performance and Results Act (GPRA) Modernization Act (GPRAMA). Through the enactment of GPRA, performance-results budgeting claimed a hold on government budgeting. Its grasp remains to this day.

The theory of performance management has its roots in the industrial revolution. The application of efficiency and economy to American government operations originates from civil service reform in the late 1800's. This is the "managerial approach to public administration" (Rosenbloom 1983, 442). Frederick Taylor's groundbreaking work *Scientific Management* began a movement where "scientific principles" could be applied to the management of "initiative and incentive" (Taylor 1912, 37). His theories struck a cord with those seeking to improve public management. If they could work for private business, they should also work for the government. His "one best way" created the discipline of management, offering the idea that in order for organizations to be successful, principles of management should be studied and improved. The resulting change in business philosophy influenced the perception of management in Public Administration and began a debate regarding the role of Scientific Management principles in the field.

The philosophy of Scientific Management focused heavily on ensuring efficiency and maximum productivity among workers (with a principal focus on industrial workers). A central premise of Taylor's argument was that management can distill an industrial practice into a set of rules in order to maximize efficiency. Taylor's main "principles" of Scientific Management make reference to "measuring" and "common goals," underlying

themes of the modern performance management movement (Taylor, 1911).

The exalted place of contemporary performance management theory can be attributed to creation of the concept of a "balanced scorecard." The first balanced scorecard was fashioned at Analog Devices, a mid-sized semiconductor company, over the period of 1986-1992 (Schneiderman 2006). Robert Kaplan and David Norton are credited with introducing this approach in a series of articles in the Harvard Business Review beginning with "The Balanced Scorecard - Measures That Drive Performance" in 1992 (Kaplan and Norton 1992, 1993, 1996). The authors provided private sector examples of using this measurement system, such as Apple Computers.

Budget Reform: The Managerial Approach to Government Decision-Making

The managerial, political and legal approaches to government administration, which reflect different values, provide for different and irreconcilable outcomes. Nevertheless, this has not deterred proponents of the managerial approach from seeking ways to run government like a business or make the bureaucracy less bureaucratic. Considerable political theory continues to be based on the managerial approach. Some proponents choose to ignore the different values or downplay their significance in recommended approaches. In the 1960's, scientific management was still considered by some to be a viable management method. Anthony Downs argued:

> This does not mean that no scientific measures of efficiency can ever be applied to the operations of individual bureaus. In many cases, certain ways of doing things can definitely be proved superior to others. Also, scientific analysis can be an extremely valuable aid to bureau decision-making even when the ultimate choices depend upon values or opinions. (Downs 1967, 257).

The 1950's and 1960's began an era of pursuing different business methods to

provide better government. The new approaches to battle bureaucracy had limited effectiveness. One of the first focus areas was budget reform with an economic approach to public decision-making. For example, performance budgeting, cost-benefit analysis, operations research, and system analysis methods were introduced and used applied, especially in the Department of Defense in particular. The planning- programming-budgeting (PPB) system created a fundamental change in the way budgets were to be determined and policy decisions made. There was a shift from simply justifying budgets to basing financial decisions on a detailed examination of the costs and benefits of alternative courses of action (see Schick, 1966, 212). Allen Schick notes the shift from budget justification to analysis, "…budget decisions will be influenced by explicit statements of objectives and by a formal weighing of the costs and benefits of alternatives" (Schick 1966, 212). This mechanistic view of performance budgeting, however, was soon to be challenged for numerous application shortcomings.

Yehezkel Dror, in 'Policy Analysts: A New Professional Role in Government Service,' cautions about the application of Planning Programming and Budget System (PPBS) techniques and system analysis throughout government (Dror 1967, 229-236). The economic approach to public decision-making may have unintended consequences. He argues that this approach has serious weaknesses in handling the key attributes of public policy decision-making. These include an inability to deal effectively with such issues as conflicting values, political feasibility, and lack of precise decision criteria. He calls for moving from systems analysis to more complex considerations of policy analysis.

Aaron Wildavsky, in 'Rescuing Policy Analysis from PPBS,' similarly proffers that PPBS implementation fails to consider the limited conditions under which it can be applied to policy analysis (Wildavsky 1969, 250-263). The one-size-fits-all application of PPBS is inadequate for decision-making between high-level national priorities or helpful "…in making trade-offs between closely related areas of policy such as health, education, and welfare" (Wildavsky, 255).

This management systems approach to public budgeting (program budgeting) was considerably less effective in domestic agencies. Once mandatory across the federal government and adopted by state and local governments, it fell out of favor as an effective managerial tool (Shafritz and Hyde 2012, 173). Zero-based budgeting (ZBB) came along in the 1970's. Charles Levine in Organizational Decline and Cutback Management makes the theoretical argument that ZBB is a means of making difficult political allocation choices with a declining resource base. Alternatively, he notes, "…its analytical component is likely to be expensive…and subject to the limitations and pitfalls of cost-benefit analysis, while its political component is likely to be costly in political terms…" (Levine 1978, 355). As a result zero-based budgeting died.

New Public Management: The Business Model Approach to Public Administration

Recent federal government management reforms attempt to depart from the traditional model of public administration. The early 1990's brought the new public management (NPM) as part of the reinvention movement (Shafritz and Hyde 2012, 386). According to NPM proponents, an array of private sector and business methods can be applied to government to make it work better. Governments, especially at the state and local level,

experimented with new ways of delivering services. A major work that exemplified NPM and influenced the reinvention movement in the United States was *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector* (Osborne and Gaebler 1992). Osborne and Gaebler used the term "entrepreneurial government" to describe novel ways of using resources to increase efficiency and effectiveness (Osborne and Gaebler, xix). Although stating government cannot be operated like a business, Osborne and Gaebler claimed it has benefited from private sector management theories. Their perspective established the roadmap for the Clinton Administration's effort to make federal government "…both less expensive and more efficient…" (The National Performance Review 1993, 541).

Their vision of entrepreneurial government embraces a number of different elements. It seeks to promote competition, empower citizens, focus on outcomes, use mission to drive results, define clients as customers with choices, prevent problems, earn money, decentralize authority, and employ market-based instruments. All sectors should be energized, public, private and voluntary, to solve community problems. The metaphor is "steering rather than rowing" (Osborne and Gaebler, 25-48). Other organizations deliver services to the "customer" while the government manages the process. The reinvention techniques include commercial business practices such as privatization, contracting out, innovation capital, business centers, shared savings and earnings, private investment, and performance measurement.

NPM includes varied approaches to improve the performance of the public sector (Pfiffner 2004, 445). Organizations are to substitute performance measures for rigid top-

down controls. Agencies achieve accountability by measuring outcomes versus inputs. "Thus the new public administration favors decentralized administration, delegation of discretion, contracting for goods and services, and the use of the market mechanisms of competition and customer service to improve performance (Pfiffner 2004, 446)." NPM principles applied to the federal government emerged in the National Performance Review (NPR) in 1993.

New Public Management Part 2: The National Performance Review

> Most of what successful businesses, and now government, have learned can be summed up in two principles: focus on customers, and listen to workers. Old-fashioned bureaucracies focus on hierarchy and listen for instructions from the top. Doing otherwise is a big change. (Gore 1993).

The Clinton Administration launched the National Performance Review (NPR) in March 1993 to improve government performance. This was an ambitious executive branch reorganization and management reform effort. Vice President Gore, armed with a staff of 250, primarily career civil servants, led the NPR. As noted, the initiative originates from the book *Reinventing Government,* which highlighted performance improvement achievements from local governments (Osborne and Gaebler 1992). The intention of the NPR was to transform a hierarchical and large bureaucratic government structure into one that was flexible and responsive to the public. In September 1993, the NPR issued its first report, "This is our vision of a government that works better and costs less" (Gore 1993). Together with supplemental reports in 1994, the NPR pursued 384 recommendations through more than 1200 action items. The driving principles were: (1) Cutting Red Tape, (2) Putting Customers First, (3) Empowering Employees, and (4)

Cutting Back to Basics (Gore 1993). This was the most far-reaching and systematic reform effort undertaken by the federal government. The NPR went through three phases and became the National Partnership for Reinventing Government in 1998. The Administration touted many successes (Gore 1996). The NPR created the Hammer Award, recognizing achievements under the NPR, from the infamous but misleading $436 Pentagon hammer story.

During the years of the NPR, the Government Accountability Office (then the General Accounting Office) (GAO) performed a number of reviews. In their 2000 testimony and review, GAO provided Congress a number of summative observations (GAO 2000a and 2000b). Ten selected agencies report almost 90% of their 72 NPR recommendations either fully or partially completed. The agencies noted numerous positive effects on mission accomplishment, customer service, and efficiency and effectiveness. However, GAO found that the savings claimed by the NPR could not be entirely accredited to its effort. The initiatives were not undertaken in isolation from other management reforms (GAO 2000b). GAO cited the NPR benefited from on-going reform initiatives as well as other influencing factors, such as the political environment and the concurrent GPRA enacted in 1993. Therefore, providing full credit to the NPR is not possible.

Agency personnel downsizing had unintended consequences. The decisions taken by the Clinton Administration and Congress to reduce the federal workforce by 252,000 full time equivalent (FTE) positions actually undermined the other reform efforts. Most of the downsizing was politically driven, required across the board, and not tied to actual

program improvements. The GAO found that the management positions reductions sought were scarcely achieved and in some agencies positions actually increased as a percentage of the workforce. Agencies cited loss of institutional experience and increased work backlogs. The downsizing occurred without the anticipated technological process efficiencies. The Federal Workforce Restructuring Act of 1994 did not afford agencies the time that technology improvements would take to realize personnel savings. In turn, reduced numbers of people were available for the reinvention efforts. GAO also found that the establishment of reinvention laboratories under the NPR hindered sharing achievements. Communication was lacking between the labs and other federal agencies.

The Paperwork Reduction Act of 1995 (PRA) coincided with the NPR's initiative on burden reduction; however, the GAO found that the paperwork actually increased between 1995 and 1999. Other shortcomings are cited that will require long-term commitment for improvement. Scholars appearing in a May 2000 hearing before a subcommittee of the Senate Committee on Governmental Affairs assessed the overall NPR effort and gave it a less than stellar report card:

> The major focus of the subcommittee's hearing was on "reinventing government," with particular emphasis on the accomplishments of the NPR. Among those appearing before the subcommittee, Donald F. Kettl, a University of Wisconsin professor who had conducted extensive research on the NPR reforms, gave the effort an overall grade of "B," saying there was "room for improvement." Brookings Institution scholar Paul C. Light added that the NPR program had created "unnecessary politicization of government reform." Two other analysts were also critical of the NPR effort. (Relyea 2003).

H. George Frederickson, a noted government scholar, compares the reinventing government effort with the new public administration in six dimensions. He concluded, "The results of the reinventing government movement, so far, are short-run increases in

efficiency purchased at likely long-range cost in administrative capacity and social equity" (Frederickson 1996, 263)

However, other scholars cited the unleashed creativity and other measures of process improvements, such as the number of agencies setting service standards, the number of reinvention labs established, and success stories in service delivery (Pfiffner 1998). Surveys of the public over the time of the NPR indicated perceptions of higher trust and improved customer service from the federal government (NPR 2011).

Thus the NPR has not been an undisputed success nor has it been an unalloyed failure. In one sense the NPR was bound to fail, but only because its scope was so sweeping and ambitious…In its promise to decrease the number of government workers it certainly succeeded, but whether that meant the government was reduced in size (including contract workers) or that it was working more efficiently, was impossible to say (Pfiffner 1998).

Enter GPRA: Legislating Performance Management

Building on private sector performance management theory, Congress determined the need for this legislation in part due to the public's lack of confidence in the institutions of American government to function effectively. The Senate Committee on Governmental Affairs believed that waste and poor performance would continue unless the behavior of federal agencies could be altered (GPRA 1993). In lieu of measuring activities, GPRA called for improved management and accountability by focusing on results or outcomes that impact the public.

The Clinton Administration began implementing GPRA by requiring departments

and agencies to submit comprehensive performance plans (Bunton, Byrd, and Nivens 1997). The Bush Administration developed the President's Management Agenda (PMA) with the Program Assessment Rating Tool (PART) (OMB 2002; Whittaker 2003). PART tried to assess the effectiveness of more than 1,000 government programs. Next, the Obama Administration developed its own program assessment initiative to replace PART (OMB 2009), with a focus on a select few High Priority Performance Goals. PART was considered by the Obama Administration to be an overly ambitious and bureaucratic initiative that was not sufficiently focused to enable meaningful results. The concept of the new initiative was that a considerably reduced set of top goals, determined by individual agencies along with a set of cross-cutting or government-wide goals, would better enable emphasis by agencies' leadership. Agency goals and goal leaders were identified, quarterly progress reviews were to be conducted and goal status was posted on a public website. While in the early prototype phase, Congress embedded this initiative into the 2010 GPRA Modernization Act of 2010.

Each of these initiatives built on the previous administration's effort. These endeavors required individual agencies and programs to extensively evaluate and report performance and results. They attempt to define and measure bottom line outcomes: "Is the program achieving what it is intended or required to do?" The answer to this question leads to the next logical question: "If not, how do I improve performance?"

Launched with bi-partisan fanfare and high expectations, GPRA fell well short of expectations. Early on the Government Accountability Office (GAO) noted major challenges facing the agencies in implementing GPRA (GAO 1995). A series of GAO

reports since 1997 documented continued shortcomings. The GAO reported that while significantly more federal managers reported having performance measures for their programs, use of performance information in management decision making did not change significantly (GAO 2008). The percentage of managers who reported using performance measurement information to a "great" or "very great" extent remained between 50 and 60 percent; use actually declined for most management tasks.

In an effort to address what GAO determined to be serious weaknesses in the implementation of GPRA, the statute was amended in 2010 as the Government Performance and Results Act (GPRA) Modernization Act (GPRAMA). Again the goal of the legislation was to "…promote greater efficiency, effectiveness, and accountability in federal spending…" and to "…improve congressional decision making by providing objective information on the relative efficiency and effectiveness of federal programs and spending" (U.S. Senate 2010).

In the launch of GPRAMA, according to then Office of Management and Budget's (OMB) Director Jacob Lew and Chief Performance Officer Jeffrey Zients, chief operating officers must "redouble their efforts to cut waste" (OMB 2011). Citing the erosion of the American public's confidence in government institutions in a climate of waste and inefficiency, OMB called for immediate attention to the Act to improve federal government programs (OMB 2011d). Senator Mark Warner, D-Va., a key author of GPRAMA, stressed holding senior officials "accountable" (Clarke 2011). Jonathan D. Breul, executive director of the IBM Center for the Business of Government stated that this effort "…will help reduce duplication and enhance transparency…" "The idea that

improved performance and cost cutting can work together by applying proven commercial best practices," Breul added, "is an important and positive step toward more effective and efficient government" (Clarke 2011).

Representative Henry Cuellar, D-Texas, an author of GPRAMA and when newly assigned to the House Appropriations Committee, declared a personal agenda to improve efficiency and responsiveness. He stated that GPRAMA "…will give Congress better use of its 'power of the purse' to identify and eliminate wasteful spending, while transitioning into a more results-orientated government…Congress can…make smarter, leaner budgetary decisions." Cuellar indicated that his "over-arching goal on the committee is to create an efficient, effective, and accountable government to ensure that taxpayer dollars are spent wisely and rid our government of ill-informed spending habits" (Clark 2013). However, more recently, Senator Tom Coburn, R-OK, ranking member of the Homeland Security and Governmental Affairs Committee, started at a Senate hearing with OMB: "GPRA is not working -- we don't even know what a program is, so we don't have accuracy" (Clarke 2014c). Meanwhile, in May 2014 it was revealed that the VA clinics were severely altering medical appointment wait time data (Katz 2014). This deception enable performance awards within the context of completely unrealistic performance goals. As a result, the underlying problems of the VA health care system, a system stressed well beyond its capacity, were concealed.

Scholarly Work

Numerous scholars countered the euphoria of GPRA by studying the intersection of performance management and the operating environment of the public sector. They ar-

gued that performance management at the federal level makes numerous simplifying assumptions and fails to address the issues of a one-size-fits-all management scheme. This was recently on display at the aforementioned Senate hearing. GAO and others professed the need to establish a single definition of a program, something that remains elusive given the complexity and scope of federal government operations. According to Beryl Radin, there are four principal assumptions of the performance movement that are challengeable. These suppositions involve the context of decision-making, views about the task of government, the relationship between technical and political perspectives, and issues related to information (Radin 2006).

Radin also offered a "contradiction argument" to explain why federal government management improvement efforts fail to take hold and then disappear (Radin 2012). She concluded that these efforts must work in the context of three "contradictions" inherent in the U.S. system of governance. These contradictions are: (1) structural dimensions (separate and shared powers at the federal level; federal versus State roles); (2) predominate values and approaches (conflict between pessimism and optimism about the role of government and conflict between values of efficiency, effectiveness and equity); and (3) features of the public sector (politics versus administration and government-wide verses program/policy-specific approaches) (Radin 2012, 165).

Institutional culture and learning also play important roles in the conceptual framework of performance management. "…top-down performance regimes that centrally define the standards for determining success and tie the results of these assessments to budgets or use them to disgrace agencies or generate political currency, are much less

compatible with program learning" (Posner and Mahler 2009, p.8). Posner and Mahler argue that externally-driven accountability creates an environment that (1) limits public investigation of performance problems and their solutions; (2) manipulates metrics to focus on reporting end results rather than program attributes, and (3) shifts the process from investigating and correcting shortcomings to a compliance burden. Scholars also argue that organization culture in any change management effort occupies a central position as both a potential impediment as well as a facilitator to performance management (Schmidle 2011).

GPRAMA was launched with varied expectations. A recent Brookings Institution study by Donald Moynihan and Stephane Lavertu illustrated potential challenges in implementing GPRAMA (Moynihan and Lavertu 2012). Their analysis of the performance management reforms of 1993 and 2002 supported the assertion of policymakers that these reforms did not fulfill their objectives. "Policymakers continue to hold faith in the promise that performance management reforms will meaningfully improve public sector performance," the scholars said. "But it remains to be seen whether the Modernization Act succeeds where its predecessors fell short" (Pavgi 2012).

Management and Organizational Theory

Performance management theory based on the classical organizational structure and management paradigm, does not deal effectively with "loose coupling" and "wicked problems" that are prevalent in federal government programs. Performance management advocates presume that government programs are operated with top-down management systems. This requires hierarchical organizational structures with tightly coupled

processes and tame problems. In other words, processes are rigidly controlled and therefore highly responsive to management. A clear causal relationship exists between action and outcomes.

Luther Gulick was a noted scholar and practitioner of early American public administration. Confident in the ability to devise a science of administration applicable to public administration, he sought principles applicable to both government and non-government organizations. Gulick claimed that every large, complex bureaucracy, including governments, could be managed by organizing the work of the chief executive. He developed a universal management model and argued that it was applicable to both private and public sectors (Radin 2006, 36).

Contemporary management and organizational theory continue to rely on an industrial-era mindset. The American "principles" of management, spawned in the factory-era of the 19th and early 20th centuries, have dominated U.S. business organizations and operations. As the industrial revolution took hold in the U.S., the quest was on for practices that could produce standardized goods at the least time and lowest cost. Scholarship, education, training and practice followed. The effort embraced the application of natural science and scientific management to production. "If management textbooks are any sign of how to run a contemporary organization…the classic function of control…appears to be alive and well" (Raelin 2011).

However, industrial-era work and today's knowledge work are fundamentally different. More recently, the effectiveness of bureaucratic managerial control is being challenged in the face of academia and the management consulting industry that cling to

principles derived from organizing around repetitive, assembly line-type factory work (Addleson 2011 and Raelin 2011). These top down management principles and practices were understood to be good for business and by extension good for government. However, they have become problematic for businesses too. Performance management systems have not evolved to remain relevant for either government or business (Addleson 2011, Bogsnes 2012).

Forty years ago Horst Rittel and Melvin Webber employed the term "wicked problems" in their seminal article *Dilemmas in a General Theory of Planning* (Rittel and Webber 1973). They noted challenges in defining outcomes for Planning Programming and Budget Systems (PPBS). Construction of systems of social indicators was "terribly difficult, if not impossible, to make either of these systems operational" (Rittel and Webber 1973, 157). The scholars cited the historical use of scientific management principles to address efficiency as the benchmark for achievement. "During the industrial age, the idea of planning, in common with the idea of professionalism, was dominated by the pervasive idea of efficiency…and it still pervades modern government and industry" (Rittel and Webber 1973, 158). However, they noted that equity in public policy is emerging as a more important factor than the simplistic factory-type efficiency measures.

Rittel and Webber argued that positivistically-inspired rational planning fails to address multifaceted social problems with complex causal networks. Trying to fix the root causes too often results in unintended consequences when "wicked" societal problems are treated similarly to fundamentally different science and engineering "tame" problems. "Wicked problems, in contrast, have neither of these clarifying traits; and they

include nearly all public policy issues…" (Rittel and Webber 1973, 160). A wicked problem is a social or cultural problem that is difficult or impossible to solve for as many as four reasons: incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with other problems. Societal problems are imprecise and rely on political decision-making. Jeff Conklin asserts that wicked problems and social complexity strongly affect the ability to solve many of today's problems. "Failing to recognize the 'wicked dynamics' in problems, we persist in applying inappropriate methods and tools to them" (Conklin 2006, 3).

Karl Weick provided a theoretical and practical analysis of loosely coupled systems in organizations (Weick 1976). In *Educational Organizations as Loosely Coupled Systems*, he describes a number of contrasting observations about organizations. Contrasting loosely coupled systems with the traditional or rational model of organizations, he identifies unique functions and difficult problems for practitioners and scholars in the former. The classic assumption is that an organization operates solely through the formal structures, goals, and activities of an organization (the "organizational chart" view). However, there are other aspects of organizations that are informal and untidy, but often are productive through flexibility and self-organization. Weick observed that loosely coupled systems (or parts of organizations) often exhibit the following characteristics: different means produce the same result, lack of overall coordination, absence of procedures, and highly connected networks with slow or limited influence. Decentralization and devolution of functions in business and government have created

loosely coupled systems.

Distinguishing between factory-type management and knowledge work, Mark Addleson argued that knowledge workers face wicked problems (Addleson 2011). He concluded that knowledge work requires a completely different set of practices to create collaboration, commitment and shared responsibility. Meanwhile, contemporary business management practices focuses on efficiency and the bottom line. Hierarchical industrial-age systems in the federal government often exist only on organizational line diagrams. Management systems are required by statute and regulation to adhere to this "chain of command." However, the real work is accomplished through informal systems that are loosely structured. "With knowledge-work, the doings you are supposed to measure are largely invisible and unquantifiable" (Addleson 2011, 205-206).

Addleson distinguished two quite different perspectives of work in organizations. These are the "view from the top" and the "view from practice" (Addleson 2011, 6-7). The view from the top sees the task of organizing work as using "traditional" management practices. This is the paradigm of standards, measures, plans, goals, objectives, compliance, data, timelines, etc. These are the "tools" of performance management. Addleson argued that this world view is aligned with 19th and early 20th century factory-work. Today's organizations, especially the public sector, no longer fit this model. Factory-work has been replaced in most every instance with knowledge work. Knowledge work is "organizing." The work of organizing can only be understood by the view from practice. Relationships, culture, attitudes, values, commitment, individual accountability, openness, and communication drive team performance. None of these critical attributes to getting things

done are addressed in performance management.

Management may understand that the traditional top-down organization is being replaced by networks. In seeking to describe knowledge work, management might define new organizational charts in the form of "networks diagrams." These "maps" will likely fail to adequate capture the complexity and ever-changing personal relationships developed over the course of the project or program. Hence, today's knowledge organizations cannot be managed in any traditional sense, especially eluding the application of performance management principles. Addleson argued that the failure to see how work is actually done helps to explain why the standard, compliance oriented approach to improving performance is problematic (Addleson 2011).

Bjarte Bogsnes, Vice President of Performance Management Development at Statoil declared, "Traditional performance management has run its course. It does not make us the agile and human organizations we need to be" (Bogsnes 2012). He called for a dramatic change in the management approach for contemporary people-oriented knowledge organizations. Top-down control mechanisms must be abandoned for new ways to delineate performance and establish targets and goals, allocate resources, and evaluate and reward performance.

Related Research

Public sector performance management research including the challenges of GPRA and PART implementation can generally be categorized into one of two approaches. One involves institutional analysis and review of selected research findings. The second is quantitative analysis of either PART data or surveys of public managers. Noted scholars

of the first approach include Matthew Dull (2006), Melvin Dubnick (2005), Daniel Bromberg (2009), Philip Joyce (2011), Robert Kravehuk and Ronald Schack (1996), Donald Moynihan and others (2011, 2012), Paul Posner and Julianne Mahler (2009), Burt Perrin (1998), Beryl Radin (1998, 2000, 2003), Timothy Schmidle (2011) and Joseph Wholey (1999). Much of this literature argues that the objectives of performance management, while admirable, are infrequently achievable due to numerous factors inherent in the public sector, especially the United States federal government. These include a one-size-fits-all approach, simplifying assumptions, unproven theories, disregard for the complexity of government including political and constitutional issues, fragmented decision-making, multiple conflicting goals, and contextual issues.

To support these arguments, scholars often used representative vignettes, frequently drawn from other research. Using a different qualitative approach, Carmine Bianchi and William Rivenbark performed a comparative case study analysis of Sicily and North Carolina governments (Bianchi and Rivenbark 2012). This method enabled them to investigate the institutional issues that created opportunities or provided challenges to public performance management systems. As a result, the researchers made specific recommendations to improve performance management techniques in regional governments. These included dealing with the complex organizational structure, the important role of leadership, and the need for standard financial management practices. Recently, the Government Finance Officers Association (GFOA) researched the performance measurement practices of larger cities and counties in the United States and Canada that are considered to have successful performance measurement systems (GFOA 2013). Their

goal was to investigate the perceived value and key experiences that have led to their apparent results. Respondents reported that the most important benefits of performance measurement included improved decision-making, effectiveness, transparency to the public, and productivity. However, a majority did not feel that performance measures were effective for budgeting. GFOA's interviews revealed that operating department managers do not often use measures extensively in the budget process. Rather, they rely on standard budget planning and execution processes.

The second approach is represented by the following scholars with their specific area of investigation: Thomas Greitens and M. Ernita Joaquin (PART) (2010), Yilin Hou, Donald Moynihan, and Patricia Wallace (management capacity) (2003), Tomas Koontz and Craig Thomas (PART) (2012), Edward Long and Aimee Franklin (GPRA) (2004), Donald Moynihan and Sanjay Pandey (local government use of performance information) (2010), and Barbara Patrick and P. Edward French (No Child Left Behind Act) (2011). These studies focus on specific rather than broad issues of performance management systems. For example, Koontz and Thomas investigated inconsistent use of performance measures with PART that have a substantial impact on public-private partnerships. These quantitative analyses provide limited insight for practitioners who are faced with design and implementation of performance management at their agencies.

The most extensive source of federal performance management system analyses comes from the government itself. This research is often cited or used by scholars since it is a ready source of pertinent information. These studies primarily originate from the Government Accountability Office (GAO) with some from the Congressional Research

Service (CRS). GAO is required by the statute to report to Congress on the implementation of GPRA. As a result, GAO has produced a substantial body of work assessing the progress of federal agencies. For example, see *Strategies for Building a Results-Oriented and Collaborative Culture in the Federal Government,* GAO-09-1011T (GAO 2009). The enormous investment of resources resulted in hundreds of reports and Congressional testimonies on the progress of strategic planning and performance measurement in numerous agencies. GAO's focus has been on illuminating both the difficulties and prospects for achieving the key goals of the legislation. They primarily evaluate the efforts of agencies against a set of "key management practices" or best practices that would contribute to the use of performance information.

GAO also performs a periodic survey of federal mangers on their use of performance information (every 3 to 4 years since 1997). There are a number of shortcomings to their approach. As an arm of Congress, GAO is one of the legislative branch's means to seek accountability of the executive branch. As a result, agencies will attempt to portray themselves in the best possible light. They know that they must be seen to be "complying at any cost." GAO never questions the legislation requirements and performance management theory, but rather how agencies apparently use or do not use the "key management practices." GAO identified these practices from their interviews with experts and agency officials as well as review of related literature and agency documents (GAO 2005). The key practices, such as "demonstrating management commitment," are the 'classic' assumptions of performance management systems. Although agency case studies highlight implementation successes and failures, GAO assumes an inalienable posi-

tion that GPRA fits the federal government. Hence, the challenges issued by many scholars are never investigated. As a result, GAO's work is of limited value to both scholars and practitioners. The nuances of this complex issue are not addressed in their analyses.

There are two qualitative studies that are especially pertinent to this research. These reviewed the implementation of top-down management approaches that predated contemporary performance management. In each case the scholars' longitudinal institutional analysis revealed unintended consequences that had been previously unrecognized. One studied the institutional factors at the National Aeronautics and Space Administration (NASA) that the authors argued contributed to the space shuttle Challenger disaster. Scholars Barbara Romzek and Melvin Dubnick believed that the Commission on the Space Shuttle Challenger Accident (the Rogers Commission) did not fully investigate all of the contributing factors (Romzek and Dubnick 1987). Through an analysis of the exogenous factors and the institutional response over a period of two decades (70's and 80's), they concluded that the dramatic change in accountability systems established the environment for the disaster.

With fewer resources and the need to find efficiencies, NASA adopted a mixture of political and bureaucratic methods, replacing professional accountability that had served the agency well for its first 30 years. Managerial decision-making was substituted for engineering and expert judgment. The drive for efficiency through decentralization and field center specialization created perverse decision-making incentives. The political and bureaucratic accountability mechanisms were inconsistent with the highly complex engi-

neering systems designed, built and managed by NASA. Although envisioned to decrease the probability of failure, it had the opposite effect. Technical issues that could be potential sources of malfunctions were increasingly disregarded.

The other study is Peter Westwick's analysis of two management theories imposed on the Jet Propulsion Laboratory (JPL) during the 1990's. Total Quality Management (TQM) and reengineering were overwhelmingly accepted by the private sector from the 80's through the 90's. The Laboratory's leadership believed adoption of these techniques was the path to handle budget reductions and simultaneously increase workforce productivity. Daniel Goldin, the new Administrator of NASA in 1992, made faster-better-cheaper (FBC) a top priority (Westwick 2007).

Westwick found that the fundamental differences between the JPL's research and development (R&D) mission and private sector manufacturing processes were ignored. First, maximizing efficiency was substituted for achieving and maintaining technical excellence. Second, the management practices clashed headlong with a culture of advanced R&D and technical excellence. After bouts with TQM and reengineering, JPL experienced two major Mars spacecraft failures. An internal assessment did not find that these management efforts, intended to implement FBC, directly caused these mishaps. "But reengineering certainly diverted time and effort from the task at hand, forcing managers to learn new modes, exacerbating the bureaucracy and alienating talented staff" (Westwick 2007, 84). Both of these studies highlight the insights achievable through an in-depth, micro-level historical qualitative analysis of the application of externally-imposed management theories to a complex program.

My literature review uncovered a number of scholarly works especially relevant to my research. Donald Moynihan noted that although performance management is becoming a key component of governance, there is little understanding of the effects. He argued that performance initiatives react with a large number of diverse variables to provide a multitude of short-term and long-term consequences. These connections and impacts are not well understood. Moynihan defines first-order and second-order effects. Research has illuminated a limited number of the first. Knowledge of the second-order effects, however, is almost entirely lacking. "While modeling first-order effects is perhaps more tractable, examining second-order effects is the more important long-term research challenge and the ultimate indicator of how results-based reforms have affected governance…The study of performance management is considered by many to be the study of a relatively narrow and technocratic topic. The opposite is, or should be, true. The study of performance management should be central to the study of governance" (Moynihan 2009, p.601).

Joseph Wholey argued that there was minimal research "…on the feasibility, cost and value of performance-based management and on factors such as political support, management support, and analytical support that affect the feasibility, cost, and value of performance-based management" (Wholey 1999, p.304). He called for case studies in specific agencies and under varying circumstances that would help to further expand theory, advance practice and inform training.

Donald Moynihan and Noel Landuyt investigated public organizational learning through a 2004 survey of Texas State agencies (Moynihan and Landuyt 2009). In evalu-

ating their "structural-cultural" model of organizational learning, they reported a positive influence of the independent variable "performance information." As a corollary, the scholars noted the need for research to explore the question: Does learning make a difference in public sector performance?

Scholar Beryl Radin is one of the most prolific critics of performance management application to the federal government, especially the failures of GPRA. Her research is primarily based on participant-observation in numerous federal agencies. Radin provided interesting insights into the performance management struggles. For example, in one of her seminal works, *Challenging the Performance Movement: Accountability, Complexity and Democratic Values* (2006), Radin used eight vignettes to expose the major issues that create problems in the contemporary application of performance management to the federal government. In *Federal Management Reform in a World of Contradictions* (2012), Radin drew her analysis from a diverse set of reforms that she studied over a number of years. In particular, her analysis of both GPRA and PART illustrated the disregard of the three contradictions inherent in the U.S. system of governance. At the end of this work, she proposed twelve questions that academics and practitioners should ask when attempting to design and implement management reform. The research on which this dissertation is based offers insights into how these questions might be addressed.

Scholarship has resulted in a vast body of knowledge about performance management in theory and practice. However, in-depth longitudinal analysis of a federal agency's efforts to meet externally-imposed performance management systems is limited. One such effort is a recent doctoral dissertation by Steven Putansu (Putansu 2012). His

work is a first in addressing this relationship and illustrating performance management results, both successes and failures, as well as defining the value of performance management systems at the federal level. Putansu examines the relationship between performance management and government decision-making by way of a comparative analysis of two case studies of programs (one institutional grant and the other student loan) within the Department of Education. His research focuses on how performance information, produced in conjunction with performance management systems, affected decision-making over the course of GPRA. Putansu notes that performance management has the potential to improve government programs, however the results of his study illustrates that politics is a key part of the decision-making process and affects the ultimate use of performance information.

A more recent study details a complex federally-managed, state administered program that implemented a successful performance management scheme that began in 1994 (Doar, Smith and Dinan 2013). The Child Support Enforcement Program (CSE) performance management effort began as one of the first of two GPRA pilots for the Department of Health and Human Services. The head of the federal program established the goal to "create a consensus-based system of measuring performance, as well as an identified standard or level of performance which would be used to reward above average performance and identify poor performance" (Doar, Smith and Dinan 2013, 5). The measurement and management scheme was developed collaboratively with a wide array of stakeholders over an extended period of time; the effort began in 1994 but initial implementation did not occur until 2000.

Five key metrics were established. The performance of state governments on all five measures have improved from 2002 through 2012. The authors note that the metrics chosen could create counterproductive actions (they question if the incentive structure was optimally linked to performance) and deemphasize other important program goals (over-emphasize collections while omitting additional essential features of the child support program). The importance of data integrity is highlighted, along with the need to make frequent reviews and assessments to ensure that the metrics remain valid and appropriate. However, the authors resoundingly conclude that this is an exceptional example of an effectively designed and operated federal-state-local government performance management system. Furthermore, the lessons learned can be adopted by many other similarly complex government programs. "In sum, the CSE example shows that by clarifying what a program is currently achieving as well as what it should aim to achieve, a well-designed and well-implemented federal performance management system can serve as a highly valuable tool in promoting effective government at the state and local levels. The open question is why it has not yet been applied more broadly" (Doar, Smith and Dinan 2013, 22).

In response to the authors' suggestion for wider application of this as an "exemplar," the program they review differs substantially from many other types across the federal government, especially a regulatory program that is the subject of this research. CSE measures outcomes of a third-party (State) implemented federal program and uses monetary incentives. Although CSE is not a simple program, it more closely resembles a set of processes that have readily definable outcomes. As noted, the challenge is selecting the

"right" outcomes, as what gets measures gets emphasized at the expense of other important program aspects. This is considerably more difficult with other program types. Also, CSE is a relatively stable environment. This is not true of the rapid growth and increased complexity of the global maritime environment. These points are illustrated in this research.

CHAPTER 3 - RESEARCH DESIGN, METHODOLOGY AND ANALYSIS

The literature is replete with studies, analyses and essays on the shortcomings or failures of performance management systems to deliver as advertised. This longitudinal analysis of the application of performance management to a complex program at a large "high-performing" federal agency will complement the existing literature. Such a study can further illuminate particular challenges and successes in adopting a private sector performance management model in the federal government. This important contribution to the fields of Public Administration and Public Policy would be of interest to scholars and of use to practitioners. The following sections provide context for the research goals and question.

Areas of Research

As noted, the theory is that performance management systems will encourage managers to set specific, clear organizational objectives and then work hard and conscientiously to achieve them. The premise is that structured program goals or objectives and results measurement will enable employees to use this information to improve their agency's performance. The federal government initiative embodied in GPRA promises simultaneous achievement of multiple performance [management] goals. These goals are improved program performance (efficiency and effectiveness), accountability, resource allocation and public confidence. While this supposition

continues to be espoused from both inside and outside the government, noted scholars find serious flaws in the application of this theory to the public sector.

Based on decades of personal experience with federal government management and performance management literature review, I argue that there are three major impediments to the application of performance management theory in federal government agencies. One is the top-down Congress and OMB driven management accountability process with contradictory purposes. The budget and accountability "hammers" create fear and do not provide for an environment of innovation—experimentation, failure and learning—and hence improvement. It creates perverse or meaningless measures that enable program managers and their agencies to "game" the system and otherwise avoid unwanted program and budget scrutiny. Departments may require reporting only those measures that they consider to be "politically correct" (e.g. measures likely satisfy those overseeing the performance management program) and therefore provide limited insight for the public into program performance. Moreover, the hierarchal management model is based on the theory that increased accountability will naturally improve performance. The basic concept that accountability and performance are symbiotically related has been challenged. For example, Melvin Dubnick found no link between the two (Dubnick 2005). Others have observed that this approach actually inhibits learning (Posner and Mahler 2009). Some would argue that the agencies do not know what to do. GAO has also noted that agencies lack the competencies to do performance management and program evaluations (GAO 2014c). The reality is that much desired effort to build these skills goes unfunded within ever-limited budgets and growing responsibilities across

government.

Second, it is extremely difficult to develop appropriate and meaningful outcome measures that can be clearly (line of sight) affected by program initiatives. This is especially true with complex programs with ultimate outcomes such as prevention of accidents or deaths. Agencies often return to measuring activities that are readily and inexpensively captured. Consequently, critical decision-making information is missing if the important program metrics are not included. Suboptimal or incorrect decisions are likely outcomes or results are based on "teaching to the test." Donald Moynihan provides a perspective of how information is often used inappropriately in performance regimes. These are his four P's: "purposeful, passive, political and perverse" for use of performance information (Moynihan 2009, 592). According to Moynihan, information used "purposefully" is the goal of performance management theory; data will be used to improve program performance. Improved efficiency and effectiveness, decision-making and resource allocation will be realized. "Passive" information is data collected only to the minimum extent necessary to meet the external requirements; this information is not used. "Political" information is data collected by the organization to further its agenda in a political environment; for example, an agency using information to demonstrate that it achieved program goals of interest to members of its committee of jurisdiction. According to Moynihan, "perverse" information use occurs when the agency gives in to external accountability pressures. The agency may go on to "improve" various aspects of performance at the expense of more important program goals. He includes malicious "gaming of program indicators" in this category (Moynihan 2009, 593).

Beryl Radin notes that agencies vastly underestimate the difficulty of obtaining meaningful performance management metrics (Radin 2006). The performance movement advocates within the federal government, including OMB and GAO, assumes the necessary information is available, neutral, and understandable. A central theme of this results-based management theory is that cause and effect relationships can always be clearly established. In reality performance information is often unavailable and costly. Frequently, the management information systems do not capture the right metrics; building new data systems are a time and budget expense that is out of reach for most agencies. Moreover, information collection is complicated by multiple stakeholders prevalent in many federal programs, each with substantially different perspectives on what is important and therefore should be measured. The agencies that are charged with making this work face the real-world issues. There are serious quality issues with collecting and reporting even what would be consider "routine" program data. The reality is there are few, if any, easy paths to quality information in large, complex federal programs.

Then there is the problem of performance goal metrics and management. To avoid undue external scrutiny, should the agency establish numerical goals that are so easily achieved that they are meaningless? Or do you set an unrealistic outcome to "sell" the need for an increased budget? The latter is evidenced in recent Veterans Affairs Department efforts to "hide" the backlog and adjudication time for disability claims (Klimas 2014).

Third, agencies experience an ever-shifting "change in focus" due to both internal

and exogenous events. The former may be politically-driven and the latter caused by both man-made and natural disasters. Due to the nature of public missions and programs, these events often require resource reallocation in an environment where resources are scarce. There are few instances where agencies can substantially change program funding without significant long-term consequences. However, they are often driven to do so. The United States Coast Guard provides many examples, such as the Exxon Valdez oil tanker oil spill in 1989. The agency lost its focus on commercial vessel safety by moving funding and personnel from the marine safety mission to drug interdiction. While the Service achieved notable results in preventing maritime drug shipments, the degradation of marine safety was considered one of the contributing factors to the worst oil spill disaster in U.S. history at the time.

Private companies can determine their lines of business based on its profitability projections. This is not an option for public sector agencies as their lines of business are established by statute. They cannot choose what they would like to do. Invariably, the decision facing public organizations is how to allocate scare resources given current external events and numerous stakeholders with diverse perspectives, values and goals. What is deemed to be most important at the time and how can the agency balance all of the competing needs? What will be downsized to fund the most immediate needs? An excellent contemporary example is the impact of indiscriminate budget reductions created by "sequestration." An environment of scarcity requires repeated resource reallocation from one priority to the next. In the long-term, there are unintended and unpredictable consequences of this type of decision-making. A multi-mission agency, such as the U.S.

Coast Guard, exemplifies this conundrum. "…the important point about this multiplication of missions (and constraints) is that it really complicates and protracts agencies' decision processes, increases the likelihood of interagency conflict and policy coherence, and injects many more hard-to-resolve policy tradeoffs into policy choices" (Schuck 2014, p.92.). These internal agency complicating issues ultimately affect compliance-driven performance management approaches.

As previously noted, the Marine Safety program is a classic example of the third issue. It was deemphasized during the 1980's with resources shifted to drug interdiction. In 1989 the Exxon Valdez oil tanker ran aground on Bligh Reef in Prince William Sound near Valdez, Alaska. The Service spent the next three years answering to Congress and closing the Marine Safety program shortfalls. Fast forward to the 2000's, post 9/11, and again the Agency shifted focus, this time to Maritime Security. Meanwhile, the Service allowed the safety mission to deteriorate. After Congress threatened to move the Marine Safety program out of the Agency in 2007, the Coast Guard once again set about closing the program shortfalls. Industry stakeholders, such as ship owners, who experienced ever-increasing inattention to their imminent needs, played a major role in this potential change to the Agency's mission portfolio.

Research Goals

The goals of this research are threefold: personal, practical and intellectual (Maxwell 2005). On a personal level, the author has been involved in the majority of the federal government management improvement efforts through more than four decades of federal service. The time, effort and resources that have gone into the series of manage-

ment practices are immeasurable. The federal government piles on substantial regulations and requirements to ensure broad compliance. Besides seeking information on the feasibility and cost of performance management, the value of this effort must be determined. The return on investment, if any, should be assessed.

At the practical level, setting performance goals and measuring results has a place. However, the applications of federal government performance management are too ambitious and laden with overly simplistic assumptions for the complex organizational environment. These assumptions include resource abundance; readily available, reliable and unambiguous information; unequivocal program outcomes; accountability drives performance; and no or limited exogenous events (Radin 2006, 2012 and Moynihan 2009, 2011, 2012).

Illustrating the pitfalls and consequences of one-size-fits all approach in an "environment of high uncertainty" will add to the body of knowledge about performance management. This knowledge could further inform practitioners when mandating or designing performance management systems. Yet another practical benefit for the agency studied is to document the history of management practices and challenges. Although rarely accomplished due to resource constraints and higher priority tasks, providing a detailed history is key to organizational learning and would be indispensable for improving the decision-making ability of future agency leaders and managers.

At the intellectual level, there are multiple goals associated with assessing approaches to performance management. These include capturing the unique perspectives of those who design and implement performance management systems. We can improve

our understanding of the meaning for the participants and their specific context and circumstances. The process that shapes the participants' actions and their results can be revealed. Unanticipated outcomes and effects can be uncovered.

Research Inquiry

Proponents of performance-based management see this approach and its implementation as the answer to a number of agency management challenges. This research examines performance management issues through a longitudinal case study of a large 'high-performing' federal agency over the five government-wide management initiatives since the 1980's (three executive branch and two congressional). In particular, it studies the effects of GPRA and these other centrally-mandated initiatives on the United States Coast Guard's Marine Safety program.

A major theme of the federal performance management system is that it will assist federal agencies, departments and the Office of Management and Budget (OMB) in resource allocation and Congress in the authorization and appropriation processes. This includes determining (1) what programs should be funded (Congressional authorization), (2) program funding levels and how to distribute resources across the numerous and varied departments and agencies (Congressional appropriations) and (3) how to spend resources to accomplish the often multiple missions at the department or agency level (resource allocation). The findings not only highlight the considerable efforts and improvements in performance achieved by the Marine Safety program, but also the nature and limitations of centrally-mandated federal performance management programs in general.

Proposition

In the light of the discussion above about the many issues surrounding performance management in the public sector, through my own research I put forward the proposition: It is unrealistic to expect that a centrally-mandated performance management approach is the means to improve government programs.

Hypothesis

It is unreasonable to manage complex government programs within a high ambiguity environment using this approach. There is no one-size-fits-all solution to what is wrong with government.

Design

I employed qualitative methods in this research. The study is based primarily on personal interviews and the review of relevant documents. The USCG is an ideal organization for my investigation as I built and maintain extensive relationships at many levels over four decades of service (thirty-four years active duty). As a Rear Admiral (O-8) who retired in 2002 and subsequently served as Co-Chair of the Commandant of the Coast Guard's Retiree Council until 2010, I personally know most of the major players and decision-makers since the 1980's. My status as a retired flag officer provided me access to the most senior officers, retired and currently serving on active duty, members of the Senior Executive Service (SES), as well as more junior personnel (military and civilian) that have been or are currently involved in the Marine Safety program and resource management.

Data Collection

I obtained permission from the Vice Commandant to conduct the study. I sought and gained cooperation from the directorates and offices of the Deputy Commandant for Operations (CG-DCO), Operations Resource Management (CG-DCO-8), Performance Management and Assessment (CG-DCO-81), Assistant Commandant for Prevention Policy (CG-5P), Enterprise Strategy, Management and Doctrine (CG-095) and Assistant Commandant for Resources and CFO (CG-8). Relationships established with these directorates and offices enabled me to reach out to a port field command and the Marine Safety Center. Site selection was influenced by the location of the Marine Safety related organizations and units. This included USCG Headquarters (CGHQs) in Washington, DC, a major port field command (Baltimore, MD), and the Marine Safety Center (MSC) (Arlington, VA). Selection of participants was purposeful, to ensure that all key and historical aspects of the Marine Safety program were covered. Therefore, participants included both current and past leaders who served in critical Marine Safety decision-making roles, especially those with a wide ranging Marine Safety program career path, serving over the three decades of historical interest. Key maritime industry leaders (interest group representatives) were asked to contribute. About 25 percent of those subsequently interviewed were recommendations from the initial target group of participants.

Information relating to the period of the study (early 1980's to present) was collected from diverse sources and with varied methods. Data collection activities included in-depth interviews of 28 participants. Inquiries were pertinent to the specific

role of the participants and guided by performance management issues and questions guides. For example, Marine Safety program personnel have different expertise and perspectives from those on the planning, performance and resource staffs. The guides were provided in advance of the meetings.

The detailed history of the Marine Safety program was examined through analysis of the numerous program, budget, operations and strategic documents, legislative history, committee reports, and NPR, GPRA, PART and GPRAMA information, including a wealth of internally and externally produced studies, analyses and evaluations. Information came from the USCG's Maritime Safety program library which includes leadership speeches and letters, independent evaluations, and the Marine Safety Performance Plan. Pertinent GAO reports, Congressional records, Agency and Department strategic plans, annual performance reports and OMB evaluations, and other government sources external to the Coast Guard were examined as were strategic plans, program evaluations and performance information.

Method of Analysis

I used an ethnographic approach, designed to identify and understand the impacts (both positive and negative) of the Coast Guard's efforts to use performance management in the Marine Safety program, and interviewed Coast Guard personnel (active duty, retired, Headquarters, field) and prevention stakeholders, I visited Coast Guard Headquarters and stakeholders' offices (Alexandria, VA and Arlington, VA) for the majority of the interviews, conducted a few in my office (those retired) or by phone for retirees outside of the Washington, DC area, and field site visits (Arlington, VA and

Baltimore, MD). The majority of the interviews were conducted one-on-one, with three one-on-two. As I proceeded, I gained an increasingly comprehensive understanding of the various issues as perceived by participants.

While I cannot verify the accuracy of individual comments, collectively they revealed commonly held perceptions in this area of inquiry. Wherever possible, I sought and was able to corroborate these widely held perceptions with internal or external documents. Answers to the research question were developed from my analysis of recurrent themes based on both these interviewee accounts and collaborating documents.

The information collected was transformed into categories and themes. Because this research produced a large amount of data (almost 250 pages of transcripts from 26 hours of interviews with 29 participants), systematic management of the information was critical. The analytic procedures included: (a) organizing the data, (b) immersion in the data, (c) generation of categories and themes, and (d) presenting the study (Marshall and Rossman 2006, p.156).

In phases (a), (b) and (c), I created a 40-page Word template to sort and collate (color-code) common issues from the interview data. This process enabled qualitative content analysis. Perhaps the greatest value of this research is the breadth and depth of data accumulated throughout the course of the investigation, only some of it relevant to the specific research questions. Carefully documenting and organizing the information is of utmost important for potential follow-on analyses.

The major initial categories or themes that developed from the interviews were: accountability; leadership and culture; metrics and goals; data and information; personnel

and competencies; budget and resource decisions; change; and exogenous events. Not surprisingly, these were some of the same constructs found in Vice Admiral James Card's *Coast Guard Marine Safety Analysis: An Independent Assessment and Suggestions for Improvement* (Card 2007) and also overlapped with some of the GFOA study categories.

Following this initial categorization, I used substantive and theoretical constructs. Substantive categories describe the perceptions and ideas revealed by the participants. Theoretical categories provided a conceptual structure drawn from prior theory. For example, theoretical categories used included Beryl Radin's four principal assumptions of performance management (context of decision-making, task of government, relationship between technical and political perspectives, and information use) and her three contradictions inherent in the federal government (structural dimensions, predominate values and approaches, and attributes of the public sector) (Radin 2006, 2012). Throughout this phase, I sought to identify salient ideas, patterns, and beliefs that emerged while I gathered data from the participants (Marshall and Rossman 2006, pp.158-159). After investigating various constructs to organize the data, I settled on categorizing these into themes that link similar salient issues.

I present these themes in Chapter 5, Analysis, Results and Findings. This is the most challenging phase as I attempt to explain complex issues and events so they can be easily understood and be of use to the reader. I use an analogy of navigating a ship to help tell the story of my research. The themes illustrate the Coast Guard's Marine Safety program experiences in working under GPRA's centrally-mandated, top-down approach to performance management and how it embraced its own performance management

approach. Chapter 5 illustrates the salient external and internal influences during the evolution of the Marine Safety program's efforts to use performance management data and analytics. Chapter 6 details the program's successful use of local strategies to improve performance. Finally, in Chapter 7, I provide a summary of findings and my conclusions and recommendations.

Limitations

There are two particularly pertinent validity issues inherent in this research. Foremost is my bias, based on my experience with performance management systems that they do not fit well with many of the complex federal government programs. I concur with the conclusions of Beryl Radin, a renowned government management scholar and performance management skeptic. Her position is that these systems, with their stress on outcomes, are extremely difficult, if not impossible, to implement (Radin 2006). Second, as a retired two-star admiral, there is the issue of "reactivity" where interview subjects may be unduly influenced by my rank and current senior executive position in the federal government. I used varied research design strategies to deal with these considerations.

I selected the Marine Safety program as my case study because I was not directly involved in that mission during my career. Therefore, none of the interview subjects worked for me either directly or indirectly. Many participants are either peers or officers that are senior to me and therefore are not inclined to be influenced by my past or current position. With no responsibility or accountability for program outcomes during my active duty career, I should have been able to provide an impartial evaluation.

My primary strategy of triangulation is designed to provide a wide array of sources of data and methods of data collection. The many and varied sources of data are discussed in the preceding *Data Collection* section. My interview subjects cover more than 40 years of Marine Safety program history and include an extensive array of active duty and retired members. Key stakeholders outside of the Marine Safety program and the Coast Guard supplied a rich set of additional data. These external observers and participants were able to contrast Marine Safety program outcomes against private sector (industry) performance.

I designed the subject interview questions to minimize perceived bias by drawing from other recent studies of government performance management systems. This includes work done by the GAO and the GFOA. As the study progressed, I systematically requested feedback about the information I have collected and perspectives voiced by the other interview subjects. This assisted in examining my biases and any suppositions and defects in my reasoning or methods. As noted under data collection, a wealth of documentation is available through numerous program, budget, operations and strategic documents, legislative history, committee reports, GAO studies, speeches and other forms of communication. The study drew from all sources to maximize triangulation and provide a means to validate subject observations with the written records. Data collected was categorized and used to quantitatively judge the amount of evidence uncovered on key findings or threats.

To ensure that quality of research and the findings, as described, data was collected from diverse sources and with varied methods over multiple decades of participants'

experiences. My strategy of triangulation was complemented by sharing my interpretations of the data with the participants. The strength of this study is the use of multiple sources and techniques. Numerous pieces of evidence were sought over multiple performance management initiatives, participants, and events during the period in question.

Qualitative case studies provide in-depth and vivid descriptions of the specific situation (case) that are often superior to other types of research. However, the applicability to the broader field, or the ability to "scale up," is often questionable. This study proposes that the Coast Guard Marine Safety program's performance management and resource allocation decision experience can inform other federal government programs, especially those of a regulatory nature, that face similar challenges. This argument is addressed through both data collection activities and complementary research of external sources. Study participants were questioned about other performance management and budget decision experiences that they observed outside of the Marine Safety program but within the Coast Guard and in certain instances, experiences with performance management while employed by other federal agencies. Through analysis of available research (e.g. GAO's reports on government-wide GPRA implementation and Congressional hearings on other agencies' performance), this study supports similar findings across the federal government.

Ethical Issues

The proposed research involved human subjects. As such, the scholarship had to be conducted ethically and responsibly to ensure all persons interviewed were respected and

fully informed of all aspects of the study. With respect to the latter, all participants were briefed as to how their interview fits into the research and how it will be used. The risks and benefits were explained. Their voluntary participation and confidentially of their responses was stressed. As the findings will be of significant interest to the Department of Homeland Security, Congress, OMB and GAO, the intention was to minimize any risks to subjects, especially those currently on active duty who must manage the Coast Guard's Marine Safety program, performance management system, and budget and financial functions within the context of the larger federal government.

As reported information has to reflect the highest professional standards, the study included informed consent in accordance with the University's informed consent instructions. I worked with members of the Office of Research Integrity and Assurance (ORIA) and the Institutional Review Board (IRB) to ensure my proposed research was reviewed and approved prior to the start of the study and commencing any interviews. The IRB determined that my study was "Exempt."

CHAPTER 4 – COAST GUARD MARINE SAFETY PROGRAM

This chapter describes the attributes of the Marine Safety program. It first describes the origins of the mission and how the mission fits with other Coast Guard responsibilities. Next, it explains the program's concept of operations, external operating environment and three key features revealed in the interviews. These all provide a context for my research findings in the next chapter.

> Over ninety percent of global trade by volume moves through the worldwide marine transportation system, and the system sustains more than 13 million U.S. jobs and contributes approximately $650 billion annually to the Nation's gross domestic product. Increased congestion, larger vessels, greater complexity of port operations, expansion of the Panama and Suez Canals, increased exploration and resource extraction in the outer continental shelf, advanced marine technologies, and the expanded use of the marine transportation system to transport energy resources and hazardous materials all create additional demand for Coast Guard services. These trends are increasing demands for several missions, including Marine Safety, Aids-to-Navigation, Ice Operations, and Marine Environmental Protection.[2]

Marine Safety Mission History

In a farewell speech on April 21, 2014, the outgoing National Transportation Safety Board chairwoman stated that, "people expect some things from good government, and improving standards of safety is one of them." (Clark 2014d).

The United States Coast Guard (USCG) was cited by GAO in its GPRA implementation executive guide as one of the early (1994) successful pilot programs

[2] Testimony of Vice Admiral Charles D. Michel, Deputy Commandant for Operations on "Coast Guard Missions" before the House Coast Guard and Maritime Transportation Subcommittee, March 17, 2015.

(GAO 1996a). The example was used to illustrate "Practice 8: Use performance information to support mission." Using a longitudinal qualitative case study from the early 1990's to present, this research examines the continued implementation of GPRA to the USCG's Marine Safety mission. Marine Safety is a large, highly complex program with diverse stakeholders, substantial resources and critical performance consequences. It is one of 11 statutory missions of the Service. When these are listed in order of percentage of operating expenses, Marine Safety ranks in the middle as number six (6). This mission area was funded at $580 million out of the $8.6 billion discretionary portion of the Coast Guard's Fiscal Year 2013 budget.

The USCG is one of the five United States Armed Forces. The Coast Guard's uniqueness is its "maritime, military, multi-mission" character. This distinctiveness is not only among our Nation's military branches, but throughout the world's seagoing services. The Coast Guard's portfolio includes a foundation of a military service, with domestic and international maritime law enforcement duties, and federal regulatory agency missions. Because of its diverse multi-mission character, the organization does not fit succinctly within any one cabinet-level department: military readiness aligns with the Department of Defense (DOD), maritime safety fits with the Department of Transportation (DOT), and maritime security supports the Department of Homeland Security (DHS) responsibilities (where is now resides).

A vast set of all-encompassing statutes provide for the Coast Guard's extensive maritime authorities. These regulations address all aspects of marine activity, not only on U.S. navigable waters, but also internationally as well. DOD's legal authority resides

under Armed Forces, Title 10 of the U.S. Code, and includes those functions of the Coast Guard where alignment is necessary for its duties as an Armed Force, e.g., military personnel structure (grades and ranks) and pay and benefits. The Coast Guard is organized under Title 14; this statute establishes its duties, functions and powers. The Service has a myriad of other authorities under other statutes, such as Title 33, Navigation and Navigable Waters and Title 46, Shipping. Titles 33 and 46 provide many of the Maritime Safety mission authorities. The Coast Guard's considers its enduring roles as "maritime safety, security, and stewardship" of the Nation's waters (DHS White Paper, 2011). Or simply stated, the Coast Guard's job is to protect those on the sea, protect the Nation from threats delivered by sea, and protect the sea itself. These roles are performed through the Service's eleven statutory mission set defined in 6 U.S.C. § 468. Maritime Safety is one of the twelve missions.

The United States Coast Guard has a long and proud tradition of serving the country and marine industry through its Marine Safety program. U.S. safety standards, U.S. inspections, and the U.S. licensing system have been models for the rest of the world. The Coast Guard ensures the safety of maritime transportation and commerce through a layered, interwoven system of authorities, compliance, collaboration, enforcement and public dialogue.

The Marine Safety program has its roots in 1800's legislation that addressed a series of steamboat casualties.[3] The United States experienced the birth of faster and more efficient waterborne transportation. Robert Fulton's 1807 launching of his

[3] The history of the Marine Safety mission is drawn from the U.S. Coast Guard Historian's Office website: http://www.uscg.mil/history/default.asp.

steamboat had a dramatic effect on nearly every aspect of life in the new nation. Even before the introduction of mechanical propulsion systems, travel by vessels carried significant risks. These included unsanitary conditions, overcrowding, untrained crews, incompetent navigation and poor construction. The steam engine, with its fire-stoked high water pressure boiler, added a new and substantial risk to life and property. Steamboat boiler explosions were creating ghastly accidents and loss of life.

As the losses increased, the need for government intervention was finally debated. No regulatory action followed the first investigation into a steamboat explosion in 1817. Lawmakers were hesitant to regulate private industry; however, the need to protect the public welfare eventually became paramount. The regulation of the steamboat industry finally came in response to accidents rather than in an attempt at prevention. It took 25 years after Fulton's introduction of the steamboat before Congress enacted the first steamboat legislation designed to protect the public. It was not until 1832, after a set of three horrific accidents that killed more than 300, that the United States obtained its first marine safety legislation. Aimed at improving the safety of steam vessels, it would prove to be wholly insufficient.

As more waterborne casualties occurred, Congress eventually passed the Steamboat Act of 1852 which proved to be the foundation of the Coast Guard Marine Safety program almost a century later. That ensuing century experienced bigger disasters with unconscionable loss of life: more than 1800 Union soldiers perished in one Mississippi accident in 1865, more than 1000 women and children in New York City in 1904, and with over 1500 lost, the infamous Titanic disaster of 1912.

A series of laws over that period first established the Steamboat Inspection Service, then the Bureau of Navigation, and eventually the Bureau of Marine Inspection and Navigation. On February 28, 1942, President Roosevelt signed as a wartime measure an executive order that transferred this agency temporarily to the control of the Coast Guard. It was this last independent agency that was transferred and amalgamated into the Coast Guard in 1946 when this transfer was made permanent four years later. Finally, all of the responsibilities associated with maritime safety were centralized into one agency. The Coast Guard was now the lead as the central federal agency responsible for the safety of life and property both at sea and on the navigable waters of the United States. This enabled the Coast Guard to study and implement new safety measures for navigation and other maritime areas to protect lives and property.

The Marine Safety mission focus is prevention of deaths, injuries, and property loss in the U.S. Maritime Domain.[4] Marine Safety responsibilities include ensuring the safe and environmentally sound operation of millions of recreational vessels and U.S. flagged commercial vessels wherever they are in the world, as well as exercising Port State control for foreign vessels operating in U.S. waters. The Coast Guard develops and enforces Federal marine safety regulations, certifies and provides credentials to over 218,000 mariners, investigates commercial marine casualties and shares its findings, and conducts compulsory inspections, as well as voluntary safety exams.

Today, the Coast Guard's Marine Safety program is responsible for ensuring the safe operation and navigation of some 20,000 U.S. and foreign-flagged vessels. The

[4] Marine Safety mission information drawn from U.S. Coast Guard website: http://www.uscg.mil/top/missions/.

Service conducts over 70,000 domestic vessel inspections and 10,000 port state control examinations each year to safeguard maritime commerce, international trade and supply chain security. It also carries out 14,000 casualty, suspension and revocation, and civil penalty cases annually to leverage lessons-learned and prevent future maritime tragedies. This mission is accomplished by approximately 1,600 uniformed and civilian inspectors, investigators and port state control officers stationed domestically and around the world. They are carried out through a shared commitment with industry to facilitate safe, secure, and environmentally sound marine transportation.

Marine Safety Mission Context

A fundamental responsibility of the U.S. government is to safeguard the lives and provide for the safety of its citizens. The Coast Guard executes this federal responsibility in the maritime environment by way of its Maritime Prevention Program.[5] The Coast Guard has grouped its 11 statutory missions into six logical groupings of like activities that form the basis of the Coast Guard Future Years Homeland Security Programs (FYHSP). Table 1 provides a listing of the Coast Guard‘s six FYHSP Programs and primary alignment to the Coast Guard‘s statutory missions.

[5] The following program descriptions are based on the U.S. Coast Guard Maritime Prevention Program Performance Plan Fiscal Years 2014 – 2019.

FYHSP Programs	Statutory Missions
Maritime Security Operations	Ports, Waterways, and Coastal Security (PWCS) - Operational Activities*
Maritime Law Enforcement	Drug Interdiction
	Migrant Interdiction
	Living Marine Resources (LMR)
	Other Law Enforcement (OLE)
Maritime Prevention	Marine Safety (MS)
	Marine Environmental Protection (MEP) - Maritime Prevention Activities*
	Ports, Waterways, and Coastal Security (PWCS) - Maritime Prevention Activities*
Maritime Response	Search and Rescue (SAR)
	Marine Environmental Protection (MEP) - Response Activities*
Defense Operations	Defense Readiness
Marine Transportation System Management	Aids to Navigation (AtoN)
	Domestic Ice Operations

* Note: PWCS and MEP are each listed twice to reflect respective mission functions categorized as either operations/response or prevention activities.

Table 1: Coast Guard Future Years Homeland Security Programs and Statutory Missions

As noted, the Maritime Prevention Program prevents personnel casualties and property losses, minimizes security risks, and protects the marine environment by developing and enforcing federal marine safety, security, and environmental regulations in its three overlapping and complementary mission areas, illustrated in Figure 1: Marine Safety (MS) and the Maritime Prevention activities of the Marine Environmental Protection (MEP) and Ports, Waterways, and Coastal Security (PWCS) missions. Maritime Prevention is aimed at two related and complementary objectives:

1. Safe and environmentally sound operation of U.S. flagged vessels throughout the world by asserting federal authorities and
2. Safe, secure, and environmentally sound operations in U.S. waters by asserting authority over foreign vessels operating in waters subject to the jurisdiction of the United States.

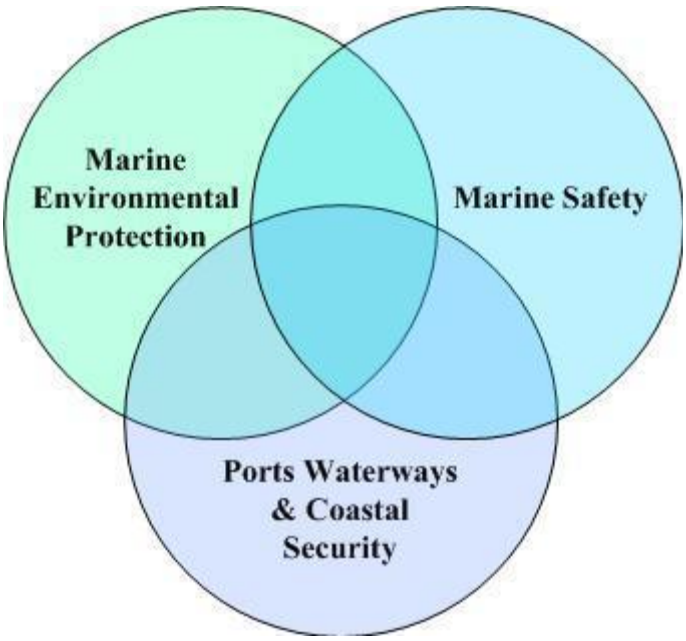

Figure 1: Overlapping and Complementary Mission Areas

Marine Safety Program Execution Concept

In particular, the Marine Safety mission is executed through a program of interrelated "prevention" functions.[6] These activities are focused to minimize potential

[6] Ibid.

accidents that could result in loss of life, injury, and property damage. Figure 2 illustrates how the Coast Guard pursues prevention as a comprehensive strategic and operational undertaking. The Coast Guard develops standards for vessels, facilities, and mariners; ensures compliance with those standards; and investigates when compliance and standards fail to prevent an accident.

Figure 2: Prevention Concept of Operations

- Standards. Through the federal regulatory process, the Coast Guard develops the standards and regulations that govern commercial vessel and recreational boating design, construction and operation.
- Compliance. Through assessment activities, the Coast Guard conducts inspections of

U.S. and foreign vessels and marine facilities; reviews plans for vessel construction, alteration, equipment, and salvage; and monitors vessel construction and performance. For marine personnel, the Coast Guard issues licenses and documents to qualified mariners, and promotes competency through a combination of training courses, requisite experience, and examinations.

- Investigation. Upon the occurrence of a mishap or accident, the Coast Guard investigates to discover contributing factors and causes.

Each function is intended to enable performance improvement through feedback to supporting activities. For example, as a result of an accident, the investigation may recommend changes to both regulatory standards and inspection protocols for a certain class of vessels or subsystem.

These tasks are built on a foundation of partnerships, prevention workforce, and risk management.

- Partnerships. With limited Coast Guard's resources, the program must seek mutual support and leverage cooperative relationships with other federal agencies; state, local, and tribal governments; foreign governments; marine industry; and individual mariners. For example, the Coast Guard represents the U.S. in the International Maritime Organization (IMO), which promulgates measures to improve global shipping safety, pollution prevention, mariner training, and certification standards. Partnerships, such as that with the American Waterways Operators (AWO), facilitate collaboration on proposed rulemaking (standards) and design and implementation of safety management systems (compliance).

- Prevention Workforce. The Coast Guard executes maritime prevention activities through a competent maritime workforce. This workforce, a mixture of civilian employees and military members, must have the requisite skills and experience to develop regulations, inspect and review for compliance, investigate casualties and manage all program functions.
- Risk Management. The Coast Guard implements a risk-based approach to manage resources across the broad spectrum of Maritime Prevention activities. This is a key element in the design and execution of its programs. The maritime domain is a high risk environment that is vulnerable to a wide range of threats and challenges. Even with unlimited resources, risk cannot be eliminated; the best that can be done is to mitigate risk through targeted allocation of finite resources to maximize program performance. For example, the majority of the passenger and cargo ships operating in U.S. waters are foreign flagged and present the largest number of substandard vessels. A key element to maritime safety risk management is Port State Control (PSC), aimed at eliminating from U.S. ports and waterways the high risk foreign flag vessels. PSC is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules.

Sub-Program Construct. Maritime Prevention sub-programs are discrete organizational elements and activities geared toward achieving outcomes across the missions of Marine Safety, Marine Environmental Protection, and Ports, Waterways, and Coastal Security. Maritime Prevention sub-programs include establishment and

maintenance of maritime security regimes; vessel, port, and facility compliance programs; mariner credentialing; Federal Advisory Committee International Maritime Organization and other outreach initiatives; recreational boating safety; investigation and causality analysis; and vessel documentation. A description of these programs can be found in Appendix A.

Marine Safety Program Environment

> Today's maritime industry is complex both in the technology of the vessels and systems and the nature of business operations. The shipping industry continues to grow, producing larger, faster, and much more complicated ships. Offshore systems are a marvel of technology and can cost more than a billion dollars. Like all businesses, the maritime industry faces tighter margins, more demanding customers, and myriad audits. In addition, since ships operate between national and/or state jurisdictions, they face multiple governing regimes (Card 2007, p.6).

Throughout the history of the United States, it took external events to drive change in the oversight of the maritime industry. Federal regulation of commercial vessel safety only began in the 1800's after a series of horrific steamboat casualties. The Bureau of Marine Inspection and Navigation, the independent federal agency with this responsibility, was transferred to the Coast Guard during World War II. Purportedly, the Commandant of the Coast Guard sought the Bureau's expert naval architects to help fulfill the Service's wartime duties. However, the end of hostilities did not return the Bureau back to an independent agency; the functions and personnel became a formal part of the Coast Guard. Some would say it was a brilliant move as now one organization was responsible for both prevention (standards, compliance and investigations) and response (search and rescue). Improved prevention (less resource-intensive activities) should result in reduced or more efficient response capabilities (resource-intensive ship, boat,

aircraft and fixed facilities).

To supplement the historical timeline, the current and future maritime environment is relevant to my analysis; it provides the context in which the Marine Safety program operates today and is expected to function in the future. The two documents most significant in describing the environment are "A Coast Guard for the Twenty First Century; Report of the Interagency Task Force on U.S. Coast Guard Roles and Missions, December 1999" (the "Report") and the more recent "Safety, Security and Stewardship 2011 DHS White Paper on the U.S. Coast Guard" (the "Paper"). The Report was called for by Presidential Executive Order 13115 and conducted by an Interagency Task Force while the Service was an agency within the Department of Transportation. The report to the President was intended to provide advice and recommendations regarding the appropriate roles and missions for the Service through the Year 2020. The Report validated the Coast Guard's suite of missions and the roles it will need to fulfill to address the challenges of the marine environment. The Paper is a strategic document that highlights the value of the Coast Guard to the nation and its fit within the Department of Homeland Security, having transferred to the newly established Department in 2003. In effect, the Paper updates the Report. It reflects the findings and recommendations of the 2010 National Security Strategy and the 2010 Quadrennial Homeland Security Review (QHSR).

> The maritime environment is a complex mosaic of rapidly increasing numbers of maritime users, interests and transnational dangers that include pollution, over-fishing, illegal migration, drug smuggling, terrorism, weapons of mass destruction, to name of few. These will challenge America in new ways. Globalization of the economy will continue with an attendant increase in maritime trade and challenges for our ports and waterways. Ongoing requirements such as readiness to respond to

> natural disasters and assure the safety of our citizens in the maritime transportation arena will continue as enduring national interests. (Roles and Missions, 1999, p.i).

Looking back over more than a decade between reports, if anything, this forecast was an understatement of the challenges that the Coast Guard would face. Most notably, these included the 9/11 terrorist attacks, Hurricane Katrina and the Deepwater Horizon Gulf of Mexico oil spill. One of the overarching conclusions of the Report was that the Service's roles and 11 statutory missions, which include Marine Safety, would endure into the 21st century. The Report predicted that as the world economy grew, the total volume of trade was expected to more than double over the next 20 years; it has grown 5.3 percent per year over the past 20. It foresaw rapid growth in the cruise ship industries and growth in size and volume of vessels engaged in maritime trade. Therefore, the Coast Guard would likely see increased demands for inspection, oversight and safety of the maritime industry.

As projected, globalization continues to increase maritime traffic. The Paper cites, among other maritime issues, intensified globalization, changing patterns of world trade, and advances in technology, which require vigilance, action and adaptation to protect its maritime interests. Most recently, the Deputy Commandant for Operations (DCO) included globalization and technological advances in marine industries among the key operational challenges facing the Coast Guard.[7] According to the United Nations Conference on Trade and Development (UNCTAD) 2013 Review of Maritime Transport, the world seaborne trade has more than doubled between 1990 and 2013. New technology is driving increases in vessel size, capacity and efficiency as the maritime

[7] DCO Briefing February 25, 2015.

industry strives to maximize revenue. There has been a tenfold increase in the capacity of container ships from the 1980's and a doubling in the last ten years; capacities are nearing 20,000 containers. Very high-tonnage cruise ships are now plying the seas at more than 225,000 tons and capacities in excess of 6,000 passengers. Supertankers exist at more than 400,000 dead weight tons and nearly 400 meters in length. Meanwhile, domestically the United States has seen the number of registered recreational boats increase 6-fold since 1960 to 12 million. These trends and just-in-time processes have placed enormous stress on the supply chain, and especially the safety and security functions of the world's maritime commerce regulatory agencies.

The 1999 Report noted the passage of the Government Performance and Results Act of 1993. It predicted that this requirement for greater efficiency and effectiveness from federal agencies would have consequences for Coast Guard mission performance. For Maritime Safety, the Report highlighted the Coast Guard strategic goal of "Eliminate deaths, injuries, and property damage associate with maritime transportation, fishing, and recreational boating" (Roles and Missions, 1999, p.2-79).

Marine Safety Program Key Features

Three key features of the Coast Guard's Marine Safety mission were revealed in my interviews of senior Coast Guard personnel. First, this bond of commercial vessel safety to the other historical Coast Guard functions of law enforcement, security and stewardship created a federal agency with distinctive responsibilities and breadth of missions. Without the Marine Safety program, the Coast Guard is an organization that looks a lot like every other law enforcement organization. What makes the Coast Guard

truly unique is this ability to fully regulate and oversee the environment in which it operates and to protect an entire system -- to enforce the laws in that system, to mark the waterways of the system, to manage the waterways of the system, to govern the way it is used by the people who drive the vessels around, and to make sure that the vessels are safe. This has made the organization unlike any other in the world with its comprehensive reach and impact. The Coast Guard is not designed just to rescue somebody from the water; it is designed to create a consistent, safe, secure and responsible system of maritime operations.

Having safety, security and stewardship under one umbrella has enabled the Coast Guard's unique prevention (both safety and security) program model (see Figure 3 in Chapter 3 above). As a result, the Coast Guard believes that it does the full range of prevention activities better than anyone. This is a comprehensive and integrated process that (1) establishes standards, (2) ensures compliance to those standards, and (3) investigates accidents or violations and provides improvement feedback between all three. This scheme is built on a foundation of (1) partnerships with industry, third parties, other federal, state and local agencies, and international maritime organizations; (2) the Coast Guard's prevention workforce; and (3) risk management approaches. This approach is exceptional in the federal government as no other agency has all of this in one place. For example, in the aviation industry, airline safety resides in the Federal Aviation Administration (FAA), Department of Transportation, while airline security belongs to the Transportation Safety Administration (TSA), Department of Homeland Security.

Second, the Maritime Safety mission gives the Coast Guard global influence. Although U.S. "flag state" commercial vessels plying our waters are in the minority (the state that registers or licenses commercial vessels under their laws is the "flag state"), the world's largest economy creates the biggest volume of maritime commerce to flow through its ports. "Port State Control" is the process by which a country ensures that the construction, operation and maintenance of all commercial vessels that call on their ports comply with the requirements of international maritime conventions. As the world's largest "port state," this provides the United States with enormous international leverage. The Coast Guard, through numerous federal statutes, regulations and international conventions and treaties, is the U.S. agent responsible for its port state control regime. As a consequence, the Coast Guard has an enormous influence on how the global marine industry operates. "When the Commandant of the Coast Guard speaks, the world listens."[8] This influence is extraordinarily powerful. The Coast Guard Marine Safety program is a source of pride for the Nation and Coast Guard. However, even after almost 70 years, the program is neither well recognized nor understood within its own organization, not only throughout the ranks, but at the senior levels too.

Third, with the marine industry, the Coast Guard has an involved and active customer. It was not always that way. Through the 1980's, the Coast Guard and the industry had a combative relationship. There was no cooperation and no relationship to develop a common base for safety goals and the means to achieve those goals. The reality of the oversight environment changed dramatically after a series of events,

[8] Interview with previous Deputy Commandant for Operations.

beginning with the 1989 *Exxon Valdez* grounding and the Oil Pollution Act of 1990 (OPA-90) that was passed in reaction to the oil spill. This was a wakeup call for the industry; leaders in the business understood that if they continued the process of limited engagement with the Coast Guard, they would end up with bad regulations. Finding ways to defer or drag out regulations would not fly in the aftermath of this national disaster. Although this began as a matter of self-interest on the part of industry, it spawned a change in the relationship with the Coast Guard. Conversations began to build trust on both sides. The new engagement effort coincided with Coast Guard Marine Safety program leadership that sought partnerships with the industry from the early 1990's through the early 2000's. To instill a culture of safety and maximize self-regulation, Coast Guard leadership saw collaborative engagement as a means to leverage limited federal resources. With industry leaders serious about helping design smart regulations and implement safety management systems, the Coast Guard saw this is a changed industry. This relationship continues to this day.

The industry cares about what the Coast Guard does to them and how they do it. Consistency in enforcement is very important in the maritime industry as efficient port turnarounds are critical to their operations and success. Industry wants participation, collaboration, and transparency in Coast Guard rulemaking to seek compliance without necessarily draconian regulations. As a result, there is no other mission in the Coast Guard that is closer to its customers and knows them personally. As will be seen later, this facilitates performance management techniques. However, there is limited understanding throughout the Coast Guard as to this degree of customer engagement.

CHAPTER 5 – ANALYSIS, RESULTS AND FINDINGS – A CHALLENGING VOYAGE

Introduction

As the first step in my analysis of performance management practices in the Marine Safety program, I developed a comprehensive timeline that documented the evolution of the program's use of data and analytics in performance-based decision making. With a paucity of historical documentation in one place, the chronological picture, presented in Appendix B, was developed primarily through the interviews and filled out by document research. Those interviewed represent many years of collective experience with the Marine Safety program that stretched from the 1960's to the present.

To guide the organization and story that was revealed through this study, I used a ship analogy. In their seminal book that spurred the National Performance Review, *Reinventing Government*, the authors cite the need to "steer" rather than "row" the boat (Osborne and Gaebler 1992). If entrepreneur public administrators accept responsibly to steer, they develop policy options that can better balance resources and needs (Osborne and Gaebler 1992, p.35). On the other hand, those that row just focus on one objective. The authors apply this logic to the performance management approach (results-oriented government), where the effort is to achieve improved outcomes for the public, rather than simply managing the public's resources in performing statutory duties (Osborne and Gaebler 1992, p.150-141).

The logic of performance management, as expressed by the centrally-mandated, top-down approach of GPRA, can be represented by navigating a ship. The assumptions of GPRA are that of a single ship in calm seas. The ship has a competent Captain with a fully-staffed and well-trained crew. The vessel is sea-worthy (well-built and has well-functioning navigation, propulsion and steering equipment). External and internal sensors provide timely, readily available, accurate and up-to-date information that enable immediate corrections to undertake the mission and avoid shoals and reefs. The assigned solo mission and operational guidance, provided by central authority, is unambiguous, clearly written, stable and accessible to all. Charts are available and accurate and the destination is clear. Finally, sufficient fuel and supplies (resources) are available to complete the mission.

Performance management proponents argue that adoption and sustainment of performance-based management is logical and straightforward. The reality is very different. Adoption and sustainment is, at best, disorderly, reflecting what Beryl Radin calls "…the misfit between expectations and practice…" Discussing the unsound assumptions of the advocates of performance management systems, Radin comments:

> …three paradoxes—ambiguous rhetoric turned into formal processes, an emphasis on unmeasurable outcomes, and a critical stance on officials and professionals but ultimately relying on them—produce a set of tensions that make the achievement of performance measurement much more complex and difficult than is communicated by the language surrounding the field. (Radin 2006, p.2-3).

Reality and the underlying assumptions diverge:

1. We are not dealing with a single ship. Federal agencies have multiple, *competing missions and programs* that may be odds with one another and compete for the same resources.

2. The seas are not calm. *Exogenous events* create heavy weather and treacherous waters for program execution.

3. The *outcome* is often not clear; charts (roadmaps) are either not available or incorrect and the destination (goal) is difficult to determine.

4. The Captain may be competent, but other *leaders,* with differing perceptions, needs and requirements, *order course changes* that create ambiguities in mission execution.

5. The *crew* required to execute the program may not be adequate and/or well-trained.

6. The seaworthiness (ability to operate in the intended environment) of the vessel (program) is limited.

7. Timely, accurate and up-to-date *information* to guide the journey is not readily available.

8. The mission is jeopardized by inadequate *resources.*

The following sections relate the research findings to these divergent assumptions. They address the research proposition, "It is unrealistic to expect that a centrally-mandated performance management approach is the means to improve government programs." I describe the multitude of external environment and internal organizational issues that sometimes helped, but more often impeded an effective performance management regime in the Marine Safety program. They lend support to my hypothesis, "It is unreasonable to manage complex government programs within a high ambiguity environment using this approach. There is no one-size-fits-all solution to what is wrong with government." The next section illustrates program and mission complexity found in federal agencies.

1: Competing Missions and Programs.

*We are not dealing with a single ship. Federal agencies have multiple, competing missions and programs that may be odds with one another and compete for the same resources***.**

The Coast Guard's primary mission is to ensure the safety, security, and

stewardship of the Nation's waters. The Service seeks to accomplish this goal through the balanced performance of its 11 statutory missions, which support several vital national interests. The Coast Guard promotes itself as a multi-mission, maritime, military service. These unique and overlapping authorities and responsibilities create a synergistic whole—the sum greater than the individual parts. This mix of missions creates its own set of management issues for each of the programs, especially Marine Safety, as a balance is difficult to attain in practice. Coast Guard leaders, for a host of reasons, emphasize or deemphasize individual missions relative to one another, sometimes overtly and other times inadvertently. This has particular consequences for Marine Safety as this regulatory and marine industry-focused mission is not well understood by the majority of the organization. This conundrum has both abetted and hindered the Marine Safety program's adoption of performance management. There are three aspects to this dilemma.

First, the externally focused Marine Safety mission is fundamentally different from the other Coast Guard missions. Meanwhile, the rest of the Service, for important reasons, is internally focused. In order to operate safely and efficiently, the marine industry is wholly dependent on the Coast Guard to provide a set of services. This was clearly evident when the two different cultures (marine safety - regulatory and operations - response) were brought together post-9/11. Overnight the Coast Guard had to perform in a "new normal" security-dominated environment, with no change in resources. Without extra capabilities (people), the Service was not able to conduct both safety and security missions effectively. Consequently, the safety mission and responsiveness to its

industry "partners and customers" was substantially reduced. A complete accounting is provided in the next section.

Second, the Marine Safety mission is not treated as "front line" when compared to the Service's high-visibility missions such as search and rescue, migrant interdiction and security. All marine safety related activities are accomplished by a military and civilian workforce of less than 2000 out of a total force of over 43,000 active duty members, 8,000 reservists and 8,800 civilian employees. Third, there is the dichotomy of metrics. With prevention-related programs, it is difficult to relate input to outcome—what is the cost and value of preventing bad things from happening? Prevention activity measures (number of inspections, deficiencies and detentions) do not directly relate to outcomes—are the waters safer? The Coast Guard's Response programs' metrics, such as those for Search and Rescue and Law Enforcement, are primarily readily observed activity or results measures. These include the number and percentages of lives saved, migrants interdicted and drugs seized. These metrics directly relate to activities and are interpreted as outcomes. Crews of ships, boats and helicopters are often publically acknowledged for exemplary performance of a mission, such as a rescue of a vessel in distress. Conversely, marine inspectors rarely receive similar recognition for detaining a high-risk vessel for safety violations or completing an important marine accident investigation.

As one of the 11 statutory Coast Guard missions, Marine Safety constantly struggled for its identity among the others. Marine Safety program leadership recognized the potential appropriations consequences when stacked against other response-related activities. Accordingly, the directive to implement the GPRA provided an opportunity to

make progress in this area. The program's effort to establish goals, measure what they were doing and affect outcomes became paramount to compete with the other more visible missions. This was especially important when it came to budget requests and resource allocation decisions that are often, at best, a zero-sum game within agencies.

Nevertheless, internal issues such as competing programs are just one of many factors that reflect governance complexity. As Donald Moynihan and others have argued, as the number of related factors increase that make governance more complex, "…standard approaches to performance management become less easy to apply and more likely to experience failure or negative unanticipated consequences" (Moynihan et al. 2011). Meanwhile, the Marine Safety program's capabilities have been affected by significant external events and the associated management decisions. The next section illustrates these challenges and consequences.

2: Impact of Exogenous Events

The seas are not calm. Exogenous events create heavy weather and treacherous waters for program execution.

> You never let a serious crisis go to waste. And what I mean by that it's an opportunity to do things you think you could not do before.[9]

All organizations have their "defining moments" that establish precedents for future policies and processes, and goals, strategies and tactics. The question arises, will these historic events create learning or will future leaders repeat these failures through similar pathways? The Coast Guard experienced consequential changes to mission focus and resource allocation with significant impacts on the Marine Safety program's

[9] Quote attributed to Rahm Emanuel http://www.brainyquote.com/quotes/authors/r/rahm_emanuel.html.

capabilities. The following illustrates the alterations, positive and negative, of the Marine Safety prevention missions in a multi-mission service. In each case, Coast Guard leadership, faced with external Administration pressure and other priorities, made course corrections. As a result, Marine Safety program resources were reduced and mission capability and focus were lost. Reduced performance was recognized within the program. However, calamitous events had to occur before the Administrations and Congress realized the scope of program failure. The Appendix B timeline includes numerous exogenous events that shaped the Marine Safety program by changes to resources and regulatory authorities.

This section focuses on the two most impactful and high visibility cases that best illustrate this mode of failure. These are the (1) "drug war" and subsequent *Exxon Valdez* grounding and (2) "Coast Guard Streamlining," 9/11 terrorist attack and subsequent maritime industry "revolt." Top leadership's actions were considered well-intentioned at the time; the environments for failure were fashioned over a period and culminated in a historic "defining event." Performance management proponents would argue that good metrics and performance-based decision-making could have either prevented or mitigated these failures. As the following analyses would show, the complexity of federal government programs, along with the highly political budget and resource appropriations process, does not enable a performance management system to prevent or even mitigate the next calamity.

As noted in Chapter 5, Section 4, Leadership and Accountability, each Commandant has a different set of priorities and areas of emphasis. He is interviewed by the Sec-

retary of the Department in which the Coast Guard resides and gets the job[10] based on his articulation of a four-year vision for the Service. The Commandant's vision is then formally promulgated in the *Commandant's Direction*[11] upon his assumption of command and impels the Service's budget requests. However, to move smartly and realize his vision over what is a relatively short term, the Commandant needs to sell his direction to the Congressional committees. In turn, he can then make the necessary resource reallocations within the appropriation "margins" that are made available. New Commandants are generally given significant deference by Congress.

The Course to the *Exxon Valdez* Grounding

Admiral Paul Yost served as Commandant from 1986 to 1990. Yost's focus was on the "War on Drugs" and made it part of the Agency's routine activities. He was completely dedicated to making a difference in the counternarcotics effort. In an appearance early in his tenure before the House Select Committee on Narcotics Abuse and Control, the Admiral stated that, "The President has proclaimed that drug abuse is a matter of national security" and he would prosecute that mission accordingly. He also pledged that, "Coast Guard aircraft, cutters, boats and personnel will be made available to assist other agencies in support of this mission."[12]

To bolster the drug war in the short term, Yost ordered changes to both operations and support capabilities. He coupled this with another direction to improve the Coast

[10] Formally nominated by the President based on the Secretary's recommendation and confirmed by the Senate.
[11] Current Commandant's Direction: http://www.uscg.mil/seniorleadership/DOCS/CCG_Direction_2014.pdf.
[12] Prepared statement of Admiral Paul A. Yost, Commandant, before the House Select Committee on Narcotics Abuse and Control, Oct 3, 1986.

Guard's military capabilities and alignment with the Department of Defense and in particular the U.S. Navy. He sought a substantial role in the coastal defense mission for the Coast Guard, and a parallel initiative to dramatically increase the armament aboard Coast Guard cutters. He emphasized military readiness and law enforcement while he deemphasized marine safety and environmental protection. Both of these latter mission programs and the support structure became resource donors to the former. Hundreds of personnel positions, military and civilian, were transferred in the process. Marine safety capabilities were diminished, for example the closure of vessel traffic systems (VTS) in ports. To achieve the necessary resource efficiencies, substantial changes were made to vessel, boat, electronics and shore facilities support organizations. In total, about 500 positions were transferred from support and other programs to operational billets. In particular, by 1989 the Coast Guard had eliminated a major portion of the inspectors (102 out of 169) added in the aftermath of the December 1976 Argo Merchant tanker grounding and breakup off Nantucket Island, Massachusetts.

Moreover, the major surge in the drug interdiction effort drove an ever greater portion of the budget allocated to that task. The Coast Guard did not garner the budget increases that the other military services experienced during President Reagan's administration. Between 1983 and 1987, the Coast Guard budget, which fell under the Department of Transportation at the time, lagged behind Defense Department budgets that reaped massive increases. Yost faced continued pressure to downsize the Service's budget throughout his tenure, making his internal shift in resources even more impactful on other missions. Drug interdiction claimed 24 percent of the 1989 Coast Guard budget, com-

pared with 13 percent in 1982. The budget share for the Marine Safety program, which included inspectors and investigators, dropped from 8.6 percent to 6.2 percent during this seven-year period (Nadler 1989).

As an aside, the associated pursuit of efficiencies led to critical improvements in the support establishment. Rear Admiral Marshall E. Gilbert led the 1986 Field Realignment Study (better known as the "Gilbert Study"). The reorganization team used this opportunity to make significant changes to a highly inefficient and less than effective pre-World War II support organization. The plan established two regional Maintenance and Logistics Commands, one each for the Coast Guard Atlantic and Pacific Areas. Established in 1987, these consolidated the geographically dispersed small staffs within the traditional Coast Guard districts into robust technical and engineering entities. This realignment freed up both civilian and military positions for use in other mission areas. For example, 760 civilian positions were abolished and 638 new ones were created (Gilbert 1987).

In March of 1989, with a little over a year remaining in Admiral Yost's tenure as Commandant, the *Exxon Valdez* oil tanker grounded on Bligh Reef and spilled 11 million gallons of crude oil in Prince William Sound, Alaska. This was the largest oil spill in U.S. waters until the 2010 Deepwater Horizon in the Gulf of Mexico. This disaster exposed the Coast Guard's incrementally imposed reductions in both staffing and capabilities investments. Subsequent investigation reports cited contributing causes as reduced staffing at the Marine Safety Office, Valdez, Alaska and limited or deficient Coast Guard communications and surveillance systems (NTSB 1990). The report to the President by

the Secretary of Transportation and Administrator of the Environmental Protection Agency noted as the first special emphasis point: “Prevention is the first line of defense. Avoidance of accidents remains the best way to assure the quality and health of our environment. We must continue to take steps to minimize the probability of oil spills” (Skinner and Reilly 1989). The *Exxon Valdez* oil spill is a classic example of "self-organized criticality" (Bak and Chen 1992). “The accumulated complexities of technology, people, and organizations had reached a critical state. All it took was one small error, embedded in an incredibly complex industry, and the wall came tumbling down” (Davis 1992).

To fortify prevention, both regulations and resources were increased. The Oil Pollution Act of 1990 (OPA-90) was enacted. In this act, Congress addressed tanker construction, personnel licensing and the emergency rapid-response capability. The Act called for mandatory double hulls on new tankers and the gradual phase out of non-compliant vessels. The licensing requirements for ship’s officers were strengthened in the area of drug and alcohol testing. The rapid-response capability was expanded nationwide and new emphasis was placed on oil pollution research. The act gave the Coast Guard its single largest legislative tasking in history. A major new responsibility was the creation of response groups (known as Strike Teams) capable of responding to spills and other disasters. In addition, during fiscal years 1991 through 1994, Congress provided funding to the Coast Guard to add 875 billets (positions) to its Marine Safety Program to increase marine safety and environmental protection capabilities (GAO 1996b). In essence, failure was rewarded with resources.

Not surprisingly, the next Commandant had a different mission focus. Beginning with this infamous event, a series of tanker incidents kept the Coast Guard focused on the Marine Safety program in the early 1990's and throughout the tenure of the next Commandant. Admiral J. William Kime (1990 – 1994) came in at the aftermath of the *Exxon Valdez* and made it his priority to focus on the marine safety and environment areas, rebuild this program's capability and respond to the OPA-90 statutory mandates. A career Marine Safety professional, he led the Office of Marine Environment and Systems from 1984 to 1985. It was obvious that the Administration's selection was purposeful and was meant to send a message. To avoid similar national disasters, the Coast Guard's focus was to be changed. As a result, the Marine Safety program flourished under Kime's tenure. Other programs would see the marine safety mission focus to be at the expense of "their" own programs, especially law enforcement (counternarcotics) and military preparedness. Accordingly, the additional weapons capabilities that were added to the fleet under Yost were removed and resources were shifted other places.

The Course to Industry Revolt

Admiral Kime, a marine engineer by education and experience, understood the need for good management practices. He pressed the Service to adopt Total Quality Management (TQM) to drive improvements, namely efficiencies, in its processes. This actually began the long path to the next Marine Safety program crisis. President Bill Clinton's won election in 1992 and declared his "Mandate for Change." Part of this initiative was to reduce the size of government. Towards the latter part of Admiral Kime's tenure from 1993 to 1994, the new Administration provided its direction to the executive

branch. Goals of the Clinton-Gore National Performance Review (NPR) included federal government personnel reductions to streamline the federal bureaucracy and reduce the federal deficit (NPR 2011). Without cutting major functions, NPR's goal was to reduce total federal employment by 252,000 through increased efficiency from "re-engineering" technology, streamlining procedures, and reducing paperwork.

The Coast Guard, an organization that prided itself on its high responsiveness as noted in the culture section, Chapter 5, Section 6, introduced its own "Streamlining" (or "better government at less cost") initiative. This effort was developed to absorb its share of the targeted reductions: $400 million and 4,000 people by 1998 to meet a 12 percent budget decrease. The Coast Guard was to "do more with less" and faced the dilemma to find these savings in a workforce already undersized for its wide-array of growing responsibilities. These "reengineering" efficiencies began to reverse the buildup of marine safety and environmental protection capabilities as dictated by OPA-90. The qualifications and expertise of the Marine Safety workforce, as is noted in Chapter 5, Section 5, Marine Safety Workforce, and reflected in post-*Exxon Valdez* studies, was inadequate. Although the Coast Guard had embarked on workforce improvement efforts with the additional personnel resources, Streamlining prevented the Agency from recovering.

Following shortly on the heels of "Streamlining," the nation was stunned by the events of September 11, 2001. Soon the Coast Guard transitioned to a "new normal" in operations. This new normal represented a shift in port security mission emphasis. Prior to 911, about one to two percent of the Coast Guard's resources was devoted to security. Post-911, the Coast Guard had to literally reprioritize missions overnight and build back

the port security mission. Port security immediately shot up to more than 25 percent of operating expenses. To execute this changed security posture, all field resources were put into play. Marine safety personnel, an established workforce already familiar with port facilities and the commercial vessels that plied our waters, were a natural to help make our ports and waterways secure. There was a major shift in resources. Safety activities were displaced by security activities and for a while it seemed that the Coast Guard was out of the safety and environmental business. The inspection effort was naturally reduced. In turn, this further diluted the Marine Safety workforce's expertise.

The increase in port security resulted in the Coast Guard losing focus on the marine industry, its major external customer and stakeholder. Facilitation of commerce was always an important consideration of the Marine Safety program. As noted in Chapter 7, given the breadth and size of the maritime industry, the Coast Guard's greatest leverage to improve safety and environmental protection is by calling out bad performers and rewarding good performers. This is aided through strong, working partnerships with the marine industry. The post-911 environment destroyed the long-standing balance between marine safety and maritime supply chain management. The economic issues faced by the industry were disregarded and the good actors were no longer treated as valued partners. As a result, Congress and the industry brought the Service to task. They believed that the Coast Guard Marine Safety program performance and service had deteriorated. Congressman James Oberstar, D-MINN, Chairman, House Committee on Transportation and Infrastructure, held a meeting with industry in May 2007 and offered the idea of moving Marine Safety functions out of the Coast Guard to another agency. The new

"Maritime Safety Administration" statute had already been drafted. To head off further Congressional action, the Commandant at that time, Admiral Thad Allen, asked Vice Admiral James Card, USCG, retired, a Marine Safety professional and former Vice Commandant, to conduct an independent assessment and provide suggestions for improvement (Card 2007).

> The biggest concern expressed by all those interviewed was that the Coast Guard no longer considered Marine Safety an important mission for the Coast Guard and therefore let performance and service slide. The second biggest concern was the harsh treatment that the marine industry received from the Coast Guard during routine boardings, inspections, investigations, and mariner licensing evolutions (Card 2007).

Informed with this analysis, Allen began to renew effort on the Marine Safety mission:

> We will improve marine safety program focus and performance. I have directed the development of strategy and action items that address three broad areas of concern. The first one is to improve major marine safety program capacity, competency and performance. The second one is to enhance service delivery to mariners and industry customers. The third is expand outreach and advisory mechanisms for industry and maritime communities. (Allen 2007).

As a direct outcome, the Marine Safety Performance Plan (MSPP) was issued in May 2008 to address all of the areas of concern, and included GPRA requirements for performance measurement and evaluation (USCG 2008). Through this plan, the Coast Guard embarked on an increase of more than 500 marine safety positions. Once again, the Coast Guard was awarded resources for failure.

As discussed in Chapter 5, Section 8, Resources, the Coast Guard's post-911budget showed a steady yearly increase and peaked in 2011. Affects by the Budget Control Act (BCA) would have the 2015 budget back down at the 2009 level. Sequestration also hit the Service hard, as well as many other agencies. Meanwhile, the marine industry con-

tinues to grow about 5 percent per year with increased technological complexity. Notably, this latter time period experienced the 2010 Deepwater Horizon oil rig explosion and sinking in the Gulf of Mexico with eleven deaths and more than 200 million gallons oil spilled. This was the largest maritime spill accident ever. The new Bureau of Safety and Environmental Enforcement (BSEE), Department of the Interior, took on the enhanced mission with a significant resource increase. Although the Service led the oil spill response and participated in numerous Congressional hearings, apparently the Coast Guard did not want to own the threat and manage the risk. No increased resources were sought. One possible explanation is that mission expansion to include offshore deep-water drilling platforms would have likely competed headlong against what was a continued difficult sell to Congress. The much needed and long overdue Deepwater fleet recapitalization will cost multi-billions of dollars over two decades. Meanwhile, the difference between what the Coast Guard has and what it needs to appropriately execute its Marine Safety mission continues to grow. Another cycle is beginning.

These two cases of resource and requirements change over long time periods illustrate two issues. First, they support a number of the arguments presented in the literature review. They illustrate one of Beryl Radin's contradictions, the conflict between values of efficiency and effectiveness (Radin 2012). These resource changes were intended to increase effectiveness, but were actually efficiency measures with inadvertent consequences for the Marine Safety program. This also supports the arguments that leaders making strategic decisions are dealing with wicked problems. They are never dealing

with a single isolated or isolatable problem. Interconnections among problems have unintended consequences (Rittel and Webber 1973, Conklin 2006).

Second, the two cases reinforce the Marine Safety program's position as a low profile mission within the Coast Guard's multi-mission portfolio. That is true until a confluence of factors markedly raises its visibility and causes great introspection. The program's purpose is to keep bad things from happening. Non-events are virtually impossible to measure. Marine Safety is normally not a major budget item of interest to the Service. The Coast Guard, especially in what has generally been a declining resource environment, will always have many pressing and competing budget needs. And if a major incident occurs, Congress is willing to throw the Service a lifesaver in the form of significant dollars. Notably, the foregoing analysis also indicates neither of these cases of resource decrease and increase had much to do with performance management and performance-based budgeting. Performance deficits were not brought to light until the Coast Guard was overtaken by externally-driven events. Exogenous events drove Congressional, Administration and Coast Guard decision-making.

With the first crisis, the 1980's and the *Exxon Valdez* oil spill predated GPRA; theoretically the tools of performance management were not in play. The reductions in Marine Safety program capabilities, both in personnel and vessel traffic monitoring systems, were not risk-based decisions that could have been aided by performance management-related metrics. However, in the second crisis, created by Streamlining followed by shifted mission focus post-911, theoretically performance management-related metrics were available. Nonetheless, there were factors that rendered the Marine Safety pro-

gram's indicators as irrelevant. As explained in the next two sections, these included the limited scope of the program's metrics (lack of balance and leading indicators) and a general inattention to metrics from top leadership.

3: Seeking Outcomes (Metrics and Goals)

The outcome is often not clear; charts (roadmaps) are either not available or incorrect and the destination (goal) is difficult to determine.

GPRA seeks to shift the focus of government decision-making and accountability away from a preoccupation with the activities that are undertaken. For example, a change from Marine Safety inspections to a focus on the results of those activities, such as material gains in safety. The most critical step in the performance management approach is developing a performance plan that describes the goals and objectives, including outcome-related goals and objectives, for the major functions and operations of the agency (GPRA 1993). The theory is that unless the destination is set and the roadmap established, performance management cannot be effective. GPRA asserts that the process of establishing and using program metrics and goals is straightforward. This is a false assumption. This section illustrates the measurement difficulties faced by the Marine Safety program.

There are problems with outcome measures for regulatory programs. From the beginning of its performance improvement activities, one of the most significant performance management challenges faced by the Marine Safety program was how to create appropriate output metrics (such as vessel inspection results) that align with the GPRA outcome measures (deaths and injuries). The GAO cited the Marine Safety

program as an exemplar in using performance information to produce results. Nonetheless, the Bush Administration's Program Assessment Rating Tool (PART) evaluation of the program, based on a strict interpretation of GPRA requirements, cited issues with its annual performance metrics and long-term goals.[13] This should not be surprising. Research on the PART process found that programs with outcomes that are more difficult to measure and span many years to produce results, such as regulatory programs, were disadvantaged in the PART performance assessment (Greitens and Joaquin 2010).

Fundamentally, the Marine Safety program's mission is to prevent bad things from happening. Deterrence is difficult to measure. Consequently, there is the challenge to find appropriate measures of "non-events." This is the quest to tie enforcement activities (safety inspections) to outcomes, such as preventing deaths or oil spills in the case of the Marine Safety program. The organization cannot be sure that the actions it takes materially contributed to a reduction or perhaps a complete absence of the event. Arguments are similar to those with "Broken Windows Policing."[14] For example, what are the appropriate measures of that policy? Misdemeanor arrests are used as a customary indicator because this information is readily available. However, this measure alone does not adequately represent this citizen-centric policing approach. Other activities include difficult to quantify community outreach and other discretionary actions undertaken by police officers.

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[13] PART Program Assessment Coast Guard: Marine Safety 2005. http://georgewbush-whitehouse.archives.gov/omb/expectmore/summary/10003609.2005.html.

[14] See Center for Evidence-Based Crime Policy, George Mason University: http://cebcp.org/evidence-based-policing/what-works-in-policing/research-evidence-review/broken-windows-policing/.

Besides the difficulty demonstrating the 'end results' or outcomes, the Marine Safety program is unable to identify causal linkages and correlate input activities with outcomes. For example, with Congressional direction in 2007 to refocus and improve the program's performance, the Coast Guard could not articulate how a requested increase of inspectors would translate to results.

The following verbatim quote offers a frank assessment of the utility of GPRA-required metrics and is one of the most succinct appraisals of GPRA obtained through the interviews.

> GPRA measures are okay for strategic guidance, but useless in the field. What are called "heart attack measures," something that has already happened. Another problem is that they are not easily normalized within a given geographical area, not statistically significant and not possible to use to target resources. Can't tell if we are doing what's necessary to be effective in prevention. GPRA well intended, but a failed program because it gets politicized; the Coast Guard's GPRA measures would look very different if we were able to show what really indicates our performance. Measures need to look good to the public, hands are tied. GPRA helpful in the extent that helped push the Coast Guard to think analytically, but we have a set of GPRA measures (DHS mandated) and those management metrics that we actually use. Also, really hard to measure prevention because hard to measure things that didn't happen; difficult to measure your direct impact on prevention – can measure the end result (collisions, groundings, etc.) and hope the list goes down, and take credit if it does or explain that you couldn't normalize if they went up.[15]

Using a medical metaphor, the Coast Guard refers to a number of the outcomes measures reported under GPRA requirements as "heart attack measures." These metrics are categorized as lagging[16] indicators, for instance, loss of life. For example, the propensity of heart attacks is measured by leading indicators such as obesity, smoking, elevated blood pressure and high cholesterol. Tracking and addressing these issues treat

[15] Interview of Marine Safety program leader.
[16] Lagging indicators are normally system outputs, easy to measure but difficult to improve or influence (loss of life); leading indicators are usually system inputs, hard to measure but relatively easy to influence (safety culture).

heart disease and reduce heart attacks and deaths. Similarly, leading indicators for a safety program would include a set of deficiency or risk measures that taken together would have the greatest probability to forecast accidents and deaths.

There are issues with current measures. The program presently reports safety metrics (deaths and injuries) for commercial mariners, commercial passengers and recreational boating. For each of these three, both annual numbers and five-year averages are provided along with their trends since 2008. The Homeland Security Institute (HSI) performed an independent evaluation of the Marine Safety program (HSI 2009). This comprehensive review included an assessment of the associated performance measures and outcomes. Their conclusions included:

- The effectiveness of the program, based on the current measures, has improved over time;
- There are no causal linkages identified between program resources and activities and the outcome measures used by the program (no apparent quantifiable association between inputs/outputs and outcomes);
- Marine fatalities are a reliable measure due to legal requirements to report deaths, however, injuries are not reliably reported creating large variations in data reliability;
- Performance measurement data should be normalized[17]; and
- Inconsistent reporting of performance measures on multiple documents.

[17] Metrics, such as accidents, should be reported as a rate, such as "100 incidents per 10,000 voyages" rather than an absolute number; however, reliable and appropriate numerator data is not readily available.

HSI further recommended an additional set of extensive performance metrics that could improve insight into the root causes of Marine Safety accidents and detect trends that should help quantify potential marine incidents.

> To significantly improve the effectiveness of the Prevention Program, it would be beneficial to identify leading indicators that could forecast risks before a casualty occurs so that interventions might be implemented. A very successful application of leading indicators in the marine safety field is the Port State Control program, which identified factors (the Port State and the Classification Society of a vessel) that could be used to forecast which foreign flag vessels arriving in U.S. waters were more likely to suffer marine casualties. The Coast Guard then "targeted" those vessels with Port/Flag states and Classification Societies having lower standards and greater casualty rates for inspections when the associated vessels arrived in U.S. ports…within a matter of just a few years, the casualty rates of foreign flag vessels in U.S. waters dropped dramatically (HSI 2009, p.38).

The HSI report echoes the need to find additional leading indicators. However, efforts to predict which parts of the maritime fleet might be under stress have been unsuccessful; a good predictive system has not been developed. Various industry trends (liquid natural gas (LNG) propulsion, technology, deep-water offshore drilling, etc.) are leading indicators of future workload, capacity and competencies. However, they are not necessarily directly indicative of types of the specific safety issues the Coast Guard will face.[18] Furthermore, even if the likely failure points are known and monitored, will they make a difference? Case in point is the 2010 Deepwater Horizon well blowout and massive oil spill in the Gulf of Mexico. Technological advances have enabled offshore drilling in ever-increasing deeper waters. A casual observer would have noted that the potential for catastrophic events increases with depth. Safety procedures were in place, but were over-

[18] Interview of Marine Safety program leader.

ridden by profit-driven management decisions. What safety-related metrics might help prevent or minimize occurrences in similar situations?

The politics of performance reporting restrict GPRA metrics. Although the Marine Safety's measures basically meet the government–wide reporting requirements, the Coast Guard argues that the measures are outdated and need to be changed. However, the program has not been able to change them to better reflect its performance as it "locked" into these metrics by Department, OMB and Congressional direction and politics. These "reported" measures are inhibited by two key factors. First, the types of measures are constrained by OMB/GPRA emphasis on "high-level" outcomes. Second, OMB and DHS pressure limits the total number of reported measures, given the large number of DHS missions and programs.

Politically no one wants to back away from a "zero fatality" goal, although this is impossible to achieve in practice (it is now referred to as an "aspirational" goal with year to year targets of reduced deaths and injuries). Moreover, we are in an environment where one *Costa Concordia*[19] accident overrides all sorts of lagging indicators; the Coast Guard cannot wait for the next *Macondo*[20] to occur or even a *Carnival Triumph*[21] to lose power. The consequences are enormous for even just one mishap that may lead to a major loss of life or severe environmental damage.

There are further measurement challenges. Safety Management Systems[22] (SMS) produced by the vessel owners and operators create its own issues. There are indications

[19] *Costa Concordia* (2012) grounding and capsizing in off Italy killed 32.
[20] *Macondo* blowout (*Deepwater Horizon* oil spill 2010) killed 11.
[21] *Carnival Triumph* (2013) cruise ship stranded at sea for several days due to engine room fire.
[22] International Safety Code (ISM), International Maritime Organization (IMO), establishes safety-

that many companies that tout their safety management systems are the same companies that have significant safety issues on their vessels. SMS present a number of program challenges. Are they really effective and what needs to be done to ensure that they are actually implemented, rather than paper-based efforts? What are the key indicators that a Coast Guard inspector can use to determine if the vessel really has a viable SMS? Does the ship-owner have a tangible safety culture?

GPRA requires agencies to establish a balanced set of performance indicators to measure or assess progress toward each performance goal, including, as appropriate, customer service, efficiency, output, and outcome indicators (GPRAMA § 1115(b)(6)). The Marine Safety program performance indicators fall short of this "balance" requirement. First, there are multiple issues with the current outcome measures (deaths and injuries). Second, there are recommendations for additional measures by HSI, especially leading indicators, but all have design and implementation challenges.

Third, there are no measures related to customer service. "The economy is the backbone of our national strength; got to keep ships moving; you got to turn them around in the port."[23] An efficient maritime transportation system is critical to America's economy and competitiveness (USCG 1999, p.1-6). The Marine Safety mission is fundamentally about facilitating this system in a safe and secure way. This means understanding how the supply chain operates and the potential causes of disruptions. Experienced Coast Guard Marine Safety professionals understand the need to conduct the necessary safety

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management objectives and requires a safety management system (SMS) to be established by the ship-owner or whoever has responsibility for operating the ship.

[23] Interview retired Coast Guard Marine Safety leader.

and security inspections and investigations, and at the same time keep the critical port operations moving.

> The dramatic rise in containerized shipping over the past four decades has changed not only vessels, but also the ways in which they are handled and moved across the globe and in U.S. ports. Whereas in the past, the average length of a port stay in a major U.S. port could be measured in days, today's modern container ships move between the major shipping ports of the world with minimal downtime, dwelling dockside for as little as 6-12 hours before departing for their next port of call (USCG 2011, p.4).

The adage for industry that "time is money" is especially true in the maritime environment. Port calls are intensive, high-cost and fast-moving operations that require detailed coordination of multiple actors. Wholesalers and retailers rely on predictable delivery schedules. A disregard of this vital link in the supply chain is one of the major reasons that the marine industry revolted in the post-9/11 intensive security environment. The Coast Guard's approach to prevention relies on extensive partnerships throughout the national and international maritime community, especially with private industry. If the Marine Safety program is to seek a balanced set of indicators, it will need to add marine industry measures. But what should they be and can they reliably reported and collected?

The program is credited with specific measurement successes. As noted by the Homeland Security Institute, the Marine Safety program uses metrics in internal-driven performance improvement approaches. These are the Port State Control (PSC) and the Prevention Through People (PTP) initiatives, described in detail in Chapter 8. For example, in the 1990's the program began looking for trends rather than absolute numbers. Analysis of these trends provided explanations of the underlying safety and environmen-

tal problems. Reasons discovered were fed back into prevention activities. The Prevention Through People (PTP) initiative was cited by the GAO:

> Traditionally, the Coast Guard based its marine safety efforts on inspections and certifications of vessels. It measured its performance by counting outputs, such as the number of prior inspections and outstanding inspection results. But the data on marine casualties indicated that accidents were often caused, not by deficiencies in the vessels or other factors, but by human error… Putting this information to use, the Coast Guard changed the focus of its marine safety program from outputs to outcomes in its first business plan, dated January 1994. After all, it came to recognize, the mission of the marine safety program was not to do more and better inspections of vessels, but to save lives. As a result, the Coast Guard shifted its resources and realigned its processes away from inspections and toward other efforts to reduce marine casualties… (GAO 1996a, pp.36-37).

The adage "transparency breeds self-correcting behavior" has worked well with the Port State Control initiative. This is an astute use of "market forces" to attain regulatory compliance. Nevertheless, the Coast Guard is not able to clearly differentiate the subset of critical safety deficiencies from the long lists of detected deficiencies. The Marine Safety program's move in that direction could aid analysis and development of some leading indicators. For example, in the latest Port State Control Annual Report:

> …a major driving factor for the detention increase this last year is a troubling trend where crews are intentionally disabling required safety equipment. For example, we have found vessels with blocked-open remote quick-close fuel oil shutoff valves intended to isolate engine fuel supplies from a machinery space fire. In the event of an engine room fire, these fuel valves could not be closed remotely. We also found vessels with periodically unattended machinery spaces that have disabled fixed water mist systems by closing water supply valves or by placing the system in manual mode, thus preventing automatic operation in the event of an engine room fire. These types of actions place crews, ships, and the environment at risk, and cast doubt on the vessel's safety culture and implementation of the ISM Code. The Coast Guard is detaining vessels which have serious fire safety deficiencies such as these and we look for owners, operators, crews, flags, and class societies to eradicate such unsafe practices. (USCG 2013).

In summary, the Coast Guard and the Marine Safety program in particular continue to be challenged to develop and use suitable GPRA-mandated metrics. A particular problem is the inability to tie input (resources) and output (inspections) activities to mission outcomes (improved safety), one of the supposed foundations of the performance management approach. This dilemma is not the result of either a lack of interest or effort. This is an issue that is especially inherent with regulatory programs. A major complication to analyzing the effects of environmental regulation, similar to Marine Safety-type regulations, "…is the difficulty of pinpointing which factors caused which outcomes" (Schuck 2014, p.258). The foregoing suggests that the Marine Safety program should strive for more effective measures; some of the issues, however, although espoused by program management theory, are not likely to be solvable in the complex maritime regulatory and political environment.

4: Leadership and Accountability

The Captain may be competent, but other leaders, with differing perceptions, needs and requirements, order course changes that create ambiguities in mission execution.

> Performance management systems are a vital tool for managing and directing…organizational transformations because they create a "line of sight" showing how team, unit, and individual performance can contribute to overall organizational results. Additionally, performance management systems can be used to hold employees accountable for achieving and incorporating results into management and employee decision making. (GAO 2003).

Proponents of the performance management approach consider leadership and accountability to be intrinsically linked. This section presents findings on how leadership and accountability issues affected the implementation of GPRA. Leadership is observed from two perspectives: program-level and Agency-level.

Program Leadership

Performance management proponents note that "…using performance information is a leadership strategy, not a set of processes and procedures" (Kamensky 2014). A theme, articulated in all interviews, was that leadership was the single most important factor if the Coast Guard is to design and implement data-driven performance improvements. It is recognized that certain aspects of the Marine Safety program are amenable to goal setting, data collection, and 'steering' along the lines envisaged by performance management methodology. However, as Chapter 8 illustrates, the program's success in using data to improve performance is through internally driven initiatives. Nevertheless, there were leadership issues that aided and hindered this approach.

Throughout much of the 1990's, a period that coincided with the formal roll out of performance management through GPRA, the Marine Safety program had visionary leaders who understood the concepts and potential benefits of this management model. They drove an effort at Coast Guard headquarters to develop a Marine Safety business plan. The plan described where the program needed to go, established its goals and defined the activities to achieve them. With the recognition that good information was necessary to make the most effective decisions, the Marine Safety Information System (MSIS) became the vehicle for acquiring the data. This enabled Headquarters staff to evaluate trends, attempt to relate results (outcomes) to the program's efforts and hence, determine what goals should be set. The challenges of this effort were discussed in the previous section. However, an overwhelming number of interviewees observed that it was critical to have program leadership's commitment to metrics and to the "roadmap" of

the Marine Safety business plan.

The Marine Safety business planning process was the first time that the Coast Guard endeavored to link its activities to projected outcomes. As previously described, the program struggled with this relationship. However, it created a process for looking at what the program was actually trying to accomplish, such as reducing marine accidents, and investigating the causal factors. Corrective measures could then be implemented. The business plan provided this new direction to the field units. The plan initiated a dramatic shift away from simply reporting activities (e.g. number of boardings) as evidence of prevention accomplishments. Units were to assess risks within their areas of responsibility. Activities (e.g. inspections) would then focus on the greatest risks, areas where risk reduction should equate to safety or prevention outcomes. Progress was to be measured against the business plan goal.

The following are two examples of this approach in action. First, a Texas Marine Safety unit reviewed oil spill data and discovered that a large number of spills occurred in the middle of the night during oil transfers to barges. They surmised that the transfer crews were less attentive that hour of the night without Coast Guard presence. A shift in Coast Guard oversight hours to cover this high risk period resulted in a 70 percent decrease in oil spilled. The second example involves a significant loss of life in Alaska. Marine accident data indicated that there were a high number of deaths on two specific days of the week on fishing vessels engaged in sea urchin fisheries. These deaths occurred in route to the fishing areas in bad weather. Analysis revealed that the hazardous operating conditions and resulting high loss of life was created by restricted

fisheries regulations. These regulations, which only opened the fishing grounds for prescribed time and date windows regardless of the weather, placed mariners at undue risk. The Coast Guard took this evidence to the governing fisheries council. The resulting change to a quota-style system enabled the fishing vessels to avoid adverse weather; deaths all but disappeared.

Program leadership was also instrumental in the pursuit of "partnerships" to bring together the Coast Guard and industry to mutually address their safety issues. Before the 1990s there was an antagonistic relationship between the marine industry and the Coast Guard. Due to a lack of cooperation, there was no common basis for establishing safety goals and pursuing initiatives to achieve their shared goals. This relationship was dramatically altered as a result of the *Exxon Valdez* oil spill and the regulations and studies that were the result of the Oil Pollution Act of 1990 (OPA 90). Another contributing factor was the worst accident in the history of the towing industry. In 1993 a barge strike on a bridge caused the Amtrak Sunset Limited train wreck, killing 47 and injuring more than 100. This was referred to as the "wakeup call for the industry."[24]

Marine industry leaders began to understand that if they continued down this path of non-engagement, they were going to end up with a lot of bad regulations. As a matter of self-interest and with the objective of changing the relationship, industry started trustful conversations with the Coast Guard. As a result, the Coast Guard recognized this was a changed industry and mariners were serious about operational safety. Coincidently, Marine Safety program leadership sought a different enforcement model to leverage their

[24] Interview with marine industry member.

limited resources. The challenge was how to get industry to work with the Coast Guard to improve the safety of their operations. The answer was "partnerships." By 1995, these conversations led to the first formal CG-industry partnership, the Coast Guard-AWO (American Waterways Operators) Safety Partnership. In this forum, Coast Guard senior leaders met with senior leaders of the U.S. tugboat, towboat and barge industry. The objective was to work together in a non-regulatory way to improve safety and environmental stewardship in the industry. What are the goals and what are the reasonable ways to achieve those goals? Data was evaluated, trends tracked and leaders who best understood the business engaged in a conversation about how they could cooperatively improve performance. Since it began, the group has spawned more than 40 quality action teams (working groups) to directly address industry issues. Most significant is that the partnership has led to the current collaborative process of rule-making related to towing vessel inspection.

Another enabler of data-driven performance improvement was the relative stability of the program's leadership during the 1990's. Turnover, inherent in a military officer "up or out" promotion system, was decidedly less than in both previous and subsequent periods. Although the titles have changed over time, the top flag officers responsible for the Marine Safety mission had an average of 2.23 years in that position over the preceding two decades (1970 to 1990). During the 1990's, it rose to 3.3 years. Thereafter to the present, the average tour length dropped precipitously to 1.86 years. The latter period coincided with two significant events. The first was the turmoil post-9/11, where heightened port security mission requirements reduced the personnel and

expertise of the marine safety workforce. The second was the "reorganization chaos" of realigning the Headquarters-level programs into Prevention and Response directorates (subjugating the Marine Safety mission). Meanwhile, these functions at the field-level, with completely different commands, structures and expertise, were being combined into new Sector commands. As a result, the program lost focus on the performance management progress achieved during the previous decade. This was exemplified by the industry's criticism that the program's performance and service had slid and a subsequent push through Congress to extricate the Marine Safety mission from the Coast Guard (see Section 2). Vice Admiral Card's independent assessment of the Marine Safety program, after this loss of attention to its mission, called for the program to reinvigorate the strategies that emerged from the earlier performance management efforts (Card 2007). "We lost about eight years of effort."[25]

Furthermore, the establishment of the Deputy Commandant for Operations (DCO), part of whose responsibilities include the Prevention and Response directorates, shifted management resources out of individual programs and placed them at the higher DCO-level. Hence, the management analysis group that supported performance improvement efforts no longer directly reported to Prevention program leadership. The change to the DCO organization has some benefits and has created efficiencies; however, compared to the old structure it reduced the agility of program leadership to manage the Marine Safety program.

[25] Interview with Senior Coast Guard leader.

Agency Leadership

> …throughout my Coast Guard career and having served for almost two decades in the private sector side of our maritime industry, performance based management always seemed to be regarded by mid and top leaders, as a ho-hum bean counting function, a necessary evil to be avoided if at all possible. It was often regarded as a potentially dangerous and politically explosive process…It was a function that seemed to hold some logical significance but needed to be practiced far from…where senior level executives could freely exercise their personal knowledge and intuition...the very stuff that got them to where they are. Only in cases where large, vigorously waving red flags popped up, were performance measurement results to be placed on scheduled board meeting agendas.[26]

"Senior leadership is what matters—are they behind this or not?"[27] The Coast Guard, as all government agencies, has seen a number of management initiatives come and go. Some were more successful than others, even if only for a short time. Those with some level of success had a common characteristic—top leadership buy-in and promotion, through recognition and resources. The Coast Guard leadership issues relevant to this research fall into two areas: perceived value of the Marine Safety program and consistency of support for performance-based decision-making.

As discussed in more detail under the impact of exogenous events (see Section 2), as evidenced by resource decisions the Marine Safety program has repeatedly experienced a lack of top-level support within the Agency. Federal agencies typically experience a significant turnover at the top. The Coast Guard is no exception and the succession of Commandants (4-star Service Chiefs), creates swings of budget priorities. In the 1980's, the Commandant shifted resources from the support programs and Marine Safety to bolster the Service's capabilities for the high-growth drug and migrant

[26] Statement of retired Coast Guard Marine Safety Officer
[27] Interview with Senior Coast Guard leader.

interdiction missions and increased military readiness. In the 1990's, "Streamlining," a response to the Clinton Administration 12 percent downsizing initiative, took slices out of the Marine Safety workforce. And in the 2000's, the reallocation of effort from marine safety to security diminished Marine Safety capabilities. In each of these instances, the message received by the Marine Safety program was clear. Senior leadership did not value the program relative to other missions. "Leadership of the organization is not behind the safety mission."[28] This perception and the lack of program understanding by top leaders were clearly evidenced in Vice Admiral Card's report. The Marine Safety program is perpetually challenged to have the Commandant and those senior administration and Congressional leaders external to the Coast Guard "accept, adopt and support" the program (Card 2007, p.11).

The standard turnover of Commandants every four years has also created a waxing and waning of support for service-wide process and performance management initiatives. Created in the 1990's, Organizational Performance Consultants (OPC) positions were established to help drive the use of data-driven solutions to increase the efficiency and effectiveness of processes throughout the organization. Reorganization and budget cutting has dismantled much of this capability over the last decade; 27 OPCs have been reduced to just five, and they too might be eliminated. Coast Guard leadership recognizes the need for data and analysis to make informed decisions. Nevertheless, as evidenced by resource allocation decisions, interest in bottom line data is not a priority.

Coast Guard leaders intuitively understand that it would be of great value to have

[28] Interview with previous Assistant Commandant for Prevention

good data and "scorecards" or similar tools that could relate resource decisions to predicted outcomes. However, the Service is far from this vision and is not likely to get there in the near future. As explained in Chapter 5, Section 3, Metrics and Goals, the Marine safety program has struggled with this over three decades and still falls short. The Coast Guard's other programs, especially those of the Response missions, are not as far along when it comes to the collection and use of data.

To this point, the planning and performance process has not yielded the results that the Service could likely achieve with the right level of commitment from senior leadership. The mission programs have strategic plans that are updated each year. There is engagement with Assistant Commandants (program leaders) with setting objectives, but a gap exists between the GPRA-driven processes and leadership's priorities. The performance planning and reporting process is sophisticated on paper, but remains limited in application.

Accountability

Proponents argue that the major value of performance management is to hold leaders and managers accountable for program performance. As noted earlier, Senator Mark Warner, D-Va., a key author of GPRAMA, stressed holding senior officials "accountable" (Clarke 2011). There may be little truth in this. First, some find the performance-accountability nexus seriously deficient (Dubnick 2005and Radin 2006). Second, as discussed in Chapter 5, Section 3, Outcomes, setting goals (where program leaders are to be held "accountable" for achieving the goals), is highly problematic. This is especially true in a complex, regulatory program with many different stakeholders and

divergent objectives.

This "accountability" actually means "compliance." Proponents advocate that performance management produces greater accountability and, through this, improved results. However, they are actually arguing that such accountability provides the basis for monitoring and therefore producing compliance. But the problem is that making leaders compliant is not a sound principle in a complex environment where flexibility is desirable. Compliance is appropriate when things are straightforward and the problems are tame. Accordingly, this study's participants overwhelming believed that a major impediment to performance management is the idea of being held accountable for results that they cannot adequately influence. The question consistently arises, "What can we actually influence and what can we therefore control?"

Coast Guard Marine Safety is a regulatory regime, the objective of which is to "prevent bad things from happening."[29] When it comes to outcomes such as preventing marine fatalities, a multitude of factors are in play. As previously discussed, current Marine Safety GPRA metrics are "societal" outcomes, not exclusively affected by Coast Guard activities. The Service can strive to ensure regulatory compliance and establish corresponding outcomes. There are three reasons why using societal outcomes with both Department-level and legislative oversight places the Service's leadership in a difficult position. First, theoretically performance-based decision-making should be able to help improve resource allocation. However, many outcomes are neither definable nor comparable across programs. The data might dictate a course of action different from

[29] Terminology used throughout the Marine Safety program and Performance Management staffs to emphasize the metric conundrum faced by all of their prevention programs.

leaders' experiences, expertise and personal desires. Second, there is the concern that those outside the Coast Guard might get the information and use if for their own purposes or perhaps contrary to the desired direction of Coast Guard leadership. Interviewees often expressed their concern that this information might be used to rationalize a reduction in resources. It is important to note that this has never happened. Politics will always be a substantial and significant reality in the performance of federal government programs. Any success in using metrics to manage a complex program, such as the Coast Guard Marine Safety program, must understand the political realities of our constitutional government. Federal programs must learn to operate within a framework that is often shaped by issues that have little relationship to performance.

Third, the marine industry continues to grow and increase in complexity. Meanwhile, the Coast Guard has limited resources to perform the gamut of Marine Safety program regulatory functions (develop standards, seek compliance and investigate incidents). Program leadership recognized decades ago that their "…goal is always to get the people to own their own safety systems. The Coast Guard does not make it safe…those that own and operate are the ones that are the safety net."[30] Inherently, it is a highly complex task of positive and negative incentives in a regulatory environment with at best a tenuous relationship between input resources (e.g., standards, inspections and investigations) and outcomes (e.g., deaths, injuries, property damage, oil spilled). Hence, there is a reluctance to be "measured" against these outcomes. This last point adds even more complexity as the Alternative Compliance Program (ACP) becomes a larger part of

[30] Interview with former Assistant Commandant for Marine Safety and Environmental Protection

the Coast Guard's Marine Safety program. Service delivery through third parties, the process employed by many federal programs, brings with it its own set of "fragmentation" challenges in managing the performance of the implementers (Radin 2006).

In summary, leadership and accountability in public agencies is much more nuanced than advocated by performance management proponents. The interplay between the two profoundly affects program execution. Insights gleaned into the Marine Safety program support a number of scholars' challenges to the argument that top-down performance regimes naturally drive increased performance. Research has shown that this type of accountability management distracts organizations from their strengths, inhibits program learning and creates blame avoidance in public reporting (Posner and Mahler 2009, Charbonneau and Bellavance 2012, Romzek and Dubnick 1987). The findings are consistent with the Government Finance Officers Association (GFOA) research of the performance measurement practices of larger cities and counties. One of their top three most important challenges of performance measurement is being held accountable for results that staff cannot adequately control (GFOA 2013). Following these observations on leadership and accountability, the next section addresses the professionals who do the work.

5. Marine Safety Workforce

The crew required to execute the program may not be adequate and/or well-trained.

As discussed in Chapter 2, performing today's complex tasks is knowledge work. Relationships, attitudes, values, commitment, individual accountability, openness, and

communication drive team performance. These critical attributes necessary for mission accomplishment are not addressed in performance management. The failure to see how work is actually done helps to explain why the standard, compliance oriented approach to improving performance is problematic (Addleson 2011). The Captain understands that a dedicated crew (team of competent professionals) is essential to a safe journey. Likewise, the Coast Guard Marine Safety program must have the requisite personnel to be successful. Rarely mentioned by performance management advocates, the program's professional workforce is the key to mission performance. Beryl Radin provides examples that illustrate the conflict between professionals and bureaucratic performance requirements (Radin 2006, pp.53-90). The following describes the impact of marine safety workforce issues.

A key to performance management is collecting quality data to enable the mining and analysis of useful information. The majority of the information on safety deficiencies and casualties (such as groundings, collisions, equipment failures, deaths, injuries, oil spills) is captured and entered into the electronic database by the inspectors and investigators of the Marine Safety workforce. The former board vessels to check compliance with regulations and the latter respond to marine incidents to determine causes and recommend corrective action. While still other data is to be reported by industry, the Marine Safety workforce is responsible for the quality and timeliness of this information. The level of technical expertise possessed by the work force ultimately has a direct impact on Marine Safety performance measurement. Over time, the program has struggled with both the quality and size of the workforce.

The Marine Safety program has very little in the way of physical assets such as ships, boats, aircraft, and shore facilities. It is a human-capital intensive program—assets are the people, their talents and experience. "People are our platforms."[31] Marine Safety program service delivery is mandated by statute and regulation, both domestically and internationally. When tradeoffs are made between missions, the dichotomy is that Marine Safety is the only Coast Guard mission with statute-driven workload requirements. Regulations require re-inspections, annual inspections, and periodic inspections of certificated vessels at specified intervals.[32]

The quantity and experience of the inspection and investigation workforce was adversely affected in the late 1990's and early 2000's due to "Streamlining" (USCG 1995) and the post-9/11 focus on security (see Chapter 5, Section 2, Impact of Exogenous Events). The Marine Safety Enhancement Plan was developed in response to Congressional direction to rebuild the Marine Safety program's capabilities. This plan added about 550 marine safety positions back into the program in the late 2000's. Over the ensuing five to six years, the Coast Guard is beginning to see "journeyman-level" inspectors back in the marine safety workforce. The challenge, as noted below, will be to keep them in the program with a continued pull from a growing marine industry and promotion issues within the Service. Meanwhile, the marine safety workload continues to grow and the program falls further behind. To offset the limited range and diversity of expertise, the program created "centers of excellence" to focus workforce proficiency for different categories of vessels and marine safety processes. Special officer accession

[31] Interview with Coast Guard Marine Safety Program Captain.
[32] U.S. Coast Guard Marine Safety Manual, Vol. II: Material Inspection, COMDTINST 16000.7B.

programs were critical, but were no longer used. They were squeezed out through competition with other human capital needs.

This conundrum has six aspects. First, the Coast Guard's internal manpower management processes are considered to be at odds with the need to build and maintain a competent marine safety officer corps (now called "Operations Ashore – Prevention" (OAP) specialty). The perception for decades is that it is difficult for marine safety officers to succeed in the Coast Guard's military officer promotion system. The Service endeavors to manage individual officer specialties, such as marine safety, while at the same time operate an "up or out" promotion system that is mandated by law. With the aforementioned mission appreciation and recognition issues, officers who follow a marine safety career path consider themselves disadvantaged as they become more senior and face stiffer competition for promotion.

The perception that officers within the OAP specialty were promoted at lower rates to Captain and Commander than their counterparts within other specialties has been investigated.[33] The conclusion found no significant evidence of adverse impact when comparing Prevention officers to all other officers in the Promotion Year (PY) 2010 and PY 2011 Captain Promotion Boards. However, evidence was found that suggests non-prevention officers may have been adversely impacted in the PY 2010 Commander Promotion Board. Likewise, there is evidence that prevention officers may have been adversely impacted in the PY 2011 Commander Promotion Board. Given the limited data set, it was not possible to conclude if these results were representative or extraordinary,

[33] Most recent promotion board analysis November 2010.

given a number of other potential influencing factors. Currently, the perception of disadvantage continues.

There is a comparable issue with the enlisted workforce. For example, a Boatswain Mate (typically boat coxswain and shipboard deck force duties) does not perform these operational skills while in a marine safety inspector position. This is a competitive disadvantage in promotion. They must still strive to complete their professional qualification standards (PQS) built around boat and ship operational competencies.

Second, these personnel system issues create another dilemma as the Service seeks the best mix of military and civilian positions in the marine safety workforce. The perennial question is, should there be more civilians or limited duty officers that do not face promotion competition (up or out) issues? There is steady competition for talent between the Coast Guard, marine industry and classification societies. The classification societies, such as the American Bureau of Shipping, are third party providers of Coast Guard marine safety functions. Naturally, they seek to employ those with Coast Guard marine safety experience. The marine industry has a major challenge to find well-qualified operators. The Coast Guard simply cannot compete in salary and benefits.

Third, with a workforce that turns over too rapidly or is otherwise diminished, the core knowledge base is quickly eroded. An example of the latter is post-9/11 when personnel with marine safety expertise were shifted to security functions. As a consequence, facilitation of commerce, the foundation for the Coast Guard's Marine Safety mission, was no longer being performed effectively. The Coast Guard is known for its great responsiveness, but this is both a strength and a weakness. Responsiveness

was a strength for rapid deployment to the "new priority" mission. Responsiveness was a weakness that created a loss of focus on a critical mission that requires a significant level of attention and customer engagement.

Fourth, there is Congressional budget-tightening of sequestration and other policies aimed at limiting government spending. As a result, the substantial budget increases that the Coast Guard received post-9/11 are being reversed. During the last four years, the program lost about a third of its Headquarters marine safety staff. Meanwhile, the regulatory environment becomes increasingly complex. With the energy boom there is tremendous growth in the offshore oil industry and potential for substantial energy exports. The Panama Canal expansion will drive further change in the marine industry. It is estimated that the marine safety workforce is about 300 people short. The gap between actual and needed personnel will only continue to grow. With fewer people to do more, the program's ability to promulgate responsive regulations will continue to deteriorate.

Fifth, 2010 legislation[34] on the Alternative Compliance Program (ACP) encourages industry to choose a classification society to perform regulatory functions on their behalf. These tasks include reviewing and approving plans, conducting inspections and examinations and issuing certificates of inspection. The ACP was established as a voluntary alternate process. This enables U.S. vessels to obtain a Coast Guard Certificate of Inspection (COI) by complying with the standards of an authorized class society (see Appendix A for complete description). ACP creates the environment for an even faster

[34] Coast Guard Authorization Act of 2010.

roll out of new designs and technology by industry as the Coast Guard struggles to keep up. The "lag" between change in the marine industry and regulations continues to grow. There is considerable concern that the risks are not being adequately managed. Moreover, the more recent 2014 authorization[35] goes much further. If requested by an owner or operator of an offshore supply vessel, the delegation of authority is required.

Last, leveraging the ACP will be a key to the Coast Guard's future success. It is the typical third party service delivery model used by many federal agencies. The Coast Guard will need to define the scope of these responsibilities and develop and operate an effective oversight process. An appropriate set of performance measures must be designed and implemented to monitor these outcomes.

The Coast Guard continues to be severely challenged to build and maintain critical Marine Safety workforce competencies in an increasingly complex technical field. The Coast Guard Authorization Act of 2010 requires the Service to take numerous steps to improve workforce expertise: improved career path management, apprenticeships, measurement of workforce quality and quantity, marine industry training program, and a marine safety curriculum at the Coast Guard Academy and other office accession programs. However, more recently the Office of the Inspector General, Department of Homeland Security, noted that the Coast Guard had not developed and retained sufficient staff to perform inspections and investigations work nor a sufficient number of qualified staff to train new inspectors and investigators (DHS 2013).

The current Commandant, Admiral Paul Zukunft, has cited human resource

[35] Howard Coble Coast Guard and Maritime Transportation Act of 2014.

competencies as one of his key focus areas (Zukunft 2015a). He refers to the need to grow "subject matter experts" for the Prevention (Marine Safety) workforce and overhaul the generalist-driven military personnel system in favor of a specialist workforce. This has been a perpetual challenge for decades. In his recent State of the Coast Guard address, the Admiral calls for increasing proficiency through more specialization in both the officer and enlisted corps. He is looking to extend the time between job rotations. The Admiral has directed the Vice Commandant to undertake a service-wide effort to revitalize the marine safety enterprise with particular focus on marine inspection and the regulatory framework. He further called for increasing the proficiency of the marine safety workforce and continue training new marine inspectors, adding to the more than 500 that have entered the workforce since 2008 (Zukunft 2015b).

Management of human capital is a dynamic endeavor and exemplifies "wicked problems" and social complexity. "Failing to recognize the 'wicked dynamics' in problems, we persist in applying inappropriate methods and tool to them" (Conklin 2003). This section described the professional workforce issues that have plagued the Marine Safety program for decades. "With wicked problems, on the other hand, any solution, after being implemented, will generate waves of consequences over an extended—virtually an unbounded—period of time" (Rittel and Webber 1973, p.163). The following section addresses other significant internal issues that have a profound influence on the adoption (or rejection) of top-down mandated management schemes.

6. Culture and Organizational Change

The seaworthiness (ability to operate in the intended environment) of the vessel (program) is limited.

> …the contemporary performance measurement movement largely falls within the one-size-fits-all and generic orientation. The attempt to rationalize the aspects of organizations that produce outcomes clearly ignores the uniqueness of programs or agencies (Radin 2006, p.50).

Performance management advocates expect that through the pursuit of certain practices, agencies can make progress in using performance information to make decisions. GAO cites five leading practices: (1) aligning agency-wide goals, objectives, and measures; (2) improving the usefulness of performance information; (3) developing agency capacity to use performance information; (4) demonstrating management commitment; and (5) communicating performance information frequently and effectively (GAO 2014c). However, GAO finds that agencies' reported use of performance information generally has not improved since 2007. This section provides research findings on other internal issues, beyond those discussed in the previous sections, which arguably had an even greater impact on implementing performance management. The first, culture, often impedes any attempt to introduce change. The second, organizational change, intrudes on cultural issues and further hampers and complicates adoption of other administrative processes.

Culture

The Coast Guard remains resistant to using metrics, which, in turn, has not facilitated the use of performance management. It does not fit the overall culture of the

organization. While the Service prides itself on its analytical capabilities, the rapid response mind-set of "Semper Paratus" (Always Ready motto of the USCG) places a premium on forward operations rather than backroom analytics. According to Marine Safety leadership, since the beginning of their efforts to measure performance, the program struggled with a culture that was not friendly to electronic database development and performance measurement. There was and still is a lack of appreciation by senior officers of the value such databases brings to performance improvement and resource management.

Organizations with multiple divisions or mission sets are typically characterized by diverse and often divergent cultures. The most distinctive difference in the Coast Guard is between Operations and Marine Safety. The recent reorganization is an attempt to merge the two. The Coast Guard recently completed a realignment of the Operations-related "O" and Marine Safety-related "M" missions into a "Prevention" and "Response" framework that stretches from Headquarters down to the field commands. The new configuration brings with it other cultural discords and remains a work in progress. There is an inherent recognition that the Service should not place one mission above another. All eleven missions should be held as equally important and that the Service should manage risks objectively across the entire mission set. Too much emphasis on one, to the detriment of the others, will create mission-capability gaps and reduce mission performance. Inevitably, the lack of attention will ultimately fashion the conditions for failure. The only question is, "How impactful will be the failure?" For example, this was evidenced by the post-9/11 lost focus on the marine safety mission (see Chapter 5,

Section 2, Impact of Exogenous Events). The Coast Guard has made significant progress in the merger of O and M, but the concern remains about potential reduction in mission expertise. The challenge is to retain technical proficiency to make the right decisions, especially with respect to the marine industry, and better harmonize the diverse cultures.

Operators (of ships, boats and aircraft) lack the impetus to measure performance. There is wide recognition that the country needs the Coast Guard. The Service's highly-praised response to Hurricane Katrina is a graphic example. With their continued relevance not in question, there is no motivation or catalyst for the Operations (Response) programs to develop or refine useful outcome measures. There is a lot of tracking of operational activities or results (e.g., tons drugs seized). In many corners of the organization, the mere mention of performance conjures up the idea of metrics as an end all. Some in the organization understand that there needs to be an evolution of thinking. In an effort to broaden the conversion, they have attempted to focus on questions such as, "How are we doing in our missions?" and "How do we move the needle?" and ultimately, "How can we use performance metrics to improve safety and reduce oil spills?" Recently, senior leadership suggests a move away from measures such as the amount of drugs seized (activity or results metrics) to more outcome-oriented metrics. For example, instead of tons of drugs interdicted, the number of Transnational Organized Crime networks disabled.[36]

These cultural-driven impediments were gleaned though the extensive interviews and the author's personal experience. They align with a 2008 analysis of impediments to

[36]Director, Joint Task Force – East Briefing, February 25, 2015.

change by Dr. Judith A. Youngman, Professor of Political Science, U.S. Coast Guard Academy. She indicated that the obstructions "…to the integration and successful execution of change in the Coast Guard lie in its culture, organization, processes, and how both the Service and the nature of change are understood throughout the organization" (Breckenridge 2008). Her germane points:

- The dominant culture in the organization is an operator culture that is decentralized and biased toward action at the operational and tactical levels. Coast Guard culture views mission execution and planning as incompatible, sometimes based on (mis)perceptions that planning will undermine mission execution.
- Change implies centralization, and centralization is perceived as antithetical to the decentralized operations that are the strength of the Service. Within Coast Guard culture, execution matters more than goals. Strategic change, which is goal-driven, is therefore resisted.
- Coast Guard culture also is defined by legacy communities, forming cultural stovepipes that impede change and render the culture change averse. Oftentimes, identity is defined in terms of a community within the Service, not the Service as a whole.
- Coast Guard leaders may be ill-prepared to lead strategic planning and change. Promotion is based on operational attributes. Education and training rarely prepare leaders to be strategic leaders of the Service, as opposed to operational leaders in the Service. Leaders often reflect their community, not a Service-wide perspective.

Dr. Youngman's observations touch on the Coast Guard's general resistance to

change. The challenge of implementing performance management is also one of effecting change in an organization. Coast Guard leadership has embraced change to operational tactics with much fervor. For example, new communications systems and extensive use of intelligence information have revolutionized how the Service prosecutes its counternarcotics mission. The Marine Safety program recognized that a data-driven management approach would benefit their regulatory enforcement efforts. However, other programs have not sensed the advantage and have not created a change environment that would facilitate adopting this different approach. This is not surprising given the issues that this research finds with adopting a performance management approach with complex programs operating in an ambiguous environment.

Organizational Change

Inevitably, mission performance may be assisted or hindered by organizational structure, program placement and change. Especially during the period from the 1990's through the present, the Coast Guard, and particularly the Marine Safety program, has experienced substantial change to the organization. Some of the changes were previously mentioned in the context of the other challenges. This section will focus on two substantial organizational changes and impact on the program's performance management efforts. These are (1) moving to the Department of Homeland Security and (2) the realignment of missions.

The first is the post-9/11 move to the Department of Homeland Security (DHS). Created by the Homeland Security Act of 2002, DHS combined 22 different federal departments and agencies into what was intended to be a unified, integrated cabinet

agency. DHS officially began operations in March 2003. As with any home or parent department of the Coast Guard, none are a good fit to the Service's full array of diverse maritime missions. With the DHS security focus, it has been a challenge to integrate Coast Guard safety missions into the Department's priorities. Reflecting the Coast Guard's strategic goals and measures at the department-level has been problematic.

From the founding of the U.S. Coast Guard's predecessor, the Revenue Marine in 1790, the Service was a part of the Department of the Treasury. As a law enforcement service established by Alexander Hamilton, first Secretary of the Treasury, it was charged with enforcement of the new nation's customs duties along the coasts. As the Service added and modified missions over time, it became a multi-mission organization with varied law enforcement, defense readiness and marine transportation safety and security responsibilities. With no connection to Treasury's missions by the 20th century, it was a logical move in 1967 to place the Coast Guard into the newly created Department of Transportation. The Department's transportation focus helped to emphasize its safety-related missions. Post-9/11 the Coast Guard was fit into DHS, bringing its security-related missions to the fore in alignment with the primary mission to combat and recover from terrorist attacks within the United States. The authorizing legislation, Homeland Security Act of 2002, required that all of the authorities, functions, personnel, and assets of the Coast Guard be maintained as a distinct entity within the Department. However, the Act noted that five of the Coast Guard's eleven statutory missions are "homeland security missions" while the other six were "non-homeland security missions" (see Figure 3).

Homeland Security Missions

1. Ports, Waterways and Coastal Security
2. Drug Interdiction
3. Migrant Interdiction
4. Defense Readiness
5. Other Law Enforcement

Non-Homeland Security Missions

1. **Marine Safety**
2. Search and Rescue
3. Aids to Navigation
4. Living Marine Resources (Fisheries Law Enforcement)
5. Marine Environmental Protection
6. Ice Operations

Figure 3: Alignment of Coast Guard Missions with DHS Missions

Over the history of the Service, Coast Guard leaders have struggled to address this department-Coast Guard mission alignment issue. As a result, it is a constant challenge to achieve visibility and budget support at the department-level for those missions that are not allied with the departments' primary mission. By the time the Coast Guard exited Treasury, there was no mission congruence. This was an especially difficult time to obtain adequate resources for what were seen as "distant" missions. The Coast Guard seized the opportunity to join Transportation and likely fared better overall during the ensuing 36 years. However, as another difficult mission fit, this "domestic" department had its own resource challenges in competing government-wide. Moreover, with a large portion of Transportation's appropriations grant-related, the Coast Guard did not have this political leverage in its budget portfolio. And now with DHS, the Service faces other challenges.

Previously discussed was the reallocation of safety resources to fill the post-9/11 security-capability gap (see Chapter 5, Section 2, Impact of Exogenous Events). This was exacerbated by the move and mission realignment with DHS. Not only did the Marine Safety program lose resources and expertise, it lost its focus on performance as viewed from its customer, the marine industry. Since joining DHS, the Coast Guard has endeavored to get its non-DHS missions properly reflected in the Department's strategic goals. This was the direct result of the dichotomy between its unique mission set, especially Marine Safety, and the Department's primary mission of security. The Coast Guard's extremely broad mission portfolio means that about a third of it fits deeply into what DHS does and the other two-thirds, including Marine Safety, are not as relevant to the Department. Conversely, the latter remain vitally important to other Congressional constituents and key stakeholders, such as the marine industry.

The Coast Guard took pains to integrate with DHS's five missions. The DHS performance plan has undergone numerous revisions to the goals and contributing programs. According to the Fiscal Year 2013-2015 Annual Performance Report, the Marine Safety program now shows up under one of the five DHS core missions: Mission 5: Strengthen National Preparedness and Resilience. In particular, Goal 5.2: Mitigate Hazards and Vulnerabilities. The specific measure is the five-year average number of commercial and recreational boating deaths and injuries (DHS Annual Performance Report Fiscal Years 2013-2015).

Notably, the Coast Guard does not control all of the dynamics associated with target setting. Options are limited by the politics associated with the top-down, centrally

prescribed performance management system of GPRA. The longstanding and improbable performance goals, such as zero deaths and injuries, were originally devised to conform to GPRA requirements. They are now entrenched in Congressional and OMB required documents. In the Annual Performance Report for Fiscal Years 2007-2009, Appendix A, the one Coast Guard Marine Safety program goal reported by DHS was changed from "*Reduce* maritime fatalities and injuries on our Nation's oceans and waterways" to "*Eliminate* maritime fatalities and injuries on our Nation's oceans and waterways." The explanation offered was, "In limited cases, changes may have been made to program performance goals to more accurately reflect their current focus." This goal is referred to as "aspirational." Elimination is neither realistic nor achievable even if unlimited resources were applied. Beyond this adjustment, further changes have been resisted at the Department-level. Additional issues with goal setting, targets and achievement were addressed in Chapter 5, Section 3, Outcomes.

> …the Coast Guard has this broad and comprehensive impact on the maritime system and in order to design an outcome-based organization you have to first understand what is it that you can do. Then you can determine what you can then influence...[37]

The other organizational change that has affected mission performance is the realignment of missions.[38] This effort vertically aligned Prevention and Response functions from the Sector (field-level) through the Headquarters-level. The intention was to provide a standard organizational architecture, and operational program and career specialty alignment, from Headquarters strategy and policy development to field mission

[37] Interview with Senior Marine Safety Flag Officer.
[38] See Appendix C for the complete evolution of Coast Guard Roles, Missions and Programs.

execution. Begun back in 1994, the Deputy Commandant for Operations implementation was finally completed in 2011 after five sets of Headquarters realignments. Not only did this create considerable turmoil within the organization, it coincided with the 9/11 events that instigated the move to DHS and the shift of emphasis from safety to security. As a result, this assisted the degradation of the Marine Safety program's customer focus and performance.

The first changes, as part of the 1994-1996 Streamlining initiative, authorized four consolidated operations and marine safety field commands as pilot "Activities." No further decisions were made until a decade later. From 2004 to 2006, all Marine Safety Offices (MSO) and Groups commands were merged in every port throughout the Service into "Sector" commands. The Sector construct deliberately changed the basic building blocks of the organizational structure by designing structural elements around key processes rather than programs. Prevention and Response become the key components for the operational side of the Service. Alignment was considered necessary throughout all command and control levels in order to rationalize the management processes top to bottom in the organization. In response, the independent Operations (O) and Marine Safety (M) directorates at Headquarters were subdivided and transitioned to Prevention (P) and Response (R) directorates.

Beginning in 2006 with a new Commandant, the Service embarked on "Coast Guard Modernization" to further consolidate Headquarters' mission functions. In the continued merge of operations, it downgraded the heads of P and M from Assistant Commandants to Directors. This move had the aforementioned negative Marine Safety

customer impacts by erasing these identities. It helped generate the "guidance" that the Coast Guard received in its Fiscal Year 2010 authorization bill (Coast Guard Authorization Act of 2010).

Post 2010, Modernization gave way to "Steady the Service" with a change of Commandants. A significant shortcoming of the initial "Streamlining" (1994-96) was the failure to describe the goals of a revised organizational structure to guide future changes. At that time, the senior leaders were not in agreement that change was even necessary. After almost a decade and a half, the new leadership recognized that virtually continual change was detrimental to the Service's well-being. Besides the stress on the staff, it confused their customers. Hence, the Coast Guard drew up the envisioned final organization and established a clear path to complete the changes.

One of the objectives of this end state was to enhance the Prevention (Marine Safety) organizational identity and visibility to external customers. It effectively reestablished the Assistant Commandant for Marine Safety, Security, and Stewardship position (Sec. 511 § 50, Coast Guard Authorization Act of 2010). This was a key action to improve the performance and customer outreach with the marine industry and other key stakeholders. Subsequently, this position was changed to the Assistant Commandant for Prevention.

Internal issues of culture and organization have a profound influence on the ability of the Coast Guard and Marine Safety program to take on further change. This supports the observations in two studies cited in the literature review on implementing top-down management approaches. In one, a dramatic change in accountability mechanisms

disrupted the long established institutional factors that based decision-making on sound engineering and expert judgment (Romzek and Dubnick 1987). In the other, maximizing efficiency was substituted for achieving and maintaining technical excellence (Westwick 2007). Both had unanticipated, devastating effects. These changes created an environment of high ambiguity and increased system complexity. Both attributes work against implementing a compliance-based performance management scheme.

7: Performance Information

Timely, accurate and up-to-date information to guide the journey is not readily available.

This section investigates the challenges experienced by the Marine Safety program to acquire, maintain and use performance information. The most critical piece of the performance management approach is the availability of quality performance data. Without this information, measurement of results against goals is not possible. Issues related to data have been raised under other headings. Information is integral to all aspects of the performance management approach. Beryl Radin characterizes the assumptions of information availability expressed by advocates of performance management systems as fallible, for example:

> Information…is like gold that simply needs to be mined. It is found in existing information systems. While it may have been designed to meet other needs, it can easily be converted to performance management strategies. (Radin 2006, p.184).

This section's findings relate the Coast Guard Marine Safety program's experience with performance information against Beryl Radin's six false or unrealistic assumptions. She calls this the "unreal or naïve approach" of performance management advocates. The assumptions are: information is readily available, information is neutral, information

is understandable, we know what we are measuring, we can define cause-effect relationships in programs, baseline information is available, and almost all activities can be measured and quantified (Radin 2006, pp.184-185). Other scholars note that agencies vastly underestimate the difficulty of obtaining meaningful performance management metrics. The Coast Guard Marine Safety program's use of performance data has led to safety improvements. Meanwhile, it experienced many of these information issues that are consistent with government-wide experiences.

GAO's surveys have consistently found that federal agencies often lack complete and reliable performance data needed to address their management challenges (GAO 2014a). Most recently, GAO reviewed the Department of Transportation's (DOT) progress implementing the *Moving Ahead for Progress in the 21st Century Act* (MAP-21) statute. This regulation included provisions for both DOT and its grantees to adopt a national performance-based approach for surface transportation. Fifty billion dollars per year is provided to states and other grantees to support highway and transit infrastructure and safety. The new MAP-21 requirements are meant to determine if these funds have improved system performance. Not surprisingly and consistent with Radin's perspective, after more than two years since enactment, the GAO found that states and other grantees reported significant potential data and cost challenges with implementing a performance-based approach. Issues include: data may not be available in some areas, available data collection may prove difficult, some lack the staff or resources to analyze data, and implementation costs may be substantial (GAO 2015).

The Marine Safety program has found that performance information is often

unavailable, costly and used to further divergent objectives. The management information systems have not captured all of the right metrics. Building new data systems is a significant time and budget expense for the Coast Guard that must compete with other often higher-priority projects. Marine Safety program data quality remains the biggest impediment and must be continually revisited. This was a consistent theme with all study participants that had some familiarity with the Marine Safety Information System (MSIS) and its successor system. It still remains a significant challenge to collect and maintain quality marine safety data. For more than three decades, program leadership has struggled with how to keep the field focused and motivated to collect and input this information.

Marine Safety Data Systems. As the Marine Safety program is tasked with regulatory compliance inspections and investigation of marine incidents, data accumulation was a natural outcome of its field activities. Initially data was collected and maintained locally in individual seaports on paper. Subsequently, the Marine Safety Information System (MSIS) was established in response to a Congressional mandate to collect and share data electronically. This was the Port and Tanker Safety Act (PTSA) of 1978, post *Argo Merchant* tanker grounding and breakup. PTSA required the system to contain certain information with regard to vessels subject to the Act in the navigable waters or under the jurisdiction of the United States. It specifically required vessels to furnish data or other information. This included the history of accidents or serious repair problems and a record of all inspections and examinations.

Subsequently, MSIS became a large database of commercial maritime activities.

These events included the number of vessel transits, vessel and port facility inspection deficiencies, casualties, oil spills, and mariner exams results. Initially it did not include the casualty investigation and reporting piece. This missing information was problematic with the towing vessel fleet. Towing vessels are uninspected. Therefore, there was little information to answer inquiries such as, "How many similar type events have occurred and what is the probability of it happening again?" The casualty piece included in the new version of the system (MSIS2) was intended to help identify regulations that should be in place to reduce the risk of mishaps.

As MSIS evolved in the 1980's, the collection process suffered from all of the classic management information system issues. The system was initially designed to capture considerably more data than was found to be useful to the program. This was a major issue with the marine safety specialists in the field, the main source of the information. Absent clear guidance as to how the information would be used, the Marine Safety program attempted to capture every bit of data potentially available. As a consequence of the enormous amount of time to enter information, the system was populated with a lot of data of inconsistent quality. The marine inspectors, who had the primary responsibly for entering the data, were easily frustrated. Too often they would only complete the minimum required. They sometimes inputted bogus data to just close out the vessel inspection or case. There were also marine inspector training and experience issues, as well as a lack of motivation. The effort to maintain MSIS did not translate into improved information needed to do their jobs better.

The Marine Safety program began to recognize that the database should support

good decision-making. Consequently, the program began to look for ways to move beyond just collecting activities. To support improved performance and safety outcomes, the data needed to be mined to make it useful for decision-makers. The system's usefulness evolved as the data collection activities were better defined. The Marine Safety program conveyed the value of good information at meetings and conferences of senior leaders and field unit commanding officers and their department heads. This included how smart business planning guided program objectives at all levels, made the program more effective and employed resources in the ports more efficiently. Moreover, when the field realized that personnel were going to be redistributed between field units based on workload analysis, data accuracy naturally improved.

Besides the continued challenge of getting people in the field to enter complete and accurate marine safety information, there are two other significant issues with data collection. The first concerns substantial data that is missing. Vessel casualties (certain stipulated mishaps) must be reported if they occur upon the navigable waters of the U.S. (including foreign vessels) or whenever an accident involves a U.S. vessel wherever the accident may occurs. These casualties include unintended grounding or bridge strike, loss of main propulsion or primary steering, adverse effect on seaworthiness, loss of life, injury that requires medical treatment (beyond first aid), and property damage in excess of $25,000.[39] As with most people-equipment systems, the ratio of "near misses" to actual mishaps is significant. If these events were reported and information collected, the Marine Safety program would have a substantially more complete and robust database to

[39] 46 CFR 4.05.

investigate and develop appropriate solutions. However, the Department of Justice desires to retain the ability to prosecute in these circumstances. Without blanket immunity, vessel owners resist reporting potential accidents where they may be held liable. Therefore, the concept of "no-fault" data collection has not become a reality. Additionally, as noted in an independent Marine Safety program evaluation, marine injuries, a key component of the program's metrics, are not reliably reported and affect data reliability (HSI 2009).

Second, there is the issue of inappropriate association to reportable marine casualties. Reports of marine casualties are required by statute (46 CFR 4.05-1) on form CG-2692. There are thresholds for what is reportable; a standard reportable marine casualty would be a vessel that runs aground or experiences a collision. Those who witness a casualty are also to make a report on the same form. Once the data is entered into the system, it identifies the reporters as parties of interest even though they may only be witnesses. When the Coast Guard publishes information on casualties for insurance companies, for example, information is provided on all of the parties of interest. As a consequence, the Good Samaritans' names may inadvertently become associated with a casualty which may affect their own insurance rates. This is a classic example of collecting activity data without fully understanding the outcome; in this instance, the outcome works as a disincentive.

The technology of MSIS coupled with the large amount of data with quality issues made it a difficult and unreliable system to use. Information inquiries were mostly manual and required exhaustive data calls. Nevertheless, a major advantage was that the

Marine Safety program directly maintained the system for its own needs. This enabled program leadership to seek modifications to data collection, correction and retrieval processes. The program continually sought improvements to the database in the 1980's and especially the 1990's. This effort would also help support GPRA outcome metrics.

The Coast Guard's Law Enforcement Information System (LEIS) had similar problems. In December 2001, the Marine Information for Safety and Law Enforcement (MISLE) system was introduced to integrate the functions of several existing stand-alone systems into a single enterprise-wide system. The intent was to improve the Coast Guard's ability to track all of its interactions with vessels, facilities, waterways, people, and organizations. MISLE joined the previous standalone Marine Safety Information System (MSIS), the LEIS, and the Search and Rescue Management Information System (SARMIS). MISLE remains the Coast Guard's primary operations business support system and is used to schedule and record the full range of operational activities such as vessel boardings, facility inspections, marine casualty investigations, pollution response actions, law enforcement actions, and search and rescue operations. Data on response actions is entered in real time as the incident unfolds. Most data on boardings, inspections and investigations are entered upon completion of the action. The system is intended to help evaluate the effectiveness of Coast Guard operations and the use of resources.

MISLE was designed to improve data collection and retrieval activities and provide more timely and accurate information for all Coast Guard operations. It is driven by the need for improved responsiveness to requests for information (database query), especially

from Congressional committees, and for expedited data analysis. The transition from MSIS was difficult. Much information from that system could not be readily ported over due to completeness and quality issues. While MISLE is considered a better platform, it remains fundamentally a large collection of activities data. It continues to be time-consuming to populate and difficult to retrieve and analyze information. Importantly, it does not capture the time associated with the Marine Safety field activities, an important workload analysis feature available in MSIS. From the Marine Safety program's perspective, the major downside is the enterprise-wide aspect of MISLE. The program no longer has direct control over the information system as it serves multiple programs. Therefore, MISLE is not considered as responsive as MSIS to the program's needs. Mobile tablets were tried but abandoned; capture of information in the field and database input upon return to the office remains a manual and duplicative paper-based process.

MSILE provides much of the data for the Coast Guard Maritime Information Exchange (CGMIX) website: https://cgmix.uscg.mil/. CGMIX makes Coast Guard maritime information available on the public internet in the form of searchable databases. A subset of this information is the Port State Information eXchange (PSIX) system that supports the Coast Guard's Port State Control (PSC) effort https://cgmix.uscg.mil/psix/. PSIX was designed to provide other countries with Port State Intervention data on foreign-flagged vessels. It contains information on over 650,000 U.S. and foreign flagged vessels. PSIX provides a weekly snapshot of Freedom of Information Act (FOIA) data on U.S. flag vessels, foreign vessels operating in U.S. waters, and Coast Guard contacts with those vessels.

Use of Marine Safety Data Systems. Despite the aforementioned issues, Marine Safety program leaders were able to use MSIS/MISLE to help evaluate vessel inspection deficiency trends that would enable improvement in prevention activities. For example, analysis of oil spills enabled the Coast Guard to create legislation, develop protective measures and establish program standards and goals as well as international standards. These measures and results are shared with the maritime community and public. It enabled port state control as port administrators could look at foreign flag vessel safety profiles before they arrived in their locations. The Coast Guard could get a sense of how our own U.S. flag vessels were measuring up. Best practices in data capture and management were shared with other countries. Data captured and trends revealed were used by the program to help justify budgets. Although received positively in the Coast Guard, Department and Congress, there is no concrete evidence that this influenced resource decision-making (see Chapter 5, Section 8, Resource and Budget Decision-Making).

Safety deficiency trends were used to focus future inspection work where the largest improvements in vessel safety might be realized. In an attempt to employ a risk-based approach, the program used available data to shape the proposed towing vessel regulations. Nonetheless, Congress required the Coast Guard to add other requirements. An earlier example of perception-driven, political decision-making was the post-*Exxon Valdez* oil spill legislation. Congress mandated the expedited replacement of single hull oil tankers with double hulls. There still remains considerable disagreement regarding the overall prevention value of double hull oil tankers where "…complex design and

structure of these ships can make them more susceptible to maintenance and operations problems" (DeCola 2009, p.3).

To summarize, though progress has been made to collect and use performance information, impediments remain. These findings are consistent with the Government Finance Officers Association (GFOA) research of the performance measurement practices of larger cities and counties. Two of the top three most important challenges of performance measurement are the excessive time and cost to collect data and lack of available data (GFOA 2013). Absent a major influx of resources, the Coast Guard will continue to struggle with what Beryl Radin describes as inaccurate assumptions of information availability. Important limitations of obtaining performance information are illustrated in this study. The question is, "How far should an organization go to improve its data even if it had substantial resources?" The answer seems to be, "not too far." The challenge of obtaining "good data," if there is such a thing, is much more formidable than what is accepted by performance management proponents. Program administrators must recognize the limits of data-driven approaches.

8: Resource and Budget Decision-Making

The mission is jeopardized by inadequate resources.

> As Joseph Bower of the Harvard Business School once observed: Strategy in business is 'the application of massive resources to limited objectives.' In contrast, strategy in government is the 'application of limited resources to massive objectives.' (Behn 2014).

How did performance management affect the resource allocation and the appropriations process in the Coast Guard and the Marine Safety program? This final

section addresses what is regarded as an essential rationale for GPRA: performance-based budgeting. GPRA calls for agencies to describe plans for the obligation of additional funds for unmet performance goals. After exercising all funding authorities, agencies are to submit requests to Congress for additional reprogramming or transfer authority if performance gaps remain. The object is to enable funding to be moved within agencies' budgets from one program to another to target persistent barriers to improved performance. Further, after three consecutive years of performance shortfalls, agencies are to request reauthorizations, statutory changes and planned reductions or terminations of the programs as appropriate. Contrary to this neat and orderly performance improvement formula, federal program management is a considerably more complex and highly political process. Among other issues, the following illustrates Beryl Radin's structural dimensions contradiction, the separate and shared powers at the federal level that creates contradictory goals of Administrations and Congress (Radin 2012). Divergent constituent, political party and other stakeholder interests work against adopting a rational, measurement-based approach. Moreover, these findings reinforce those of other studies that, after almost two decades of GPRA, the use of data to allocate resources is more a promise than a reality (Moynihan and Lavertu 2012).

The Marine Safety program faced appropriations, resource allocation and budget decision-making challenges. As described in other parts of this study, Marine Safety faces an ongoing fight with the other ten missions in its competition for a limited set of resources. This occurs even if the budget is increasing. In the more recent declining budget environment, the battle is even fiercer. The program made notable efforts to use

performance information to support budget requests and allocate resources more effectively. Nevertheless, there were few discernable results in the program's favor. For example, exogenous events, discussed in Chapter 5, Section 2, Impact of Exogenous Events, drove changes in resource allocation to the detriment of the Marine Safety mission.

In the 1990's, the Marine Safety program made performance management integral to the budget process. Program goals and business planning fed directly into the development of the annual budget request. Marine casualties, especially human-caused environmental incidents, were the drivers for prevention programs. Available data and trends were employed to help justify the program's resource needs, rather than budget requests built on "sea stories" or anecdotal information. Workload analysis of the available data enabled internal resource management. With insight into where workload was declining, the Marine Safety program could reallocate staff to the busier ports. The deficiency trends focused future inspection work and demonstrated further improvements in vessel safety. Program leadership thought this was received positively by Coast Guard and department budget staffs and generally achieved good support in the budget requests to OMB and Congress.

The Coast Guard's oversight committees appeared to be supportive of this planning and budgeting process. The Marine Safety program could demonstrate quantitatively what it was doing. This enabled dialog with Congress about the program's use of methodologies to quantify and minimize risk to reduce loss of life and property and the number of oil spills. Program leaders were able to make sound arguments for Marine

Safety needs in the budget hearings—why this was a good investment and why Congress should continue to appropriately fund the program. Data was provided to Congress and the marine industry. This information was not necessarily looked at in depth, e.g., analysis of trend lines, but rather bottom-line results. The Administration and Department appreciated what was being done from the GPRA perspective.

Marine Safety leadership understood the reality of the appropriation process. Management of the full range of the Coast Guard's portfolio is effectively a competition between missions. Absent an externally produced funding or program change (major incident with Congressional attention) or specific program direction from the Commandant, resource levels in the Coast Guard's programs will remain relatively constant from year to year. As such, the program was unlikely to see marked resource increases, absent a major marine incident with political consequences. However, program leaders had the opportunity to make a cogent argument about budget needs to Coast Guard resource management staff. As one leader remarked about his personal experience, "Don't know that we saved any resources or got any more resources…but we tried to use the resources we had more efficiently in the process…and the business plans were useful for the field (local) commands."[40]

Marine Safety leadership understood that it is up to others within the Service to make the difficult resource tradeoff decisions within the limited Coast Guard budget authority. The program worked closely with the Commandant's resource management staff on the funds allocation and budget process. It was a constant struggle to educate this

[40] Interview of retired senior Marine Safety program leader.

staff as to the unique and critical role the Marine Safety program played within the Coast Guard's mission portfolio. Consequently, the Marine Safety program was always fighting for its relatively small share of resources.

> First of all, unless you (have) an immediate large casualty, that highlights the program, then you're competing against aircraft fuel. You're competing against all of the other traditional markets that the Coast Guard serves, and it's a tough sell. And it's always been a tough sell. The only time you get well, quite frankly, is when there's a big casualty and somebody wants to throw money at the issue. And that's problematic, because it peaks and then it disappears.[41]

Those familiar with the Marine Safety program know that for a relatively small investment (less than two thousand people), there is immense leverage to reduce maritime incidents that place lives, property and the environment in serious jeopardy. However, the organization itself, as well as the resource staff, has always better understood the need for the highly visible, immensely resource intensive response side of the Coast Guard—the aircraft, boats, and ships. Even though response program metrics remain relatively immature (primarily activity measures such as number of people in imminent danger saved and value of property "in danger of loss" saved), they garner prime billing in the Coast Guard's performance reports.[42]

The Coast Guard, like many federal agencies, is driven by the realities of the Congressional appropriations process. Few programs can demonstrate the theoretically achievable causal resources to outcomes theory espoused by GPRA. Agencies' reported use of performance information for various management activities and decision making, as measured by GAO's use of their performance information index, generally did not

[41] Interview of retired senior Marine Safety program leader.
[42] FY 2013 Performance Report Highlights: saved 3,263 lives and more than $44 million in property.

improve (GAO 2014c). "Even in instances where agencies are collecting performance information, our periodic surveys of federal managers between 1997 and 2013 have found little improvement in managers' reported use of performance information to improve results" (2014a, p.11).

As previously noted, the Marine Safety program, which has the longest standing and most robust performance management construct in the Coast Guard, cannot define how a given amount of resources (primarily people) would affect performance outcomes. Hence, the Holy Grail of performance-based budgeting—where and how to invest resources in a given program or initiative to garner the biggest return on investment of taxpayer dollars—remains elusive.

Zero-based budgeting is sometimes touted, but never realistically pursued due to this difficulty. Hence, the appropriations process deals on the margins, rather than evaluating each of the programs and their total funding bases. The process seeks to make limited tradeoffs between programs. With eleven extraordinarily diverse missions that are funded in an eight plus billion dollar budget, the Coast Guard has a vexing challenge to discern requirements and weigh needs and changes across the portfolio. Most of the programs lack cost-benefit analysis and do not employ risk-based decision-making. If challenged, Coast Guard leaders would find it difficult to justify the manner in which it operates. Under its new Deputy Commandant for Operations (DCO) organization, the Coast Guard is seeking performance metrics across all of the operational programs.

While the Marine Safety program has public outcome metrics, the metrics are immature for the other operational programs with large asset investments of ships, boats

and aircraft. Consequently, the Service cannot aptly reconcile resource investments between the Marine Safety program that is primarily only people (knowledge management and relationships), against relatively costly hardware plus people programs, such as search and rescue. Coast Guard resource managers have a budgeting conundrum with disparate program analyses and justifications in an environment of fierce resource competition. Coupled with the "marginally-driven' appropriations process, the Coast Guard, as with any federal agency, looks to divine where Congress is likely willing to make further investments (event-driven opportunities) and then articulate why it is needed on a "performance basis." Thus, the Coast Guard's "performance-based budgeting" is the "art of the possible" budgeting or "budget-driven strategy" rather than "strategy-driven budgeting." The Coast Guard has found it better to articulate its story; a detailed strategic narrative has proven to be successful.[43]

Another budgeting issue for the Coast Guard is its multi-mission portfolio. The two major operational programs are Prevention (which includes Marine Safety) and Response (see earlier Marine Safety Mission Context discussion). The multi-mission aspect of the Coast Guard's operational assets makes it especially difficult to link these two in a rational budget decision-making context. For example, the mission percentages of those assets (people, ships, boats and aircraft) that produce outcomes for multiple programs vary from one day to the next. Hence, the application of performance management is inherently difficult for the Coast Guard, a federal agency that prides itself on its multi-mission character. Meanwhile, the Service advertises the high efficiency and

[43] Budget Update Briefing, CG-8, February 2015.

effectiveness that the public gets for its investment. This cross-program complexity complicates any attempts at performance-based budgeting.

> Our findings reinforced the value of a multi-mission Coast Guard with regulatory, law enforcement, and humanitarian-focused emergency response authority, and military capability that offer this and future Administrations a highly motivated, cost-effective service with the demonstrated competence to meet changing national priorities. (USCG 1999).

There are other reasons for the disconnect between performance-based budgeting and the Congressional appropriations environment. Congress has the propensity, as the nation's most overtly politicized branch of government, to base decisions on a multitude of factors. Data-driven outcomes might not be politically acceptable. There are numerous local constituent, political party and other stakeholder interests that work against adopting a rational, measurement-based approach with Congressional members. This is also true of agencies' leadership as they look across their portfolio of programs. Coast Guard Commandants must address a wide array of Congressional interests, as well as significant stakeholder groups, such as the marine industry. At times, the Coast Guard may need to pursue an investment that may have limited to no rational metrics. Recapitalization of expensive Coast Guard assets, such as ships, boats and aircraft, may never be sold strictly based on a cost-benefit analysis. However, without these critical operational capabilities, the response to the next unpredictable disaster (manmade or natural) or emerging mission will be significantly less robust. Considering the extraordinary acquisition lead times of a decade or more, acquisition decision-making becomes even more complex. For example, in the 1970's the major cutter fleet was being recapitalized while its primary ocean-going mission since World War II, ocean station

patrols, became unnecessary. The 13 new and relatively expensive ships appeared to have no mission. Simultaneously, the maritime drug interdiction and 200-mile exclusive economic zone fisheries enforcement missions rapidly emerged as national priorities. The Coast Guard had the assets to swiftly shift to the new mission set. More recently, the Coast Guard's rapid and highly effective responses to the Deepwater Horizon oil spill, Hurricane Katrina and Super Storm Sandy were enabled by its substantial Response program assets—ships, boats and aircraft—that normally conduct the full range of routine Coast Guard missions.

Another cause of disconnect is Congress's severe response to events that have political implications. Congress' reaction and fix to perceived problems is often to pass more restrictive laws and quickly appropriate substantial new funding. These resources eventually dissipate and are siphoned away as out-year budget reductions are enacted or for other reasons, such as sequestration. This appropriations environment is not conducive to agencies being driven by performance metrics. Congress is also not inclined to fully resource investment needs, absent highly political issues, that would enable programs to be more effective in risk assessment and mitigation. These issues are intrinsic to the overall Congressional appropriations process. The appropriations process, arguably the most important function of Congress, is continually faced with funding an overwhelming set of growing domestic needs. These include the virtually uncontrolled growth of entitlement programs such as Medicare, Medicaid and Social Security and increasing national debt. The appropriations environment also contains costly national security needs with a limited resource base (tax and revenues). The Congressional

budget process, as it impacts each individual agency or department, is often at best a zero-sum game (one program's gain is equivalent to another program's loss) unless there appears an external forcing function (see Chapter 5, Section 2, Impact of Exogenous Events). The usual appropriators' task is to find (rationalize) program funding that can be squeezed or minimized in order to resource other higher priority (political) needs. This zero-sum game has been formalized government-wide through such legislated mechanisms as the Budget Control Act of 1990 that mandated PAYGO[44] and more recently the aforementioned sequestration (Budget Control Act of 2011). In this environment, programs are more likely to see budget reductions until it fails miserably. Even "flashing red" indicators do not necessarily garner additional resources. A major incident must actually occur with significant media and political consequences.

As noted in the previous section, Marine Safety data can be used for resource allocation decisions. For example, workload information can assist with relocating staff between ports from those with less activity and lower risk to those with more activity with higher risk. However, politics comes into play when weighing the public's tolerance for bad things happening. For example, this patience is vastly different between San Francisco Bay (low) and the Houston Ship Channel (high). Understandably, simplistic data-driven decision-making, as envisioned by GPRA, would not enable a shift of people from San Francisco to Houston.

The individual appropriations and authorizing committees ask for performance measures as a matter of course. However, GPRA provisions are promoted by the

[44] PAYGO required all increases in direct spending or revenue decreases to be offset by other spending decreases or revenue increases.

government operations oversight committees in the Senate (Homeland Security & Governmental Affairs Committee) and the House (Oversight and Government Reform). The Coast Guard's subcommittees, similar to all others that deal with specific programs, often have more program germane issues to address, driven by constituents' and members' political calculations. Accordingly, even "good numbers" for performance indicators are not of considerable interest in crafting legislation and determining appropriations. "GPRA measures are nice, but not a budget driver."[45] Nevertheless, requests for performance measures from Congressional staffs have become routine. For example, when the Marine Safety Performance Plan was developed in 2008 to implement necessary improvements to the program post-2007 marine industry issues, Congressional staffers called for some "metrics." In response, an appendix on annual and long-term performance results and targets was included (USCG 2008). Coast Guard authorizing legislation, such as that in 2010, increasingly requires more and new metrics.

Moreover, agencies themselves, such as the Coast Guard, do not have a cogent performance system across the entire organization. Additionally, they do not have enough confidence in their metrics to have Congress base their appropriations decisions exclusively on available data (not that Congress has shown any propensity to do so). Coast Guard leaders, similar to managers in other agencies, are reticent to use this information. The concern is that it could be used by appropriators and industry for their own purposes to dictate what the Agency must do, rather than what Coast Guard leaders' experience indicates should be done.

[45] Budget Update Briefing, CG-8, February 2015.

There is the problem of appropriations driving decisions. In the decade post-9/11, the focus on the need to heighten port security capabilities provided the Coast Guard with a rapidly increasing budget. The Agency made its case well to the administrations and Congress. As a result, the budget went from about $5.8 billion to about $8.8B, a remarkable 50 percent increase, in the space of only ten years (Fiscal Year (FY) 2003 to FY 2012), and average annual growth of 3.6 percent.[46] In this environment, the development of good performance metrics is especially difficult. There typically must be a catalyst to use metrics to allocate resources most effectively. As the Coast Guard's budget literally exploded in the 2000's, there were no performance requirements necessary to acquire the added resources. Hence, there was little motivation to understand where and how investments were being made. In particular, there is no incentive to determine what should be divested to prepare the organization for the future. The nature of federal government spending inevitably drives agencies' budgets back to reality. The Coast Guard has experienced declining budgets after the FY 2012 highpoint. The impact of budget sequestration[47] is likely to go well beyond the first hit in FY 2013. FY 2015 may be back to the Fiscal Year 2009 level. The Coast Guard recognizes that smarter investments could have been made and better resource allocation will be necessary in a future environment of declining appropriations.

In review, performance management theory espouses a balanced and complete picture of the entire organization's performance. Therefore, comparisons are possible

[46] Ibid.
[47] Sequester is a series of annual spending cuts to the federal government, from FY 2013 to FY 2021, created by the Budget Control Act (BCA) of 2011.

between disparate programs. Without this hypothetical construct, the Coast Guard remains faced with this conundrum.

CHAPTER 6 – ANALYSIS, RESULTS AND FINDINGS - RIGHTING THE SHIP

I chose to study the Coast Guard's Marine Safety program because it was an early adopter of a performance management-type approach in the federal government. Notwithstanding the issues with GPRA and the other centrally-mandated management systems that are well documented in the literature, I wanted to understand why and how the Marine Safety program embraced performance management. What created the environment for implementation and what were the execution and sustainment challenges? The foregoing sections describe the challenges that the Marine Safety program had in its internally-drive performance improvement journey to comply with GPRA. Nevertheless, the program sought and achieved improvements in safety by leveraging its unique regulatory role in the global maritime arena. The following describes these successes.

Introduction

A review of the evolution of Marine Safety program management indicates that the need for information collection and analysis was recognized five decades ago. In the 1960's, there was a desire to improve recreational boating safety and reduce accidents and deaths. Legislation to effectively regulate the boating industry and the public's use of watercraft required the Coast Guard to access its statistics to seek answers to such

questions as, "Were we making any headway in reducing casualties?"[48] In doing so, the Marine Safety program realized that its data was inadequate. It did not have a satisfactory grasp of the effects of its efforts. The Coast Guard concluded that it needed to focus on data collection to successfully measure boating safety improvements.

Throughout the 1970's, there were a series of major oil tanker collisions and groundings. These incidents, coupled with international maritime conventions on prevention of pollution and loss of life, provided further inducements to collect and analyze marine safety information. The program intended to develop improved standards through domestic and international rules, regulations and agreements. Besides a number of other requirements, the Port and Tanker Safety Act (PTSA) of 1978 called for the Coast Guard to establish the Marine Safety Information System (MSIS). Data collection and management was to move from paper to an electronic records system. MSIS was to provide the basis for monitoring and enforcing safety regulations on all vessels that operate on or otherwise enter the navigable waters of the United States. Specifically, PTSA required the database to include the history of accidents or serious repair problems and a record of all inspections and examinations for these vessels. The thinking was that through collection and analysis of this data, the Marine Safety program could improve regulations and better target inspections. In turn, these actions would reduce maritime accidents through improved enforcement and vessel detentions.

This early data collection and analyses was a prelude to a more formal performance management approach. It predated both the Clinton's Administration's NPR initiative

[48] Interview with retired Coast Guard Marine Safety program leader.

and Congress' GPRA statute in the 1990's. The Department of Transportation, then the Coast Guard's parent department, pushed down the NPR and GPRA requirements to the individual agencies. As these management initiatives arrived, the Coast Guard, with its motto *Semper Paratus* (Always Ready), sought ways to respond. The Marine Safety program's internal efforts in data collection, trend analysis and the targeted application of resources to reduce accidents and loss of life were recognized to be aligned with the objectives of NPR and GPRA. As it could readily demonstrate implementation and results, the program was able to take the Coast Guard's lead in demonstrating its NPR and GPRA acumen to the Administration and Congress. Hence, the Coast Guard's Marine Safety program was offered as one of the GPRA pilot programs. It was cited by GAO in its GPRA implementation executive guide as one of the early (1994) successes (GAO 1996a). As noted by the GAO, this effort was a fundamental shift towards safety *outcomes* and away from an emphasis on regulatory activities.

> The mission of the Coast Guard's Office of Marine Safety, Security and Environmental Protection is to protect the public, the environment, and U.S. economic interests through the prevention and mitigation of marine incidents. In the past, the Coast Guard's marine safety program concentrated on the physical condition of vessels, through activities such as inspections and certifications. The program focused less attention on the human factors that contribute to marine safety. But as the office became more outcome-oriented and made more extensive use of performance information, it began to redirect its safety efforts. Coast Guard data indicate that its mission-effectiveness is now dramatically improved. (GAO 1996a, p.36).

Journey to Performance Improvement

There are two diametrically opposed approaches to performance management. One is GPRA's top-down centrally-mandated methodology that is imposed on all federal government organizations. Scholar Beryl Radin's most significant criticism is that the

"one-size-fits-all" strategy ignores the inherent differences between public and private organizations. These include lack of a clear bottom line profits measurement; democratic institutions that operate in a complex and messy world of many and varied viewpoints; multiple and conflicting goals; processes important to citizens; shared power at the federal, state and local levels; and electorate suspicion of concentrated power (Radin 2006, pp. 33-52). The other approach consists of voluntary activities that organizations and programs take to improve decision-making and attain outcomes that are important to mission accomplishment. This is where a data-driven program management can best contribute to improving federal programs. There is strain between unique, program-designed approaches and the bureaucratic, centrally-mandated process of GPRA.

Studies of safety regulations have shown that standards often produce little, if any, reduction in accident rates (Schuck 2014, p.256). As noted, the Coast Guard Marine Safety program began a journey as far back as the 1960's. The program sought to use the data it was collecting to improve recreational boating safety. As a complex regulatory program with many stakeholders, program leadership also realized that new and more regulations were not the complete answer. The Coast Guard does not directly own and operate the boats and ships it regulates. The question became, "How can the Coast Guard instill a safety culture in the marine industry, the actual owners of the problem?" The Marine Safety program looked to other means to obtain the desired behaviors from the marine industry.

In a seminal work *Why Government Fails So Often And How It Can Do Better*, Peter Schuck depicts the serious shortcomings often prevalent when the government

attempts to implement otherwise well-intentioned policies (Schuck 2014). He observes that the obstacles to successful implementation are manifold.

> …almost all public policies are embedded in one or more markets….[P]olicies cannot be effective unless they can solve the implementation problems that their surrounding markets engender. Such a solution requires, at a minimum, that the policy makers know how these markets work, whether and in what particular ways they fail (if they do), and how effectively, if at all, the government policy can manipulate them. (Schuck p.252).

Schuck distinguishes six market-based approaches that policy makers may use to achieve their desired outcomes. One appropriate to this study is an attempt to "mobilize" the market to serve the regulatory goals. As Schuck notes, since the 1960's, economists proffer that command-and-control regulation coupled with market economic incentives can obtain greater compliance at a lower cost than just more regulations. (Schuck p.286). These market-based regulatory methods can take on a multiple of arrangements, one being disclosure requirements. This approach, in conjunction with command-and-control and performance standards, has been effectively applied by the Marine Safety program. However, Shuck also notes that some of the same problems prevalent in strictly command-and-control regulation, including distortions, abuses, evasions and perverse consequences, also infect market-based approaches (Schuck p.287).

Report, collection and use of marine safety data to improve Marine Safety program outcomes predates the introduction of performance management schemes by decades. As noted in the timeline, data that was collected on recreational boating safety and commercial vessel safety was used in the 1960's and 1970's to help formulate domestic legislation and shape international regulations. These early forays exposed not only the power of this information, but also revealed serious data issues and shortcomings that are

addressed in the preceding Chapter 5, Section 7, Performance Information.

The following findings address the Marine Safety program's associated successes and challenges with their own distinctive market-based approaches. The Marine Safety program struggles to comply with the mandated, bureaucratic approach, while achieving notable safety improvements through its own management practices. These major initiatives are Port State Control (PSC) and QUALSHIP 21, Partnerships, and Prevention Through People (PTP). These are described in the following three sections. Another area of performance management success, described in the fourth section, is business process improvement at the Marine Safety Centers of Excellence.

Port State Control and Quality Shipping for the 21st Century

In December 1976, the *Argo Merchant*, a Liberian-flagged oil tanker, grounded and broke up off Nantucket Island, Massachusetts. This incident was attributed to errors in operational procedures, inadequate crew training and qualification, and malfunction of navigational equipment. The 644-foot foreign-flagged vessel was loaded with a cargo of 7.7 million gallons of home heating fuel and created one of the largest marine oil spills in history. The ship had been involved in numerous significant safety incidents including two previous groundings. In response, the Carter Administration promulgated a series of tanker safety initiatives. But the Coast Guard, recognizing their own deficiency, did not have adequate data to support these new rules.

Subsequently, Congress passed the Port and Tanker Safety Act (PTSA) of 1978. This statute provided the Coast Guard with broader, more extensive, and explicitly stated authority with respect to foreign-flagged vessels. Congress set a goal for the Coast Guard

to eliminate substandard shipping in U.S. waters, and particularly foreign-flagged vessels. The Marine Safety program was to use safety-related information to achieve this critical outcome. Specifically the statute:

- Noted that existing international standards for inspection and enforcement were incomplete. These regulations were often left unenforced by some flag states. There was a need to prevent substandard vessels from using U.S. ports for the mitigation of the hazards to life, property, or the marine environment;
- Established the marine safety information system (MSIS) to contain information with regard to vessels that operate on or enter the navigable waters of the U.S.;
- Required vessels to furnish data or other information to include the history of accidents or serious repair problems and a record of all inspections and examinations;
- Provided the Coast Guard special powers to order any vessel (including foreign vessels destined or departing for a U.S. port) to comply with its directions if there is reasonable cause to believe the vessel did not comply with U.S. safety regulations; and
- Prohibited operation of vessels in the navigable waters of the U.S. that have a history of, among other things, accidents, pollution incidents, or serious repair problems that create reason to believe that such vessels may be unsafe or may create a threat to the marine environment.

This law established what would later be more formally implemented and named Port State Control (PSC). This is the inspection of foreign ships by each nation in their own ports. The examinations are to verify that the condition of the vessels and their

manning, operations and equipment comply with the requirements of international regulations. This is effectively a powerful performance management initiative, made more meaningful in the U.S. by our global maritime reach. With the largest economy in the world, the U.S. wields substantial economic influence. The Coast Guard began to exercise its powers to track deficiencies and use them as an indicator of both good and poor operators.

This improved visibility of safety issues in the tanker industry enabled a significant expansion of the PSC effort through other international PSC regimes. The1978 Tanker Safety and Pollution Prevention Conference used this data to upgrade international safety standards. Europe followed suit with their port state control regime, the Paris Memoranda of Understanding (MoU), and then followed with other MoUs. MoUs have been signed covering all of the world's oceans. These inspection regimes were originally intended to back up flag State efforts as the "safety net" to catch substandard ships. Importantly, they are also especially effective for inspection coordination between port calls within a region. Besides ensuring that the maximum numbers of ships are inspected, it prevents ships from being delayed by unnecessary examinations. Thereby, commerce is facilitated.

Although this foreign flag vessel inspection and detention regime had been in place for some time, it was not until the 1990's that the Coast Guard employed the concept to maximize effectiveness. As noted in the timeline, Appendix B, in 1991 the container ship *Santa Clara* lost hazardous material containers over the side off the East Coast. The ship then made subsequent port calls with toxic conditions on board. The Board of Inquiry

made a number of regulatory, inspection and risk-analysis recommendations for Coast Guard action. The Congress took note and demanded that the Coast Guard do a better job, and asked, "Why aren't your inspectors catching these things?"[49] In response, the Marine Safety program redirected inspections that were predominately focused on U.S. flag ships to foreign flag inspections. Data was collected, tracked, and measured. One of the critical measures was detentions, specifically detentions by flag state, by classification society and by company. Initially, the Coast Guard started out with a fairly high rate of detention of foreign flagships. This was then reduced over subsequent years as flag states and companies took responsibility for safe operations.

Marine Safety leadership recognized that the program continued to issue violation reports for relative minor infractions that did not make a difference. The focus, then, was activity measurement, not outcomes. "Legally correct and absolutely useless" is how the program was described.[50] The Coast Guard realized that the U.S. would never eliminate sub-standard vessels unless they established an outcome goal to get these poor quality vessels off the water. The Coast Guard began aligning its activities towards this objective. This outcome based activity of the Marine Safety program was not just about the numbers of certificates issued and vessels boarded. It was fundamentally about results—safety improvements in equipment, personnel and operations and fewer accidents. To get there, the Coast Guard had to rethink how it collected data to enable analysis of causes and seek the appropriate interventions.

[49] Interview retired senior Marine Safety program leader.
[50] Interview retired Assistant Commandant for Marine Safety and Environmental Protection.

The Coast Guard understood that it did not and could not make shipping safe by itself. Those that own and operate the vessels are the ultimate safety net. The goal was to get the marine industry to take responsibility for their individual safety systems through a market-based initiative where "transparency breeds self-correcting behavior." The following describes this in action.

To eliminate substandard shipping from U.S. waters, the Coast Guard identifies and targets vessels in a "risk management" scheme—built on the philosophy of targeting resources where the greatest risk exists. Under PSC, the Coast Guard receives information when a vessel will be arriving. The ship is pre-screened by owner, classification society, flag state, inspection history, and other pertinent information on vessel condition resident in the database. If the vessel has a higher than "normal level" of discrepancies, it is placed on a targeted list as a higher priority boarding target. And if they have an exceptional performance record, they receive a "lighter touch" from the Coast Guard. Notwithstanding the rational application of "risk-based decision-making" in such a targeting scheme, there remains a reluctance to reduce inspections where the data so warrants.

For almost two decades the Coast Guard has published an Annual Report on Port State Control in the United States.[51] This report provides key statistics related to enforcement of the regulations under the various international agreements and codes. It provides the history of safety and security performance for all flag administrations and describes the "Port State Control Safety and Environmental Protection Compliance Targeting Matrix." This matrix is the quantitative means to focus PSC examinations in risk-

[51] Latest report: http://www.uscg.mil/hq/cgcvc/cvc2/annual_report/annualrpt13.pdf

based vessel inspections. Moreover, it lists the vessel examination results and detentions. This provides transparency of the safety compliance performance of flag administrations and classification societies. PSC is deemed an international success (Anderson 2002).

The Annual Report includes the Quality Shipping for the 21st Century program, or QUALSHIP 21. The concept behind this initiative, launched in the late 1990's, is to hold to a high standard those who are doing well and provide them incentives to do even better. Alternatively, the Marine Safety program can spend more time on those who are not doing as well. The program recognizes and rewards vessels, as well as their owners and Flag Administrations, for their commitment to safety and quality. With stringent criteria, only a small percentage of all foreign-flagged ships earn the QUALSHIP 21 designation. To encourage participation, the Coast Guard provides marine industry-wide recognition and reduces PSC examination frequency. This allows those ships to operate more freely. Their operations are facilitated through more expeditious port turnarounds (economic incentive). Ship owners look for a QUALSHIP 21 administration.

Partnerships

In the 1990's, Coast Guard leadership embraced Total Quality Management (TQM) to improve its processes throughout the Service. TQM is a management approach that involves all employees in a "customer-focused" organization. In a customer-focused organization, the customer ultimately determines the level of quality and concludes whether the efforts were worthwhile. As noted earlier, the Coast Guard does not own and therefore does not directly control the behaviors of the marine industry. To innovatively apply this management scheme in the Marine Safety program, the Coast Guard set about to de-

termine who were the key process partners or "force multipliers" that could be leveraged to achieve the desired safety improvements.

Marine Safety leadership recognized that the Coast Guard, as the key influencer, could change behaviors within a cooperative framework. Consequently, the Coast Guard sought partnerships with the best of the marine industry, as well as state and local maritime entities. Partnerships were established and nurtured with the top performers. These partnerships would set the example of what needs to be done to improve the safety of operations. However, there was pushback from Congress on the Coast Guard's concept of "partner," since the Agency was supposed to "regulate" and enforce the law. The Coast Guard argued that buy-in and ownership from those regulated was critical to achieve effective compliance.

The Coast Guard began a concerted effort to capture and evaluate its data and then question what strategies could be used to make a difference. While the Coast Guard did not own any of these commercial vessels, tankers, passenger vessels, etc., it did have extensive regulations. Marine Safety program leadership recognized that even a perfect set of regulations (if such a set could ever be devised) does not prevent many bad events from happening, for example, keeping people from falling over the side from towing vessels. Other types of industry regulations, such as requirements for railings, would impede operations and not be workable on barges. Armed with safety data, the Coast Guard presented it as "we have a problem" to the American Waterways Operators (AWO), the national advocate for the U.S. tugboat, towboat and barge industry.

In 1995, the first maritime safety partnership was established—the Coast Guard-AWO Safety Partnership. This oldest public-private partnership between the Coast Guard and its stakeholders was developed from conversations between the Coast Guard and industry. The partnership evaluated fleet performance and potential improvements through regular meetings of Coast Guard and towing industry senior leaders. Since its establishment, the partnership launched more than 40 cooperative initiatives (working groups/quality action teams) to improve safety and environmental protection. This partnership led to the unique collaborative towing vessel inspection rule making that began in 2004.

The Coast Guard has many and varied maritime partners and stakeholders. Technically the marine industries are "stakeholders," as they are impacted by the Marine Safety program's performance. As noted, the Coast Guard has been successful in developing a close working relationship to leverage safety and security mission performance. This is also true with respect to the classification societies. Under the Port State Control program, they are also stakeholders. Classification societies are responsible for establishing standards and work-quality for foreign flag vessels design and inspection services. The Coast Guard also depends on these same classification societies to partner with the Marine Safety program to conduct vessel inspections and review design plans on its behalf under the Alternate Compliance Program (ACP). Furthermore, the Federal Advisory Committees that the Coast Guard consults on regulation development are principally maritime industry representatives. The current Commandant is shifting the dialog with the marine industry from "partnerships" to "relationships" to nuance the role the Service

must play in oversight and regulation (Zukunft 2015). Congress is sensitive to the symbolism that diverges from the Coast Guard as marine safety "regulators."

Prevention Through People

Human errors in many industries have been attributed to factors such as fatigue, distraction, drug and alcohol abuse, inadequate training and supervision, inadequate work procedures and design flaws.

> In the marine industry, as in many other industries, regulations have often prescribed engineering and technological solutions in response to accidents to improve safety and to minimize the consequences. New engineering and technological approaches have resulted in tremendous safety improvements in the past; however, these approaches have also, at times, inadvertently resulted in less safe conditions because they cause unintended changes in one or more of the other system components, such as people's behavior. (National Research Council 1997).

In the early 1990's, Coast Guard Marine Safety leadership recognized that people are a substantial cause of marine accidents and pollution incidents. For example, towing industry data for 1982 through 1991 indicated that 62 percent of reported casualties were caused by human factors. With human error as a causative factor in a majority of marine accidents, potential interventions must focus on the mariners. As people are placed in systems, especially those of ever-increasing complexity, too often it becomes difficult for them to safely and efficiently conduct their operations. Thus the "human factor" needed to be addressed if the safety systems were to substantially improve performance.

The Marine Safety program sought to better understand the vessel safety data that the Coast Guard already had in hand, especially the people part. This was a seismic shift from just data collection of safety-related activities (inspection deficiencies, detentions, casualties, etc.) to understand how that data may inform appropriate interventions. The

concept was to first identify the highest-risk vessels and operators with their associated casualty events or evidence of substantial safety problems. Through identification and analysis of the causal factors, the program would be able to understand how certain interventions might achieve desired outcomes. Interventions could then take numerous forms. Moreover, the Coast Guard did not have to own all the solutions. For example, interventions may include additional or improved regulations, third party examinations through classification societies, or improved and enforced safety management systems (SMS) that would positively affect operator behaviors. Safety management systems might include better training, enhanced supervision and improved medical monitoring.

Using a Total Quality Management (TQM) approach, a Quality Action Team (QAT) developed the Prevention Through People (PTP) program. This was a participatory, systematic approach to reduce human injuries and fatalities and environmental pollution through collaborative (partnership) relationships with the marine industry. This quality approach first sought to improve outcomes through non-regulatory solutions. It was launched with a number of guiding principles that included "Honor the Mariner." PTP was extremely well received by the marine industry. It meant an opportunity to shape mutual outcomes without more draconian regulations. In fact, the industry desired to see a return to the PTP approach and associated partnering that had been discontinued post-9/11 (Card 2007, p.9; Lauridsen 2007). PTP was cited by the GAO as a best practice example of the use of performance information to support mission:

> …the Coast Guard shifted its resources and realigned its processes away from inspections and toward other efforts to reduce marine casualties. In addition, it identified a significant role for the towing industry in the marine safety program and looked for opportunities to work with its stakeholders in the towing industry to re-

> duce casualties in their field. The Coast Guard and the towing industry worked to build the knowledge and skills of entry-level crew members in the industry. The Coast Guard and the towing industry jointly developed training and voluntary guidelines to reduce the causes of fatalities. This joint effort contributed to a significant decline in the reported towing industry fatality rate: from 91 per 100,000 industry employees in 1990 to 27 per 100,000 in 1995. The marine safety program apparently not only improved its mission effectiveness, but did so with fewer people and at lower cost (GAO 1996a).

Notwithstanding these efforts, the Marine Safety program still struggled with meeting the centrally-mandated GPRA approach. Almost a decade later, the Bush Administration's Program Assessment Rating Tool (PART) evaluation of the Marine Safety program rated the program only as "adequate" and cited issues with its annual performance metrics and long-term goals.[52] PART was extensively criticized for a number of weaknesses. Although PART performance assessments were intended to make government more entrepreneurial, it often had the opposite effect by strengthening bureaucratic politics. Furthermore, it was found that programs with outcomes that are more difficult to measure and span many years to produce results, such as regulatory programs, were disadvantaged in the PART type of performance assessment (Greitens and Joaquin 2010).

Process Improvement

The Coast Guard has successfully used total quality management (TQM) and performance metrics at field units. This is where work is primarily process-oriented and activities to results relationships can be established under routine and stable conditions. Two examples in the Marine Safety program are noteworthy. "Centers of Excellence" specialize in Marine Safety outcomes for their customers, the maritime industry. The

[52] PART Program Assessment Coast Guard: Marine Safety 2005. http://georgewbush-whitehouse.archives.gov/omb/expectmore/summary/10003609.2005.html.

Marine Safety Center (MSC) is responsible for the verification of compliance with technical standards for the design, construction, alteration and repair of commercial vessels. The National Maritime Center (NMC) is responsible for the credentialing of qualified U.S. mariners who are in compliance with domestic or international standards. Both units have well-defined business processes. The MSC seeks to provide accurate and timely responses on vessel construction plans submitted for review, while the NMC strives to most efficiently and effectively issue mariners' licenses. Both have a comprehensive set of process metrics and goals that are routinely reviewed by management. The reviews drive process improvements and better use of limited resources. For example, when the NMC was formed through the consolidation of activities at different field units, the focus shifted to processing time, rather counting the backlog (numbers). As a result of the new focus, credentialing process time was reduced by 70 percent while customer satisfaction increased from 30 to 90 percent.

CHAPTER 7 – SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A recent GAO study (GAO 2014c) reported on agencies' trends in the use of performance information to make decisions. It concluded that agencies' reported use of performance information generally has not improved since 2007. In citing this study a leading advocate of performance management wrote:

> Champions of performance management in government are confounded. After decades of trying to integrate the use of performance information into agency decision-making, it still isn't happening on as broad a scale as once hoped. The initial premise 20 years ago was that if performance information was made readily available, it would be used by agency decision-makers. That turned out to not be true. (Kamensky 2014).

From other research, Kamensky concluded that organizational culture had a lot to do with this persistent, widespread failure. The cure is a leadership strategy to fundamentally change how managers do their jobs and tackle problem-solving.

This research argues differently. There are many and varied issues and impediments to employing a centrally-mandated performance management approach in a federal agency. Many of these barriers exist in the environment in which the agency operates and are beyond the devices of its leaders. The following is a summary of the salient issues uncovered during the course of this research. The hypothesis is that there is no one-size-fits-all solution to what is wrong with government; it is unreasonable to manage complex government programs within a high ambiguity environment using this approach. At best, GPRA had very limited consequence for the Marine Safety program.

As required by the statute, the program reports its results and related efforts that are in alignment with GPRA requirements. However, such reporting is treated as an administrative burden.

A government management scholar, Howard Risher, recently noted that even though it has been a number of years since the 2010 GPRA Modernization Act was passed, continuing performance problems suggest there has not been much progress.

> For years government's focus was on installing management systems and technology—answers that were developed and installed under contract. Now with "modernization," new products have been introduced and new positions created that make individuals responsible for leading performance initiatives. The new answers reflect an intent to emulate the way performance is managed in industry. But there are…fundamental differences in industry… At this point there are no new methods or systems for improving performance on the horizon. The elements of performance management are more or less the same at all companies—those that are successful as well as the failures. They all rely on performance goals; they all rely on metrics to track performance… Significantly, it's not the management systems or technology that explain high performance companies. It's the way people are managed. Research has identified the behaviors of executives and managers that are common across those companies. And those behaviors explain the difference in the emotional commitment of employees, all at virtually no cost. (Risher 2015).

It is all about engaging and empowering people.

Summary of the Influencing Factors

There are two separate but related sets of arguments about a centrally-mandated performance management approach in practice. One is the result of shifting priorities in the external environment, some of which are created by pressures from Congress and other stakeholders to change focus, and the emergence of sudden, unforeseen and unforeseeable events that have to be dealt with (such as the *Exxon Valdez*). The other is that even if things were stable outside the organization, it is the nature of the work—the

complexity of programs, the rotation of leadership (people with different goals and interests), reorganizations, human capital issues, lack of information, cultural resistance to change—that force managers to deviate even though they have the best intentions to stay on course. Measures in place for the current program and priorities become moot because the programs themselves may have to be reinvented or redesigned. This may involve reassigning resources, revising budgets and devising new strategies. For these reasons it is impractical to follow a performance management plan for long.

In other words, performance management implies a degree of stability both inside and outside the organization that, for various and different reasons (e.g. politics, nature and human error), does not exist in practice. This is especially true for a federal agency like the Coast Guard with missions that are structured around dealing with human error. The Agency's duties are subject to the vagaries of nature and are deeply affected by political trends and currents.

Using the ship analogy of stability, one of the basic principles of naval architecture in ship design and operation is the relationship of the center of gravity, center of buoyancy and the metacenter. The metacenter is the point about which a ship rolls when subject to waves, wind or turns. Ship designers must ensure that the metacenter is located above the center of gravity. The higher it is, the quicker (stiffer roll response) that the ship rights itself when subject to an upsetting force (either external or internal). The original ship design may be adequate with sufficient metacentric height (vertical distance between the center of gravity and the metacenter). However, once the ship is in operation, things change. More weight may be added topside as the mission changes.

Less fuel may in its tanks below. These modifications, usually an accumulation of small effects over time, result in large weight additions or subtractions. Subsequently, the center of gravity rises. The ship begins to roll differently and is less able to right itself. In other words, its response changes as its journey is modified. In some circumstances, with significant total change (metacenter drops below the center of gravity), the ship becomes unstable and capsizes with complete mission failure. This illustrates how seemingly well-run programs can go decidedly wrong over time.

My study illuminates the different factors, externally and internally, that face federal agencies and makes applying a centrally-mandated performance management approach difficult or unrealistic in practice. There are programs or parts of programs which are amenable to goal setting, data collection, and steering along the lines envisioned by the performance management approach. They are relatively self-contained, the goals fairly clear and resources to outcomes quantifiable. But even they may be subjected to one or both sets of changes, which make it difficult to fulfill a mandated performance management approach. External or internal factors will likely intrude in time. The following summarizes those that affected the Marine Safety program.

The adoption and sustainment of performance management by the Marine Safety program was both aided and hindered by a complex interplay of organizational attributes: mission, people, leadership, culture, accountability and change.

The regulation and enforcement activities of the Marine Safety program led to early adoption of internally-driven performance-management type strategies. For example, throughout the 1970's, major oil tanker collisions and groundings, and international mari-

time conventions on prevention of pollution and loss of life, provided impetus for change. These events spurred the collection and analysis of marine safety information to develop improved standards through domestic and international rules, regulations and agreements. With the Clinton's Administration's NPR initiative and Congress' GPRA statute in the 1990's, the Coast Guard naturally turned to the Marine Safety program as their program management exemplar to be touted to the Department and Congress. Nevertheless, as a regulatory program within the "multi-mission, maritime, military" Coast Guard, the Marine Safety program faced a number of internal performance challenges within its own organization: (1) mission: understanding, recognition, priority and competition, (2) people: workforce competency, (3) leadership: program and Coast Guard, (4) culture, (5) accountability, and (6) organizational change.

Mission. The Marine Safety program is not well understood or appreciated by the majority of the organization, although it has extraordinary global and national economic impact. It is the one Coast Guard program that has a major and clearly identifiable customer base with the marine industry. This safety regulatory program is not considered "front line" when compared to the Service's high-visibility missions of search and rescue, law enforcement and security. Hence, Marine Safety program leadership understood the struggle for recognition and resources service-wise and on the Hill. Measurement of what they were doing and how it affected outcomes became paramount to "competing" with the other more "glamorous" missions. This was especially true when it came to budget and resources that are often at best a zero-sum game.

People. The Coast Guard is severely challenged to build and maintain critical Marine Safety workforce competencies in an increasingly technically complex and competitive field. To enable the mining and analysis of useful information for improving performance, quality data must be collected. The majority of the data on safety deficiencies and casualties (such as groundings, collisions, equipment failures, deaths, injuries, oil spills) is captured and entered into the electronic database by the inspectors and investigators of the Marine Safety workforce. It is estimated that the Marine Safety workforce is about 300 people short. The gap will only continue to grow.[53] With fewer people to do ever more, the program's ability to promulgate regulations and perform all of the necessary safety inspections and investigations will continue to be tested. The capability of the program to perform its mission, primarily by its workforce competencies and capacity, is a leading performance indicator of its likely inability to meet future demands.

Leadership. A prevalent theme in this study was that leadership is considered to be the single most important factor in using data for decisions. This view is consistent with other findings where top leadership that demonstrated a strong commitment to achieving results were significantly and positively related to the use of performance information (GAO 2014b, c). Throughout much of the 1990's, a period that coincided with the formal roll out of performance management through GPRA, the Marine Safety program had visionary leaders that understood the concepts and potential benefits of an internally devised data-driven management approach. Another enabler was the relative stability of the program's leadership during this era. Subsequently, this has not been replicated. These

[53] Marine Safety program leader.

leaders were instrumental in the pursuit of "partnerships" to bring together the Coast Guard and industry to mutually address their safety issues. Coast Guard senior leadership support for both the Marine Safety program resources and Service-wide performance management capability has waxed and waned. Consequently, neither the program nor the Coast Guard has realized its performance management potential.

Culture. Data-driven decision-making does not fit the culture of the organization. While the Service prides itself on its analytical capabilities, the rapid response mind-set (operator culture) places a premium on forward operations rather than backroom analytics. The Prevention and Response missions are perceived and ultimately valued differently. This dichotomy directly affects the collection and use of information for key decision-making. There remains a lack of appreciation by senior officers of the potential value this could bring to program performance and resource management.

Accountability. Study participants believed that a major impediment to performance management is accountability for results they cannot adequately influence. Foremost, this involves the inherent difficulty of establishing realistically achievable goals to which program leadership can be held answerable. This is especially true with a technically complex, regulatory program in a highly-political environment with many different stakeholders and divergent objectives. In the particularly complex task of getting the marine industry to own the safety solutions, there is at best a tenuous relationship between input resources (e.g., standards, inspections and investigations) and outcomes (e.g., deaths, injuries, property damage, oil spilled). Hence, there is a reluctance to be "meas-

ured" against these outcomes. The perceived potential for external players to misuse the information is yet another barrier.

Organizational Change. The Marine Safety program's mission performance was markedly affected by organizational change and new program alignments, most notably from the 1990's through the present. Two substantial organizational changes impacted the program's performance management efforts: (1) move to the Department of Homeland Security and (2) realignment of missions. In the first change, the post-9/11 move to the Department of Homeland Security (DHS), the Coast Guard's safety missions were subjugated by the new Department's security priorities. This move and mission realignment with DHS intensified the move of safety resources to fill the post-9/11 security capability gap. Not only did the Marine Safety program lose resources and expertise, it lost its focus on its own performance management approach. The other change was the realignment of missions to vertically integrate the Prevention and Response functions from the field to Headquarters. This meant virtually continuous change for well more than a decade with organizational uncertainty. The lost focus on safety mission execution negatively impacted Marine Safety's customers. This was worsened by submerging the program in the new organization. The program lost its visibility to the marine industry.

Marine Safety information exhibited what scholar Beryl Radin refers to as the false or unrealistic assumptions of performance management.

Beryl Radin's analysis of false or unrealistic assumptions are: information is readily available, information is neutral, we know what we are measuring, we can define cause-effect relationships in programs, baseline information is available, and almost all

activities can be measured and quantified (Radin 2006, pp.184-185). For the Coast Guard Marine Safety program, data quality remains the biggest challenge. For more than three decades, program leadership struggled with how best to keep the field focused and motivated to expend the necessary time to input the appropriate information.

As the Marine Safety Information System (MSIS) evolved, the collection process suffered from many of the classic management information system issues. The system initially required considerably more data collection than would be useful to the program. The Marine Safety program attempted to capture every bit of data that could possibly be obtained with no concept of how it would be used. Consequently, the system was populated with a lot of data with inconsistent quality. There were marine inspector training and experience issues, as well as a lack of motivation. The marine inspectors were easily frustrated and too often would only complete the minimum required or enter erroneous data to close out the vessel inspection or case. The Marine Safety program lacks the technology investment that is necessary to facilitate data-collection activities in the field. Meanwhile, the marine industry employs greater use of technology in monitoring its own systems. This source of potential leading safety indicators remains elusive to the Coast Guard.

A significant issue with information is the substantial "near miss" data that is absent and prevented from being captured due to potential liability issues. Also, there is a disincentive for Good Samaritans' to make reports. Further, injuries are not reliably reported creating large variations in data reliability. Consequently, considerable baseline information is not available. This severely limits those activities that can be measured

and quantified. If available, this information would provide a substantially more complete and robust database to investigate and develop appropriate solutions. The Marine Information for Safety and Law Enforcement (MISLE) system remains fundamentally a large collection of activities data. The system continues to be time-consuming to populate and it remains difficult to retrieve and analyze information. With MISLE, the Marine Safety program no longer has direct control over the information system as it serves multiple programs. Consequently, the system is not considered adequately responsive to the program's needs.

Marine Safety program metrics and goals have not been useful due to the inability to effectively define prevention program outcomes.

The Marine Safety program is challenged to create appropriate output measures (such as vessel inspection results) that align with the GPRA outcome measures (deaths and injuries). The ability to demonstrate how the Marine Safety program's performance impacts the "end result" or outcome (cause-effect relationships) remains elusive. The program currently reports safety metrics (deaths and injuries) for commercial mariners, commercial passengers and recreational boating. As these are "top line" outcome measures, they suffer from many of the same limitations as similarly-styled metrics for other federal government programs. These "heart attack measures" are lagging indicators that are also affected by factors beyond the Coast Guard's influence. There are no causal linkages identified between program resources and activities and the outcome measures. Injuries are not reliably reported, creating large variations in outcome attainment.

The Marine Safety program's mission is to prevent bad things from happening; deterrence is difficult to measure. Consequently, there is the challenge to find an appropriate measure of "non-events." The program is now "locked" into these GPRA metrics by both Department and Congressional politics. Politically no one wants to back away from a "zero fatality" goal, although such an end point is impossible to achieve. Thus, the Coast Guard is left with the annual task of taking credit for good numbers while devising explanations when the statistics show a negative trend. Moreover, the program resides in an environment where one major marine accident politically overrides all sorts of lagging indicators.

GPRA requires agencies to establish a balanced set of performance indicators to measure or assess progress toward each performance goal, including, as appropriate, customer service, efficiency and effectiveness indicators. The Marine Safety program performance indicators fall short of this "balance" requirement. In particular, as evidenced by the 2007 marine industry "revolt," there are no measures related to customer service. The use of Safety Management Systems (SMS) brings up a host of challenges. SMS implementation and effectiveness will need to be tracked. Are there key indicators that a Coast Guard inspector can use to determine if the vessel really has an operable SMS and the ship-owner has a tangible safety culture?

Going forward, the Alternative Compliance Program (ACP) will be critical to the Marine Safety program's success. Service delivery through third parties, the process employed by many federal programs, brings with it its own set of challenges in managing the performance of the classification societies. As ACP becomes a larger part of the

Coast Guard's Marine Safety program, the Coast Guard will need to define the scope of these responsibilities and advance an effective oversight process. Can an appropriate set of performance measures be developed to monitor these outcomes?

Performance management had a limited effect on budget and resources decisions.

The Marine Safety program faced appropriations, resource allocation and budget decision-making challenges as the program continually fought for its relatively small share of resources. In fact, the program never saw a noticeable resource increase, unless there was a major marine incident with political consequences.

On the plus side, beginning in the 1990's the Marine Safety program made performance management integral to its budget process. Program goals and business planning fed directly into the development of the annual budget request. Data collected and analysis of trends were used to help justify the program's resource needs. Workload analysis of the available data enabled resource management internal to the program. The deficiency trends focused future inspection work and demonstrated further improvements in vessel safety. The Marine Safety program's performance management efforts were received positively by Coast Guard and Department budget staffs.

Similarly, the Coast Guard's oversight committees appeared to be supportive as the Marine Safety program could demonstrate quantitatively what it was doing. This enabled dialog with Congressional staffs about the methodologies used by the program to lessen risk, reduce loss of life and property, and decrease the number of oil spills. Program leaders were able to make sound arguments for Marine Safety needs in the budget hear-

ings—why this was a good investment and why Congress should continue to appropriately fund the program.

On the minus side, there is no evidence that this effort brought more favorable appropriations outcomes. The Marine Safety program, which has the longest standing and most robust performance management construct in the Coast Guard, cannot define how a given amount of resources would affect performance outcomes. The two major operational programs are Prevention (which includes Marine Safety) and Response. The multi-mission aspect of the Coast Guard's operational assets makes it especially difficult to link these two in a rational budget decision-making context. Comparison of resource needs between the Marine Safety program and the costly response mission programs, such as search and rescue, remains highly problematic. Coast Guard resource managers are faced with a budgeting conundrum with disparate program analyses and justifications in an environment of fierce resource competition. Coupled with the "marginally-driven" appropriations process, the Coast Guard, as with any federal agency, expends effort to divine where Congress is likely to make further investments (event-driven opportunities) and then articulate why it is needed on a "performance basis." As the Coast Guard's budget literally exploded in the 2000's, performance requirements were not necessary to get the added resources.

There are other reasons for this disconnect between performance-based budget theory and reality. Congress bases decisions on a multitude of factors outside of more rationale metrics; data-driven outcomes might not be politically viable. This is also true of agencies' leadership as they look across their portfolios of programs. Congress' response

to events that have political implications is often severe. Their reaction and fix to perceived problems is often to pass more restrictive laws, add reporting requirements and quickly appropriate substantial new funding. This appropriations environment is not conducive to agencies being driven by performance metrics. Absent highly political issues, Congress is not inclined to fully resource investment needs. These resources would otherwise enable programs to be more effective in risk assessment and mitigation. The Coast Guard's subcommittees, similar to those that deal with specific programs, often have more programmatic issues to address. They are driven by constituents' and members' political calculations. Accordingly, even "good numbers" for performance indicators are not of consummate interest in crafting legislation and determining appropriations.

Marine safety information has been used for internal resource allocation decisions. One example is reallocating positions from ports with less activity and lower risk to ports with more activity and higher risk. However, politics comes into play when weighing the local public's tolerance for bad things happening. As this tolerance varies across the United States, moving people from a lower to a higher workload port, a smart resource decision, sometimes becomes problematic. Finally, because the Coast Guard does not have a cogent performance system across the entire organization, it does not have the confidence in its metrics to have Congress base their appropriations decisions exclusively on available data. Coast Guard leaders are reticent to use this information.

Exogenous events had significant and long-lasting impacts on Marine Safety program performance.

The Marine Safety program faced continuous appropriations and resource allocation challenges. Over the past three plus decades, this study recounted notable resource changes and consequent impacts on the program's capabilities. This research illustrated the "ebbs and flows" of the Marine Safety prevention missions in a multi-mission service. In each case, Coast Guard leadership, faced with external Administration pressure and other external-driven priorities, proceeded to reduce or siphon off Marine Safety program resources. Although there were performance indicators that reflected a negative trend, informally recognized within the program, it was not until major exogenous events occurred that the Administrations and Congress realized the scope of program failure. Two series of events best exemplify this degenerative process: the (1) "drug war" and subsequent *Exxon Valdez* grounding and (2) "Coast Guard Streamlining," 9/11 terrorist attack and subsequent maritime industry "revolt."

Both were historic defining events for the Coast Guard. A combination of external events and restricted resources shaped the Commandants' priorities for the Service. These leaders made decisions during their tenures with the best of intentions, but ultimately caused undesirable consequences for the Service and nation. These cases over lengthy time periods reinforced the reality that the Marine Safety program is a low profile mission within the Coast Guard's multi-mission portfolio. This low profile did not change until a confluence of factors markedly raised its visibility and caused great introspection. In essence, the Marine Safety (Prevention) program's mission is to keep bad things from happening. Non-events are virtually impossible to measure.

Consequently, Marine Safety will normally not be a budget item of great interest to the Service. The Coast Guard, with many pressing budget needs, especially in what has traditionally been a declining resource environment, will always have many other budget items of immediate concern that require priority investment. And there is the reality that if a major incident occurs, Congress will throw the Service a "lifesaver" in the form of significant dollars. Notably, the analysis in this study indicated that neither of these cases of resource decrease and increase had anything to do with performance management and performance-based budgeting. Performance deficits were not brought to light until the Coast Guard was overtaken by externally-driven events. Exogenous events drove Congressional, Administration and Coast Guard decision-making to create the environment for failure and subsequently an urgent effort to fix the Marine Safety program.

Performance information, when employed as a "self-regulating" mechanism in an internal performance improvement approach, had a profound effect on the Coast Guard Marine Safety program performance.

The Marine Safety program did use its own performance management approaches to improve safety. The program's major performance improvement initiatives are Port State Control (PSC), Quality Shipping for the 21st Century (QUALSHIP 21), Partnerships, and Prevention Through People (PTP). The Coast Guard understood that it did not and could not make shipping safe by itself. Those that own and operate commercial vessels are the ultimate safety net. The goal was to get the marine industry to take responsibility for their individual safety systems through a market-based initiative of "transparency breeds self-correcting behavior." "Market-based approaches" were astutely used to achieve its desired outcomes (Schuck 2014). In particular, the program has "mobilized"

the market to serve its regulatory goals. This was accomplished by disclosing the safety performance of vessels, companies and flag states.

With PSC, the Marine Safety program took advantage of its leverage in the global maritime environment to ensure that the condition of the foreign vessels and their manning, operations and equipment comply with the requirements of international regulations. This outcome based activity was not just about the numbers of certificates issued and vessels boarded. It was fundamentally about safety improvements in equipment, personnel and operations and fewer accidents. To achieve these type of results, the Coast Guard had to rethink how it collected data. The program sought to analyze causes and shape appropriate interventions. To eliminate substandard shipping from U.S. waters, the Coast Guard identifies and targets vessels in a "risk management" system. This scheme allocates limited resources to the areas of greatest risk.

The concept behind QUALSHIP 21 is to hold to a high standard those who are doing well and provide them incentives to do even better. This enables the Coast Guard to focus on those who are not doing as well. The program recognizes and rewards vessels, as well as their owners and flag administrations, for their commitment to safety and quality. Published in the Annual Report on Port State Control in the United States, key statistics are disclosed that relate to enforcement of the regulations under international agreements and codes. It provides the history of safety and security performance for all flag administrations and is the quantitative means to risk-base vessel inspections.

As the Coast Guard does not directly control the behaviors of the marine industry, the Marine Safety program set about to determine who were the key process partners or

"force multipliers" that could be leveraged to achieve the desired safety improvements. Marine Safety leadership recognized that the Coast Guard, as the key influencers, could affect behavioral change within a cooperative framework. Consequently, the Coast Guard sought partnerships with the best of the marine industry, as well as state and local maritime entities. Partnerships were established and nurtured with the top performers. These partnerships would set the example of what needed to be done to improve safe operations.

In the early 1990's, Coast Guard Marine Safety leadership recognized that human error is a causative factor in a majority of marine accidents and that potential interventions must also be focused on the people in the system. An effort began to better understand the vessel safety data that the Coast Guard already had in hand. This was a seismic shift from just data collection of safety-related activities (inspection deficiencies, casualties, detentions, etc.) to analysis of how that data may inform appropriate interventions. The PTP program was a participatory, systematic approach to reduce human injuries and fatalities and environmental pollution through collaborative partnerships with the marine industry. PTP was cited by the GAO as a best practice example of using performance information.

Conclusions

The Coast Guard Marine Safety program, now a part of the Coast Guard Prevention program, exhibits both successes and challenges in its efforts to implement and use a performance management construct. Particularly when compared with other Coast Guard programs, its results are better than most. Its successes relate primarily to its internally

designed performance management approach—disclosing safety information and creating market-based incentives (Port State Control, QUALSHIP 21 and Prevention Through People). The leverage and impact of the Prevention program is enormous; a limited number of resources applied correctly can have a profound effect on global maritime transportation safety.

However, the Coast Guard continues to struggle with the centrally-mandated GPRA requirements. This research details the major impediments to achievement of other goals, such as using performance information for resource allocation and budget decision-making across the organization. Some of these obstacles are internal to the organization. It also describes the reality of federal government operations, a severely resource-constrained, political environment that clashes headlong with the idealistic principles of performance-based decision-making.

The findings support Beryl Radin's supposition that "Performance measurement activities turn out to be much more complex than is suggested by their advocates" (Radin 2006, p.234). In particular, the Marine Safety program's experience exemplifies a number of the scholar's paradoxes. These include theoretical assumptions turned into formal processes, an emphasis on immeasurable outcomes, a divergence between analytical and political approaches, and the disconnect between a "one-size-fits-all" strategy and the particulars of specific programs. "These conflicts make the achievement of performance measurement much more difficult than is communicated by the language surrounding the field" (Radin 2006, p.234). "In reality, however, such reforms have been long on promise and short on achievement" (Schuck 2014, p.398).

Notwithstanding the many issues with the centrally-mandated performance management approach, further improvements in the collection and use of marine safety information should be pursued. As Radin states, "…it is relevant to acknowledge that the goals of performance measurement are commendable" (Radin 2006, p.235). She notes that issues of performance in the public sector are important, but that they must minimize the rhetoric, faulty assumptions and perverse consequences. "But successes there have been, and they are worth revisiting here so that we might learn from them about why and to what extent they improved American society, and what light they can shed on today's policy making" (Schuck 2014, p.340). A more pragmatic approach to the challenge of better performance in the federal government is needed.

This research supports Radin's call to think practically and diminish the sermonizing. The Coast Guard Marine Safety program has done that. While it does not meet all of the mandated requirements of GPRA, it is an exemplar for the many other federal regulatory programs. The Marine Safety program employs market-based strategies, partnerships with the marine industry and a focus on the human element to improve safety and protect the environmental. It has shown what is possible apart from the bureaucratic centrally-mandated requirements. The performance of a complex regulatory program in an environment of ambiguity can be materially improved. However, continued progress will remain challenging in the extremely political environment of federal government operations.

Regulation of maritime transportation will become even more challenging in the future. The Coast Guard's Prevention programs are faced with the reality of a rapidly

growing workload with increased technical complexity and a stagnant or decreased workforce (quantity and expertise). Can performance management be one of the keys to navigating flat or detrimental budgets expected over the next decade? Can data and analytics be used to help senior leadership make the tough decisions? The foreseeable detrimental budget climate provides a catalyst. This impetus could be used effectively, as long as there is a healthy dose of reality. Putting the hype and requirements of GPRA aside, what is reasonably achievable? The pursuit to close some of the performance management gaps has the potential to change the way the Coast Guard budgets, or at least how the Service allocates resources on the margin between competing programs. As noted in a recent dissertation on this subject:

> Instead of asking whether performance information leads to different budget decisions, it asks instead how performance information impacts the policy dialogue, and how that impact translates to the decisions that are made, even if performance information is used symbolically or not at all. This framing of performance measurement within an interactive model of decision making can provide future performance reformers insight into how their approaches to measuring performance ultimately impact the information available to decision makers and the decisions they make. (Putansu 2012, pp.326-327).

A note of caution is worth repeating. Important limitations of obtaining performance information are illustrated in this study. Often the data considered necessary is not available or is deficient in quantity and/or quality. Program administrators must recognize the limits of data-driven approaches.

Recommendations for the Coast Guard

Some of the following recommendations for the Coast Guard and the Prevention program align with Radin's lessons that she drew from her study (Radin 2006).

Leadership. "Senior leadership is what matters—are they behind this or not?"[54] The Commandant should articulate a vision for data-driven decision-making and designate the Vice Commandant to lead the effort. Senior Coast Guard and program leaders must support the use of metrics to help guide program efforts and relate program goals to budget and resource decisions. Coast Guard leaders intuitively understand that it would be of great value to have good data and "scorecards" or similar tools that could tie resources to expected outcomes. Nonetheless, the Service continues to experience divergent levels of interest and support from the chain of command, exemplified by the swings of management and budget priorities through successive Commandants.

GPRA is, at best, routine administrative requirements that must be met. At worst, it provides impediments to innovation, learning and real program improvements with its "accountability" threatened through Congressional, GAO and OMB oversight. As exemplified by the Marine Safety program, success with performance-based management needs to be an internally driven initiative. Performance measurement must be part of the culture; each program must "own" their metrics. It is difficult to implement and sustain any management scheme unless you can answer, "What's in it for me?" for all levels in the organization.

Leadership should determine what is realistically achievable within the context of "managing for results." Department and Congressional politics will provide an environment of often conflicting values and goals with respect to performance management. Any success in furthering a complex regulatory program, such as the Coast Guard's Pre-

[54] Interview with retired senior Coast Guard Marine Safety leader.

vention program, must embrace this complexity and operate within the given political framework.

Performance Management Capability. Reinvigorate the performance consultant program. Organizational Performance Consultants (OPC) positions were established to help drive the use of data-driven solutions to increase the efficiency and effectiveness of processes throughout the organization. Reorganization and budget decrements have dismantled much of this capability over the last decade. While there are many competing resource demands, this capability should be considered a dividend-paying long-term investment; it is about changing the culture.

Strategic Capability. Prepare Coast Guard senior leaders to lead strategic planning and change. As officers compete for promotion, strategic acumen needs to join operational attributes as critical performance elements. The former should be weighted more heavily as grade level increases. Education and training should help prepare senior officers to be strategic leaders of the Service. Top leaders must reflect Service-wide perspectives as opposed to only their communities.

Technology. The Marine Safety program needs technology investment to facilitate data-collection activities in the field. The timeliness and quality of data is critical to the enterprise. Data collection must be made part of the business processes so that the information is created and handled only once at the place and time of collection. For that reason, the Coast Guard should provide field inspectors and investigators with mobile tablet capabilities that would permit remote access and upload of data. Furthermore, all applicable domestic and international regulations and laws should be readily available in elec-

tronic format on the tablets for ready reference. These investments will substantially leverage the limited marine safety workforce hours.[55] And as the marine industry accelerates the use of technology in monitoring its own systems, the Coast Guard should seek access to this potential source of leading safety indicators.

Data. Data completeness and integrity is a substantial challenge and must be continually revisited. Develop innovative ways to collect and maintain quality Marine Safety information. Differentiate the subset of critical safety deficiencies from the long lists of detected deficiencies. Seek a means to collect the substantial data that is missing, the "near misses." Improve the reporting reliability of marine injuries. Remove disincentives for those who witness a casualty to make a report.

Metrics. Follow up on the recommendations of the Homeland Security Institute (HSI) to include balanced and leading indicators. Balanced measures would include mission outcomes (current GPRA metrics), leadership outcomes (core strategies), process outcomes (efficiency and effectiveness), workforce metrics (quality and quantity), financial metrics and stakeholder/customer metrics. In particular, customer service measures should reflect what is important to the marine industry, such as facilitation of their business. Look beyond preventing "bad things from happening." Continue efforts to identify causal linkages and correlate input activities to achievable outcomes and results. Develop key indicators to determine if the ship-owners have a tangible safety culture. Measure the effectiveness of Safety Management Systems (SMS). Develop performance measures

[55] One participant engaged in a study that found the manpower cost of inspectors returning from the field to do data entry was in the order of $10 million.

to monitor the Alternative Compliance Program (ACP), a "third party" delivery of services.

The Coast Guard needs a performance scheme that could show how much risk it reduced given a future set of activities (resource allocation). There is work underway to do just this. The effort involves a change in focus from the current GRPA outcome measures (deaths, injuries, oil spilled), to risk reduction measures or outcomes. This is the quantification of the danger by way of a "risk grade," such as a grade point average, that would reflect the totality of the vessel's safety performance. The post-inspection risk indicator could be benchmarked against its previous score and other vessels of similar class. This would be a metric that is more directly under the influence and ultimately control of the Coast Guard. The next logical step would be to quantify the cost for a given change in risk level. That would be the cost to both the Coast Guard and industry. Communication of such a risk indicator would complement other Marine Safety program efforts.

Resource and Budget Decision-Making. To the degree possible, seek uniformity across the varied programs Service-wide that would help inform resource and budget tradeoffs. Consider one Coast Guard-wide business plan that could focus on all of the Service's outcomes and then array all of activities that are necessary. To the degree possible, switch the logic from a budget-driven strategy to a strategy-driven budget.

Recommendations for Further Study

Regulatory programs across the government. What about other regulatory programs' experiences? This study focused on one relatively effective regulatory program

and how it has designed and implemented its own version of performance management. The federal government has a plethora of regulatory programs, including environmental, financial, economic, transportation safety, consumer safety, workplace safety, energy, and food safety and agriculture. Likely many cannot demonstrate any effectiveness or, at best, limited benefits. Furthermore, they require sizeable appropriations and apply a substantial cost burden on the industries that they regulate.

> The pages of this book at littered with scores of federal policy failures—programs that create fewer benefits than costs, are cost-ineffective, or are perversely targeted—and only a relative handful of major successes…this is a deeply dismaying record…there are strong reasons to believe that these failures are but the tip of the iceberg…and that the public increasingly senses this (Schuck 2014, p. 383).

Executive Order 12866, *Regulatory Planning and Review*, issued in 1993, reaffirmed the general principle that the benefits of intended regulations should justify the costs. Since then, OMB has produced three reports on its implementation of this Executive Order. The third report, *More Benefits Fewer Burdens: Creating a Regulatory System that Works for the American People*, illustrates how the creation of certain regulations followed the principles of the Executive Order (OMB 1996). This dissertation illustrates that the Coast Guard Marine Safety program exemplified three of the "best practices" in the report:

1. Prevention Through People: Properly identify problems and risks to be addressed, and tailor the regulatory approach narrowly to address them;
2. Port State Control and QUALSHIP 21: Develop alternative approaches to traditional command-and-control regulation, such as using performance standards (telling people

what goals to meet, not how to meet them), relying on market incentives, or issuing nonbinding guidance in lieu of rules; and

3. Partnerships: Consult with those affected by the regulations.

Accordingly, follow on research questions can be framed as, "How does the performance measurement schemes employed by the Coast Guard's Marine Safety program compare to the regulatory effectiveness of other programs?" and "How do they address the burden of those regulated?"

Risk-based decision-making. Regulatory programs are in the risk assessment, risk reduction business. The Coast Guard strives to mitigate operational risk in the maritime domain. The Coast Guard does this through actions to prevent adverse events from happening, thereby minimizing their likelihood. It applies limited resources through risk-management decision-making informed by performance information. Each time the Marine Safety program issues a mariners license, inspects a vessel, detains a vessel, issues a new regulation, etc., presumably the risk is lowered—or is it? As one senior Coast Guard officer noted, the Coast Guard tests and issues mariners licenses, but do they actually reflect the competencies necessary to minimize the potential for human-caused safety-related accidents? Schuck points out a proposal to conduct randomized, controlled experiments of proposed policy innovations (Schuck 2014, p.405). This approach appears to be used evermore frequently in business.

There are significant issues with design, execution and validity issues that arise in the real world. Nonetheless, this approach may help inform programs before they undertake lengthy and expensive policy changes with little certainly as to the ultimate effec-

tiveness. This might also be applicable to Coast Guard operational commanders' assessments and actions to mitigate risks from one port to the next. Through controlled experiments in different ports, the Coast Guard may be able to evaluate the relative effectiveness and costs of different tactics. What the Coast Guard can do best under the performance management rubric is to target limited resources based on historical data that indicate which are the highest risk vessels. A performance construct that could show how much risk it bought down, given a set of activities, is a worthy objective.

Research goal not addressed. In Chapter 3, the goals of the research were categorized into three areas: personal, practical and intellectual. There remains one area that has not been explored, primarily due to the significant scope of that effort alone. This is quantifying the cost of performance management and the return on investment.

Final Thoughts

In spite of the many issues detailed in the study, I remain optimistic. It is how we think of and pursue performance improvement and ultimately aid decision-making that matters. During the course of the study, I came upon Coast Guard staff who believe that we should be more analytical in our approach to decision-making, especially which involves issues that cross programs. Of course, this would be through voluntary activities rather than the top-down centrally-mandated methodologies that require standard compliance across the federal government.

> We can gripe about the Hill not supporting initiatives and senior leadership wanting to build ships and not being performance-based, but it's not a reason not to pursue performance -- it's really the secret to managing and doing business right and we're

closer now than we've ever been.[56]

This study will be useful for the Coast Guard and other federal agencies. It documents the significant and varied management challenges of highly complex federal programs, especially those of a regulatory nature with many and diverse stakeholders. The findings support the critique that the application of performance management to the federal government is laden with overly simplistic assumptions for the multifaceted operating environment. It illustrates many of the pitfalls and consequences of the one-size-fits all approach in an "environment of high uncertainty." Unbridled optimism must be tempered with reality.

As a practical benefit for the Coast Guard, the study documents the history of the Marine Safety program management practices and challenges. This detailed account is a key to learning and should assist the decision-making ability of both current and future Service leaders and program managers. Other attributes include the capture of the unique perspectives of those who designed and implemented Marine Safety program performance management. This effort improves our understanding of the meaning for the participants and their specific context and circumstances. The process that shaped the participants' actions and their results are revealed. Unanticipated outcomes and effects were uncovered.

The Coast Guard continues to struggle with defining outcomes, as do most, if not all, agencies. And while its best plans are sometimes overruled by internal issues and external events, the Service collects and uses data to make better informed decisions.

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[56] Interview with Deputy Commandant for Operations staffer.

These choices have ultimately led to safer waterways and enabled maritime commerce. Expediting the flow of goods on the maritime highways has a direct impact on U.S. competiveness in the global marketplace. Consequently, this improves the economic prosperity of our nation and its citizens.

APPENDIX A -- MARITIME PREVENTION SUB-PROGRAM CONSTRUCT

Reference: U.S. Coast Guard Maritime Prevention Program Performance Plan Fiscal Years 2014 – 2019

Vessel, Port and Facility Compliance Programs

The Coast Guard systematically conducts inspections and examinations of U.S. and foreign vessels, and marine facilities, and reviews plans for vessel construction, alteration, equipment and salvage to ensure safety, security, and environmental protection standards are being met. Inspections are comprehensive in nature, and encompass machinery, electrical, piping, industrial, navigation, and pollution prevention systems. They ensure compliance with domestic regulations. Examinations are less comprehensive. They are intended to verify substantial compliance with international standards on foreign vessels. The Coast Guard also assesses the effectiveness of anti-terrorism measures in sixty-four countries and imposes conditions of entry on vessels arriving from countries with inadequate security.

In a typical year, the Coast Guard conducts more than 70,000 domestic vessel inspections and 10,000 port state control examinations, and reviews more than 15,000 vessel plans for technical compliance. On an annual basis, the Coast Guard conducts 7,500 examinations and 7,000 boardings, either dockside or underway, on uninspected commercial vessels including fishing, towing, and passenger vessels. The Coast Guard's 25,399 container inspections in FY12 led to the identification of over 2,570 containers for a total of 2,942 separate deficiencies on containers resulting in 454 containers and 541 cargo shipments being placed on hold until corrected or dangerous conditions resolved. 57 containers were also re-inspected. The Coast Guard conducted a total of 15,376 total regulated and unregulated facility inspections of all types to ensure compliance with safety, security, and environmental protection regulations. This involved 6,395 security inspections on MTSA regulated facilities with 2,149 security deficiencies noted, and 3,803 safety inspections on MTSA regulated facilities resulting in 1,706 deficiencies noted. It also included 1,196 independent monitors of oil and hazardous substance transfers to ensure compliance with environmental protection regulations and operating procedures.

Mariner Credentialing Program

The Coast Guard issues Merchant Mariner Credentials to 218,000 fully qualified and

actively employed merchant mariners, who serve as crewmembers aboard vessels operating on America's waterways and the world's oceans, with the goal of assuring a safe, secure, economically efficient and environmentally sound Marine Transportation System. The National Maritime Center is the Merchant Mariner Credentialing issuing authority for the Coast Guard and ensures mariners' competency through a combination of training courses, requisite experience, and examinations.

The Office of Commercial Vessel Compliance is responsible for the overall supervision and management of the credentialing program. It is responsible for the interpretation of standards and regulations in the development of program policy and serves as technical control office for the National Maritime Center. The Office of Operating and Environmental Standards is responsible for development, coordination, and maintenance of standards, statutes, regulations and guidance for the maritime industry regarding personnel qualifications, licensing and certification. It coordinates and monitors U.S. implementation efforts with respect to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, and provides support to U.S. representation on the International Maritime Organization Subcommittee on Standards, Training, Certification and Watchkeeping on issues relating to merchant marine personnel and manning. It also coordinates Coast Guard efforts related to maritime labor issues and supports the Merchant Marine Personnel and Towing Safety Advisory Committees.

Federal Advisory Committees, International Maritime Organization, and Outreach Initiatives

The Coast Guard promotes marine safety, security, and stewardship in partnership with other nations, international and non-governmental organizations, federal agencies, state and local governments, marine industries and associations. Outreach, engagement and Maritime Domain Awareness (MDA) are key factors in Maritime Prevention program performance. The Coast Guard has long-standing partnerships with the Passenger Vessel Association, the American Waterways Operators, the Cruise Line International Association, Independent Liquid Terminals Association, International Association of Independent Tanker Owners, Baltic and International Maritime Council, Chamber of Shipping of America, the Offshore Marine Services Association, and the National Cargo Bureau.

Federal Advisory Committees that provide input to the Maritime Prevention Program include: the Chemical Transportation Advisory Committee, Commercial Fishing Safety Advisory Committee, Merchant Marine Personnel Advisory Committee, Merchant Mariner Medical Advisory Committee, National Boating Safety Advisory Council, National Maritime Security Advisory Committee, National Offshore Safety Advisory Committee, and Towing Safety Advisory Committee among the twelve FACAs. Federally-recognized entities that provide cooperative engagement activities include Harbor Safety Committees, Area Committees for environmental response, and Area Maritime Security Committees.

As the leading port state, the United States is an active member of the International Maritime Organization (IMO); the London based body responsible for developing and maintaining a comprehensive international maritime regulatory framework for the worlds shipping industry. The Department of State has designated the Coast Guard as Lead Federal Agency to the IMO. As such, the Coast Guard coordinates issues with relevant interagency partners to develop harmonized U.S. positions and represent those positions at numerous governing and technical bodies.

Recreational Boating Safety

The Federal Boat Safety Act of 1971 granted broad authority for the Coast Guard, in consultation with the National Boating Safety Advisory Council, to establish recreational safety regulations including manufacturing requirements and mandatory safety equipment. We develop standards for recreational vessel construction and performance, and ensure compliance through a robust program of factory inspections. In FY 2012, Coast Guard Inspectors visited 1,120 of approximately 3,600 active boat manufacturers, maintaining the desired 33% annual visitation.

We promulgate safety equipment carriage requirements, and in partnership with state and local enforcement agencies, board and examine nearly 1.7 million recreational vessels each year. The Coast Guard Auxiliary and United States Power Squadrons provide more than 130,000 additional free vessel safety checks and inspections each year. Coast Guard efforts to improve boating safety rely heavily on State Recreational Boating Safety Programs, and Coast Guard Recreational Boating Safety efforts include administration of grant money through the State Boating Grant Program to help State governments educate boaters and enforce safety standards.

Investigations and Casualty Analysis

The Coast Guard conducts about 14,000 investigations each year of reportable marine casualties involving vessels, oil and hazardous materials spills, and maritime personnel actions. The Coast Guard's analysis, conclusions, and recommendations are made available to the public and other governmental entities and are used to develop new standards to prevent future accidents. When warranted, the Coast Guard releases safety alerts and advisories to communicate significant issues to both the Coast Guard and the maritime industry.

Vessel Documentation

The Coast Guard, through the National Vessel Documentation Center, serves to facilitate maritime commerce and availability of financing while protecting the economic privileges of United States citizens through the enforcement of regulations. It also provides a register of vessels available in time of war or emergency to defend and protect

the Nation.

Alternative Compliance Program (ACP)

The ACP is a voluntary alternate process for U.S. vessels to obtain a Coast Guard Certificate of Inspection (COI) by complying with the standards of an authorized class society established by the Coast Guard Authorization Act of 2010 (Public Law 111–281). The statute delegates certain statutory survey and certification functions for U.S. flagged vessels to certain Class Societies. It is intended to reduce regulatory burden on the marine industry through elimination of unnecessarily duplicative regulations and inspections and to promote an efficient marine transportation system by providing increased flexibility in the construction and operation of U.S. flag vessels, while maintaining equivalent levels of safety and environmental protection. The Coast Guard has entered into formal agreements with certain classification societies under the authority of Title 46, United States Code (USC) Section 3316. These agreements cover the delegation of certain statutory survey and certification functions for U.S. flagged vessels.

APPENDIX B -- HISTORICAL TIMELINE – MARINE SAFETY PROGRAM

- 1960's
  - Recreational Boating Safety. The desire to reduce accidents and deaths created a push to establish legislation. This caused the Coast Guard to look at its statistics to determine if it was making progress in reducing casualties. The Marine Safety program realized that its data was limited and therefore did not have a good grasp on the results of its efforts; this was an early recognition that the program needed to become serious about data collection and measurement of progress towards goals.
  - 1967. The supertanker Torrey Canyon with a capacity for 120,000 tons of crude oil sunk off the western coast of Cornwall, England. Largest vessel to be wrecked at that time. Owned by a subsidiary of the Union Oil Company of California, registered under the Liberian flag of convenience and chartered to British Petroleum.
- 1970's
  - 1971. Collision of two oil tankers (*Arizona Standard* and *Oregon Standard*) in low visibility resulted in an 800,000-gallon oil spill directly underneath the Golden Gate Bridge in San Francisco, California; Congress passed the Ports and Waterways Safety Act (PWSA) of 1972.
  - 1971. The Federal Boat Safety Act of 1971 granted broad authority for the Coast Guard, in consultation with the National Boating Safety Advisory Council, to establish recreational safety regulations including manufacturing requirements and mandatory safety equipment.
  - 1972. Federal Water Pollution Control Act and the Ports and Waterways Safety Act (PWSA) gave the Coast Guard significant authority to deal with pollution enforcement. These laws set up cleanup and liability standards for spills and called for Coast Guard scrutiny of hazardous materials vessel construction and design. A national emergency contingency plan for oil spills was also instituted. As a result of these laws, Marine Environmental Response (MER) units were set up as the part of the Coast Guard organization concerned primarily with pollution response. These were the predecessors to the Strike Teams. PWSA provided for the establishment, operation, and maintenance of Vessel Traffic Services (VTS), control of vessel movement, establishment of requirements for vessel operation, and other related port safety controls.
  - Two major international maritime conventions, the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL) and the

1974 Safety of Life at Sea (SOLAS) convention; the Coast Guard was able to use statistical analyses to support U.S. proposals for these conventions in the international arena.

- December 1976 *Argo Merchant* tanker grounding and breakup off Nantucket Island, Massachusetts was attributed to errors in operational procedures, inadequate crew training and qualification, and malfunction of navigational equipment. The 644-foot ship was loaded with a cargo of 7.7 million gallons of home heating fuel and created one of the largest marine oil spills in history. Vessel had been involved in numerous significant incidents including two previous groundings. This was the largest spill up until then in American waters. This accident and 14 more tanker accidents in or near American waters over the following 10 weeks caused great concern about tanker safety, leading to a large tanker safety movement.
    - The Carter Administration promulgated a series of tanker safety initiatives, but the Coast Guard did not have adequate data to support new regulations.
    - There was a recognized the need to gather the data in our ports to enable better rules and regulations.
    - Subsequent data collection enabled the U.S. Port State Control (PSC) effort which is effectively a performance measurement system.
- Congress passed the Port and Tanker Safety Act (PTSA) of 1978 post *Argo Merchant*.
    - This statute amended the PWSA and provided the Coast Guard with broader, more extensive, and explicitly stated authority; effectively established the ability for U.S. port state control.
    - Provided the strongest authority for the Marine Safety Program, and the basis for the navigation safety regulations and then the Marine Safety Information System (MSIS):
        - Established the marine safety information system which shall contain information with regard to any vessel subject to this section which operates on or enters the navigable waters of the United States, or which transfers oil or any hazardous materials in any port or place under the jurisdiction of the United States.
        - Required vessels to furnish data or other information to include the history of accidents or serious repair problems and a record of all inspections and examinations.
    - Established Coast Guard special powers to order any vessel (including foreign vessels destined or departing for a U.S. port) to comply with its directions if there is reasonable cause to believe the vessel does not comply with safety regulations in waters subject to the jurisdiction of the United States.
    - Prohibited operation of vessels in the navigable waters of the U.S. that have a history of, among other things, of accidents, pollution incidents, or serious repair problems that create reason to believe that such

vessels may be unsafe or may create a threat to the marine environment.
        - Declared that existing international standards for inspection and enforcement are incomplete, that those international standards that are in existence are often left unenforced by some flag states, and that there is a need to prevent substandard vessels from using any port or place subject to the jurisdiction of the United States or from operating in the navigable waters of the United States, for the mitigation of the hazards to life, property, or the marine environment.
        - Addressed improvements in the supervision and control over all types of vessels, foreign and domestic, operating in the U.S. navigable waters, and in the safety of all tank vessels, foreign and domestic, which transport and transfer oil or other hazardous cargoes in U.S. ports.
        - Addressed improvements in the control and monitoring of vessels operating in offshore waters near our coastline, and vessel manning and pilotage standards.
        - Included regulatory authority over areas not previously covered, such as participation with neighboring nations.
    - 1978. The *Amoco Cadiz*, a very large crude carrier (VLCC) under the Liberian flag of convenience owned by Amoco, ran aground just off the coast of Brittany, France. The ship split in three, sunk and created the largest oil spill of its kind to date (1.6 million barrels of light crude oil).
    - 1978 Tanker Safety and Pollution Prevention Conference.
        - Coast Guard used considerable data collected post *Argo Merchant* to upgrade the standards for U.S. Port State Control (PSC).
        - Europe follows suit establishing their port state control regime (1978), followed by the Paris Memorandum of Understanding (MoU) on Port State Control (1982), Tokyo MoU, and others that followed.
        - These initiatives raised the design and construction standards and enforced the operational standards as well; all data driven and is embedded in today's QUALSHIP 21 Program.
- 1980's
    - Marine Safety Information System (MSIS)
        - Mandated by PTSA and launched to move data collection and management from paper to an electronic records system.
        - Large database of commercial maritime activities such as number of vessel transits, vessel and port facility inspection deficiencies, casualties, oil spills, and mariner exams pass/fails.
    - 1986. Commenced review toward combining Coast Guard districts and regionalizing support functions. The study, led by RADM Gilbert, was submitted to the Commandant in early December 1986. As a result, the Coast Guard was realigned; about 500 positions devoted to support were reapplied to operational units for the "War on Drugs" and an enhanced military

readiness posture.

- 1988. Commercial Fishing Vessel Safety Act of 1988
  - Established safety standards for uninspected fishing, fish processing or fish tender vessels.
  - Established the Commercial Fishing Safety Advisory Committee.
- 1989, *Exxon Valdez* tanker grounding on Bligh Reef and 11 million gallon crude oil spilled in Prince William Sound, Alaska.
  - Largest oil spill in U.S. waters until the 2010 Deepwater Horizon in the Gulf of Mexico.
  - Coast Guard Marine Safety Office, Valdez, with a one-third staff reduction, cited for failure to perform tanker safety inspections.

- 1990's
  - 1990. Oil Pollution Act of 1990 (OPA 90) enacted as a result of the *Exxon Valdez*.
    - Amended the Clean Water Act and addressed the wide range of problems associated with preventing, responding to, and paying for oil pollution incidents in navigable waters of the United States; created a comprehensive prevention, response, liability, and compensation regime to deal with vessel- and facility-caused oil pollution to U.S. navigable waters.
    - Amended the PWSA and imposed new requirements on the operation of oil tankers in the U.S.; enhanced the Coast Guard's authority to effectively regulate the conduct of oil tankers and merchant marine personnel in the U.S.; broadened the Coast Guard's authority for Vessel Traffic Services (VTS).
    - The act called for mandatory double hulls on new tankers and gradual phasing out of non-complying vessels. The licensing requirements for ship's officers were strengthened in the area of drug and alcohol testing. The rapid-response capability was expanded nationwide, and new emphasis was placed on oil pollution research. The act gave the Coast Guard its single largest legislative tasking in history. The major responsibility is the creation of response groups (known as Strike Teams) capable of responding to spills and other disasters.
  - 1990. Tanker *American Trader* runs over its own anchor while attempting to moor off Huntington Beach, California; spilled more than 400,000 gallons of crude oil.
  - 1991. Container ship *Santa Clara* lost hazardous material containers over the side off the East Coast and made subsequent port calls with toxic conditions on board. Board of Inquiry made a number of regulatory, inspection and risk-analysis recommendations for Coast Guard action. Refocus on foreign flag inspection issues post incident.
  - 1993. Clinton Administration's National Performance Review (NPR) launched and the Government Performance and Results Act (GPRA) enacted.
    - The Department of Transportation (Department in which the Coast

Guard resided at the time) pushed it down to the agencies.
        - In turn, the Coast Guard's Office of Marine Safety took this data-driven approach seriously.
            - Developed the Service's first business plans that could drive performance management.
            - Looked to adopt the philosophy of return on investment (ROI) through analysis of marine casualty data and trends.
- 1993. Amtrak Sunset Limited train wreck on the Big Bayou Canot Bridge caused by barge strike, killing 47 and injuring 103; worst accident in the history of the towing industry; major contributing factor in this catastrophe was a tug operating in fog, without a radar.
- 1993-1994. Clinton Administration's "Mandate for Change" personnel reductions to streamline the federal bureaucracy and reduce the federal deficit as goals of the National Performance Review (NPR). Coast Guard introduces the "Streamlining" initiative to absorb its targeted reductions of $400 million and 4,000 people by 1998 to meet (12 percent budget reduction).
- 1994. Coast Guard changed the focus of its marine safety program from outputs to outcomes in its first business plan, January 1994.
- 1994. *Morris J. Berman* tank barge oil spill in San Juan harbor when the main towline broke, allowing a loaded tank barge to become stranded on the reefs at the entrance to the harbor; lack of any maintenance and inspection program for its main tow lines was one of the primary casual factors.
- 1994. Post Sunset Limited and *Morris J. Berman* accidents.
    - National Transportation Safety Board (NTSB) provided comprehensive set of safety improvement recommendations.
    - American Waterways Operators (AWO), the national advocate for the U.S. tugboat, towboat and barge industry, launches industry-initiated Responsible Carrier Program; safety management system for tugboat, towboat and barge companies that provides a framework for continuously improving company safety performance.
- 1994-1997. James Card, then Rear Admiral, Assistant Commandant for Marine Safety and Environmental Protection, leads effort to understand and use the data collected on vessels via safety inspections and accident investigations to inform on the desired outcomes (change from activities to results).
    - Port State Control efforts reinvigorated to eliminate substandard vessels for U.S. ports through an outcome goal to do so and the data and analytics to back this up.
    - Prevention Through People (PTP) initiative, a quality approach vs. regulatory approach at reducing accidents and deaths.
    - Coast Guard Marine Safety program designated a GPRA pilot program.
    - Marine Safety Business Plan designed in response to this initiative; first attempt to link activities to outcomes.

        - Marine Safety pilot later (1996) cited by GAO as a successful pilot program, an example of "Practice 8: Use performance information to support mission."
        - 1995. Established the Coast Guard-AWO Safety Partnership.
            - The oldest public-private partnership between the Coast Guard and its stakeholders; developed from conversations between Coast Guard and industry.
            - Coast Guard senior leaders meet with senior leaders of towing industry twice a year to evaluate performance and potential improvements.
            - Since establishment, the partnership launched more than 40 cooperative initiatives (working groups/quality action teams) to improve safety and environmental protection.
            - Partnership led to the collaborative towing vessel inspection rule making that began in 2004.
    - 1997-2001. Rear Admiral Bob North follows Card and creates Quality Shipping for the 21st Century (QUALSHIP 21 Program).
        - QUALSHIP 21 is an incentive program for ship owners that reward quality operators and allows the Coast Guard to devote more time to deal with poor operators. Ship operators that meet or exceed specified standards are permitted to operate more freely, thereby facilitating their operations; ship owners look for a QUALSHIP 21 administration in their fleets. http://www.uscg.mil/hq/cgcvc/cvc2/safety/qualship.asp.
- 2000's
    - January 1, 2001, the Coast Guard implements the QUALSHIP 21 initiative.
    - Post September 11, 2001 terrorist events.
        - Coast Guard operations and priorities changed dramatically to a "new normal;" port security became the preeminent mission overnight. In new environment, huge shift in resources that displaced traditional activities; this movement effectively relegated safety and environmental missions to secondary status to response and security missions.
        - Negative impact on the Marine Safety program. Efficient and effective commercial vessel safety initiatives that sought to facilitate ship arrivals, minimize time in port, and disruption to vessel operations were replaced with port security procedures that disregarded the maritime commerce aspects of the supply chain. As the program lacked bench strength, experienced an erosion of knowledge, expertise and competencies. This added to the downward spiral in the marine safety workforce that began in the 1990's Streamlining (budget-driven personnel reduction effort), resulting in few qualified inspectors and limited program expertise.
        - Industry dismayed at damaging impact to their operations and deterioration in the working relationships and partnerships built with

the Coast Guard; industry called attention to their plight.
        - Coast Guard commenced a 10-year budget growth to add port security capability; not performance measure driven.
    - 2001. Marine Information for Safety and Law Enforcement (MISLE) replaces MSIS.
        - Enterprise-wide data system stores information on marine accidental and deliberate pollution and other shipping and port accidents in U.S. territorial waters.
        - Accounts for vessels and other facilities, such as port terminals and shipyards.
    - 2003. Coast Guard becomes part of the new Department of Homeland Security (DHS).
        - With DHS security focus, challenge to integrate Coast Guard safety missions into the Department's priorities and reflect Coast Guard's strategic goals and measures at the department-level.
    - 2004. Coast Guard and Maritime Transportation Act of 2004 provides for a towing vessel safety management system.
        - Coast Guard initiates towing vessel inspection rulemaking working closely with the Towing Safety Advisory Committee (TSAC) and American Waterways Operators (AWO).
        - New regulations, when enacted, would require the approximate 6,500 towing vessels longer than 26 feet in length to be Coast Guard inspected.
    - 2005. Following integration of field command operations, transitioned Operations and Marine Safety Directorates to Prevention and Response Directorates.
    - 2005. Bush Administration's PART program assessment of the Coast Guard's Marine Safety Program rating "adequate."
        - Assessment comments:
            - Program conducts ad hoc analyses to investigate deviation from annual performance targets, but does not have an institutionalized set of annual performance metrics to track improvement in the program's outcomes.
            - Although program demonstrated long-term improvements in its performance, because the long-term goals were often set above the prior year's level of achievement, it is difficult to tell whether managers are truly challenged to improve program performance.
        - Coast Guard's intended improvement plan:
            - Institutionalize an annual operational measures scorecard to help program managers better understand factors that contribute to year-to-year changes in program performance.
            - Improve existing performance measures to reflect better the effect of a growing boating population on the program's

performance.
        - Develop a plan for regular, independent assessments of Coast Guard programs instead of one-time evaluations.
- 2007. Established the Deputy Commandant for Operations organization with responsibilities for Prevention and Response programs.
- 2007. *Cosco Busan* container ship strikes a tower of the Bay Bridge in thick fog spilling 53,569 gallons of heavy fuel oil into San Francisco Bay, California. Coast Guard faulted for:
    - Deficiency in the medical oversight of mariners,
    - Lack of accident investigations (deficiency of investigators), and
    - Over-classification of accident causes as "human error" masks weaknesses in the design of man-machine-interfaces.
- 2007. Marine industry concerned in the post-9/11 environment of security that the Coast Guard no longer considered Marine Safety an important mission for the Coast Guard and therefore let performance and service slide.
    - May. In response to these concerns, Congressman Jim Oberstar, U.S. House Subcommittee on Coast Guard and Maritime Transportation, met with industry representatives and proposed moving the Marine Safety Program out of the Coast Guard into a new Maritime Safety Administration.
    - July - November. Vice Admiral Jim Card, USCG (Ret.) called in to review the Marine Safety program; delivered *Coast Guard Marine Safety Analysis: An Independent Assessment and Suggestions for Improvement*. Identified six areas for improvement: Strategy, Leadership, People, Policy, Customer Focus and Organization.
    - September. Admiral Thad Allen, Coast Guard Commandant, announces new direction for the marine safety program at the Propeller Club, Washington, DC; proposed courses of action intended to be responsive to external stakeholders and Congress.
    - 2007 - 2013. Marine Safety Enhancement Plan (MSEP), later the Marine Safety Performance Plan (MSPP), provided the strategy to reinvigorate the Marine Safety program and address maritime industry issues through:
        - Improved marine safety capacity, competency and performance (multiple Marine Safety workforce capacity and competency improvement initiatives, added 559 new marine inspector, investigator and engineer positions).
        - Enhanced service delivery to mariners and industry customers (created National Centers of Excellence, improved IT systems, increased rule making and credentialing capacity and processes).
        - Expanded outreach and advisory mechanisms for industry and communities (reestablished Marine Safety Assistant Commandant-level organizational position, subsequently

changed to Assistant Commandant for Prevention and established national council of maritime advisors to the Commandant).

- 2009. Coast Guard launched the Towing Vessel Bridging Program (TVBP), in cooperation with industry, to ease the transition and ensure that both the Coast Guard and the towing vessel industry are informed and prepared to meet the proposed new requirements from the Coast Guard and Maritime Transportation Act of 2004.

- 2010's
  - 2010. Deepwater Horizon oil rig explosion and sinking in the Gulf of Mexico with eleven deaths and more than 200 million gallons oil spilled; largest maritime spill accident.
    - Department of the Interior's Minerals Management Service (MMS) cited for many safety, environmental protection, and regulatory oversight weaknesses with respect to the offshore drilling industry.
    - 2011. Major restructuring of MMS undertaken; MSS ultimately replaced by two separate agencies: Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement (BSEE), the latter took over the safety and environmental functions.
    - Congress responded by providing BSEE new resources in Fiscal Year (FY) 2012 to support fundamental reforms and implement additional regulatory measures needed to improve the safety of offshore drilling; by March 2012, BSEE had increased the number of inspectors by 50 percent and the number of engineers, who also perform critical safety functions, by nearly 10 percent from pre-Deepwater Horizon levels; additional inspectors, engineers, regulatory specialists, environmental specialists, and other critical disciplines positions were yet to be filled. FY 2014 appropriations provided for a 34% increase in full-time equivalents (FTE) over FY 2012.
  - 2010. Coast Guard Authorization Act of 2010.
    - Requires that maritime safety is put on an equal footing with other Coast Guard responsibilities.
    - Specific requirements for the marine safety workforce, organization and strategy, goals and performance assessments. In particular, it requires the Secretary to assess the adequacy of the marine safety workforce and develop a long-term strategy for improving vessel safety and the safety of individuals on vessels. The strategy shall include the issuance each year of an annual plan and schedule for achieving the following goals:
      - Reducing the number and rates of marine casualties.
      - Improving the consistency and effectiveness of vessel and operator enforcement and compliance programs.
      - Identifying and targeting enforcement efforts at high-risk vessels and operators.

        - Improving research efforts to enhance and promote vessel and operator safety and performance.
    - Provided numerous provisions to enhance safety in the commercial fishing industry (most dangerous occupation in the United States): mandated safety examinations (administered for more than a decade on a voluntary basis) on vessels operating beyond three nautical miles offshore; new safety and survival equipment requirements, training and competency requirements for operators; and established vessel construction and compliance standards. Effectively added an immense workload of tens of thousands of vessels previously only voluntarily inspected.
    - Established the Alternative Compliance Program (ACP). Authorized the Secretary to delegate to the American Bureau of Shipping or another classification society recognized to review and approve required plans or issue a certificate of inspection, a certificate of compliance, or any other certification and related document issued by the Coast Guard.[57]
- 2011. Completed the Deputy Commandant for Operations realignment with goals to enhance Prevention and Response organizational identities and visibility to the Coast Guard's external customers.
    - Elevated Prevention and Response to Assistant Commandants.
    - Previously downgraded Prevention and Response to Director-level from Assistant Commandant-level and erasing letter identities had negative customer impacts and helped generate the specific guidance Coast Guard received on Marine Safety in the 2010 Authorization Act.
    - Elevates Prevention and Response mission and community emphasis and enhances visibility for other government agencies and private sector partners and stakeholders.
- 2011. Coast Guard issues proposed rule on towing vessel inspection.
- 2013. Maritime Prevention Program Performance Plan Fiscal Years 2014-2019 issued.
    - Combines the Marine Transportation System business plan and the Marine Safety Performance Plan into an overarching plan.
    - Designed to meet requirements for both strategic and annual performance plans as required by the GPRA Modernization Act of 2010 (GPRAMA).
    - Cites current shortfall of 400 plus Inspection-Investigation-Examination workforce and further capability gaps from the Towing Vessel inspection and fishing vessel examination regulations.
    - Acknowledges that the maritime industry's complexity has been evolving faster than the Coast Guard has been able to track and the volume of maritime industry workload continues to exceed the

[57] See Appendix A for more complete description.

Service's capacity to provide proper oversight and enforcement. As industry pursues ever more complex resource extraction processes, the Coast Guard continues to be placed in a reactive posture in a constrained fiscal and resource environment and challenged with regard to policy and regulatory development. As a result, there is the risk that existing standards may significantly lag behind in areas the Coast Guard is mandated to provide regulatory oversight.

- Continuing efforts begun with the MSEP include bolstering inspector and investigator capacity, improving technical competencies, reinvigorating industry partnerships, improving mariner credentialing services, expanding rulemaking capability to meet current and future needs of the maritime public and industry, and improving policy, procedures, stakeholder service, and transparency of decision-making processes and accessibility.

APPENDIX C -- EVOLUTION OF COAST GUARD ROLES, MISSIONS AND PROGRAMS

ROLES

Definition: Overarching characterization of the functions and activities an organization performs to achieve its strategic goals.

The "Roles" of the Coast Guard have become synonymous with the legacy "Strategic Goals"

Before 2006, the Coast Guard had the below five CG Strategic Goals. Pub 1 referred to them as "Roles"

1. Maritime Safety
2. Maritime Security
3. Protection of Natural Resources
4. Maritime Mobility
5. National Defense

In 2006, the five CG Roles/Strategic Goals were condensed to three. Most references (Pub 1, Pub 3), training courses, and online sources (e.g. Wikipedia), currently list the following as the Coast Guard's three Roles:

1. Safety
2. Security
3. Stewardship

MISSIONS

Definition: The responsibilities of an agency generally established by statute.

The term "Mission" has evolved over the years. During the 1999 CG Roles and Missions study we had four broad Missions:

1. National Security
2. Maritime Law Enforcement
3. Maritime Safety

4. Environmental Protection

The Homeland Security Act of 2002 recast the CG "program budget" as CG "Statutory Missions," resulting in eleven “Mission Programs,” designated as Non-homeland Security and Homeland Security Missions**:**

NON-HOMELAND SECURITY MISSIONS:

1. Marine safety.
2. Search and rescue.
3. Aids to navigation.
4. Living marine resources (fisheries law enforcement).
5. Marine environmental protection.
6. Ice operations.

HOMELAND SECURITY MISSIONS:

1. Ports, waterways and coastal security.
2. Drug interdiction.
3. Migrant interdiction.
4. Defense readiness.
5. Other law enforcement.

More recently, the DHS White Paper on the U.S. Coast indicates, “The mission of the United States Coast Guard is to ensure the safety, security and stewardship of the Nation’s Waters. This combines legacy roles, strategic goals, and missions into one general mission statement and could be confusing.

PROGRAMS

Definition: A major on-going Coast Guard endeavor which fulfills statutory or executive requirements and which is defined in terms of the principal actions required to achieve a significant end objective

The Coast Guard’s “Programs” have also changed a number of times. Pre-1996, there were twelve “Operating Programs”

1. Short Range Aids to Navigation (SRA)
2. Radio Navigation Aids (RA)
3. Ice Operations (Domestic and Polar)
4. Enforcement of Law and Treaties (ELT)
5. Port and Environmental Safety (PES)
6. Marine Environmental Response (MER)
7. Waterways Management (WWM)

8. Commercial Vessel Safety (CVS)
9. Recreational Boating Safety (RBS)
10. Military Operations/Preparedness (MO/MP)
11. Reserve Forces (RT)
12. Search and Rescue (SAR)

The CG 1998 Budget-in-Brief listed just seven Programs (Marine Safety eliminated its individual programs in a 1996 reorganization)

1. Search & Rescue
2. Enforcement of Laws and Treaties
3. Marine Environmental Protection
4. Marine Safety
5. Aids to Navigation
6. Ice Operations
7. Defense Readiness

These seven were expanded in 1999 to eleven programs that later became double-hatted as Missions under the Homeland Security Act in 2002.

The below 11 became called "mission programs" and were a mix of LE activities (fish, drugs AMIO), programs (SAR), goals (Marine Safety) and a new category called PWCS. Since G-M had eliminated its legacy programs in 1996, the 11 missions heavily favored G-O.

<u>Mission-Programs</u>

1. Marine safety
2. Search and rescue
3. Aids to navigation
4. Living marine resources (fisheries law enforcement)
5. Marine environmental protection
6. Ice operations
7. Ports, waterways and coastal security
8. Drug interdiction
9. Migrant interdiction
10. Defense readiness
11. Other law enforcement

While these eleven remain on the books as "Missions" they are no longer are the CG's "Programs." The eleven "Mission Programs" were converted to six Coast Guard Future Years Homeland Security Program (FYHSP) Programs in 2010 after the Department completed its first Quadrennial Homeland Security Review and a subsequent Bottom-up Review. These comprehensive assessments of Departmental missions and activities provided

an opportunity for the Coast Guard to align performance and accountability reporting with its actual management structures.

Current Coast Guard Programs (and responsibilities for statutorily-named missions) are as follows:

1. Defense Operations (Defense Readiness)
2. Maritime Law Enforcement (Drug Interdiction, Migrant Interdiction, Living Marine Resources, Other Law Enforcement)
3. Maritime Security Operations (Ports, Waterways, and Coastal Security (PWCS) Response activities)
4. Maritime Prevention (PWCS Prevention and MEP prevention activities)
5. Maritime Response (MER part of MEP, Search and Rescue)
6. Marine Transportation System Management (AtoN, Ice Operations)

APPENDIX D -- GPRA/GPRAMA METRICS DEFINITIONS

Performance goal defines the level of performance to be achieved by a program activity, expressed in an objective, quantifiable, and measurable form.

Outcome measure is an assessment of the results of a program activity compared to its intended purpose.

Output measure is the tabulation, calculation, or recording of activity or effort that can be expressed in a quantitative or qualitative manner.

Performance goal is a target level of performance expressed as a tangible, measurable objective, against which actual achievement can be compared, including a goal expressed as a quantitative standard, value, or rate.

Performance indicator (metric) is used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity in progress towards performance goals.

APPENDIX E -- INTERVIEW GUIDES

Marine Safety Specialist Interview Guide

Performance-based program management systems were introduced to the federal government over the last twenty years to answer a number of management challenges. However, scholars continue to note serious shortcomings in this approach. My research examines performance management issues through a longitudinal case study of a large 'high-performing' federal agency over the five government-wide management initiatives since the early 1990's (three executive branch and two congressional).

In particular, the study examines the effects of these schemes on the United States Coast Guard Marine Safety program. The inquiry will further investigate the relationship between performance management and budget decisions.

The research is intended to make a substantive contribution to public sector management by illumination of important performance management issues experienced by the Marine Safety program.

1. **Background.** Describe your Coast Guard Marine Safety-related experience. Please include:
    a. Most senior position held.
    b. Your three most significant positions with the Marine Safety mission (Response or Prevention).
2. **Personal Involvement.** Are you familiar with any of the five performance management improvement efforts since the early 90's? (NPR (Clinton/Gore 1993-2001), PART (Bush 2003-2008), PMA (Obama 2009-present), GPRA (1993–2009), and GPRAMA (2010–present)).
    a. If so, please describe your involvement.
    b. Were they used to improve program performance and if so, how?
    c. What performance metrics were used? How did you determine if performance improved?
3. **Information.** What type of performance information is/was most helpful to you for managing the Marine Safety program?

    a. How do you collect this data? What has been/was the greatest challenge? How have you dealt with this challenge?
4. **Budget Decisions.** How do you use performance measurement at budget time?
5. **Central Management Functions.** What is the one thing you wished the Coast Guard's planning, program, performance, resource and budget staffs understood better about how your program uses performance measure?
6. **Measurement.** Do you have a number of performance measures to gauge the effectiveness and/or efficiency of the Marine Safety program?
    a. What are they?
    b. How were they developed?
    c. How have they changed?
    d. How are you using/did you use them to manage the on-going operations of the program?
    e. What standards are/were available to tell you if a measurement result is good or bad? Do you set targets and if so, how?
    f. If a measurement falls out of the target range, what do/did you do in response?
7. **Results-Based Decision-Making.** To what extent do you use measures that indicate the program outcomes or results that are of direct interest to the maritime community (i.e., measure how you have impacted the lives of citizens)? What are some examples of such measures and how do you use them?
8. **External Influences.** How have external events affected the performance of the Marine Safety program? Please consider the following issues and describe specific situations and impacts:
    a. Congressional appropriations.
    b. Coast Guard resource decisions.
    c. Man-made incidents.
    d. Natural disasters.
    e. Others?
9. **Environment.** How supportive has the Coast Guard been with resources to support performance measurement in the Marine Safety program?
    a. What has been the most helpful form of support?
    b. What is most in need of improvement?
10. **Analytical Process.** Who is mainly responsible for analyzing performance information for the Marine Safety program?
    a. What techniques are used?
    b. What is the objective of the analysis?

11. **Impediments.** To what extent have you encountered the following drawbacks to performance measurement in the Marine Safety program? What has been the impact of the most important ones? Possible impediments (not exhaustive):
    a. One-size-fits all model
    b. Excessive time/cost to collect data
    c. Being held accountable for results that you can't adequately influence
    d. Effects of external events and changes in program management that they may cause
    e. Displacement of activities that are not measured, but are still important
    f. Creating an illusion of more control or understanding of services than really exists
    g. Measurement-based decisions don't hold up when exposed to politics
    h. Lack of available data
    i. Goals of programs are too multi-faceted to be captured by a measure
    j. Measures based on easy availability of data rather than relevance; outcome measures difficult or impossible to develop
    k. Inadequate training on performance measurement
    l. Data is not available frequently enough to be useful
    m. Culture
12. **Enhancements**. To what extent have you experienced the following benefits of performance measurement in the Marine Safety program? Please explain. Possible enhancements (not exhaustive):
    a. Reduce costs and eliminate waste (efficiency)
    b. Improve effectiveness
    c. Better communication between staff and elected officials (Department, Congress)
    d. Better decision-making, including budget and resource allocation.
    e. Improved transparency to the public
    f. Improved public confidence
    g. Increased accountability

Senior Leadership Interview Guide

Performance-based program management systems were introduced to the federal government over the last twenty years to answer a number of management challenges. However, scholars continue to note serious shortcomings in this approach. My research examines performance management issues through a longitudinal case study of a large 'high-performing' federal agency over the five government-wide management initiatives since the early 1990's (three executive branch and two congressional).

In particular, the study examines the effects of these schemes on the United States Coast Guard Marine Safety program. The inquiry will further investigate the relationship between performance management and budget decisions.

The research is intended to make a substantive contribution to public sector management by illumination of important performance management issues experienced by the Marine Safety program.

1. **Background.** Describe your Coast Guard experience. Please include:
    a. Most senior position held.
    b. If retired, when?
    c. Your three most significant positions.
2. **Leadership.** In what way has performance measurement changed your ability to lead?
3. **Decision-making.** Has performance measurement changed the quality of decision making of the Coast Guard's senior leadership? If so, how? If not, why not?
4. **External Influences.** How have external events affected the ability for the Coast Guard to use performance management? Please consider the following issues and describe specific situations and impacts:
    a. Congressional appropriations.
    b. Competing Coast Guard resource requirements.
    c. Man-made incidents.
    d. Natural disasters.
    e. Others?
5. **Use.** Do you think the Coast Guard makes enough use of performance measurement or should it make more use or less use? Why?
    a. What do you like best about the performance measurement system?
    b. Least?

6. **Alignment.** To what extent do you feel Marine Safety's activities are aligned with the senior leadership's and Congress' vision for the commercial maritime community and the Service?
7. **Stakeholder Communication.** To what extent do you use performance measures to communicate with the Department, Congress and the commercial maritime community?

Interview Guide
Performance Management/Budget/Programs/Planning Staff

Performance-based program management systems were introduced to the federal government over the last twenty years to answer a number of management challenges. However, scholars continue to note serious shortcomings in this approach. My research examines performance management issues through a longitudinal case study of a large 'high-performing' federal agency over the five government-wide management initiatives since the early 1990's (three executive branch and two congressional).

In particular, the study examines the effects of these schemes on the United States Coast Guard Marine Safety program. The inquiry will further investigate the relationship between performance management and budget decisions.

The research is intended to make a substantive contribution to public sector management by illumination of important performance management issues experienced by the Marine Safety program.

1. **Background.** Describe your Coast Guard experience. Please include:
    a. Most senior position held.
    b. If retired, when?
    c. Your three most significant positions in strategic planning, performance management, budget and programs and/or resource management functions.
2. **Personal Involvement.** Are you familiar with any of the five performance management improvement efforts since the early 90's? (NPR (Clinton/Gore 1993-2001), PART (Bush 2003-2008), PMA (Obama 2009-present), GPRA (1993–2009), and GPRAMA (2010–present)).
    a. If so, please describe your involvement.
    b. Were they used to improve program performance and if so, how?
    c. What performance metrics were used? How did you determine if performance improved?
3. **Participation.** Who were the stakeholders involved in performance improvement efforts?
4. **Value of PM.** How effective has performance measurement been for:
    a. Improving program performance metrics?
    b. Affecting cost savings?
    c. Changing budget or appropriation levels?
5. **Value of PM.** For elements of question #4, where it has been effective, what is the mechanism by which it works?

6. **Decision-making.** Has performance measurement improved the quality of decision making of the Coast Guard? If so, how? If not, why not?
7. **Target setting.** How are targets for performance measures set?
8. **Analytic capacity.** Who is mainly responsible for analyzing performance information?
    a. What techniques are used?
    b. What is the objective of the analysis?
9. **Community interest.** To what extent have you received interest from the Marine Safety community in performance measurement? What steps did you take to encourage interest?
    a. Which specific parties have shown the most interest?
    b. What have they done with the information?
10. **Review of measures.** How often is progress against measures reviewed and in what forum?
    a. How is the veracity of measures checked? How do you know if the measures are valid/reliable?
    b. What is emphasized in these meetings -- learning or accountability?
11. **Resources.** Did you measure the amount of time and/or money that is spent on performance measurement? If so, what results do you have?
12. **Benefits.** What evidence of benefit of performance measurement do you have?
13. **Culture.** What values/attitudes are most important for supporting a performance culture in your organization?
    a. What behaviors by senior leaders and program management have exemplified these values/attitudes?
14. **External Influences.** How have external events affected the ability for the Coast Guard to use performance management? Please consider the following issues ad describe specific situations and impacts:
        a. Congressional appropriations.
        b. Competing Coast Guard resource requirements.
        c. Man- made incidents.
        d. Natural disasters.
        e. Others?
15. **Impediments.** To what extent have you encountered the following drawbacks to performance measurement? What has been the impact of the most important ones? Possible impediments (not exhaustive):
    a. One-size-fits all model
    b. Excessive time/cost to collect data
    c. Being held accountable for results that you can't adequately influence

d. Effects of external events and changes in program management that they may cause
e. Displacement of activities that are not measured, but are still important
f. Creating an illusion of more control or understanding of services than really exists
g. Measurement-based decisions don't hold up when exposed to politics
h. Lack of available data
i. Goals of programs are too multi-faceted to be captured by a measure
j. Measures based on easy availability of data rather than relevance; outcome measures difficult or impossible to develop
k. Inadequate training on performance measurement
l. Data is not available frequently enough to be useful
m. Culture

16. **Enhancements**. To what extent have you experienced the following benefits of performance measurement? Please explain. Possible enhancements (not exhaustive):
    a. Reduce costs and eliminate waste (efficiency)
    b. Improve effectiveness
    c. Better communication between staff and elected officials (Department, Congress)
    d. Better decision-making, including budget and resource allocation.
    e. Improved transparency to the public
    f. Improved public confidence
    g. Increased accountability

BIBLIOGRAPHY

Addleson, Mark. (2011). *Beyond Management: Taking Charge at Work*. New York, NY: Palgrave Macmillan.

Allen, Admiral Thad. (2007). *Addresses Washington, DC Propeller Club September 19, 2007.* http://www.uscg.mil/marinesafetyprogram/docs/ADM%20Allen%20Speech%20to%20Washington,%20DC%20Propeller%20Club.pdf.

Anderson, Darryl. (2002). "The Effect of Port State Control on Substandard Shipping." *Public Journal of Maritime Studies*. Australia.

Behn, Robert D. (2014). "Driving Performance: Which Comes First, Resources or Results?." *Government Executive magazine*. March/April 2014. http://digimag.govexec.com/publication/i.php?i=201373&ver=html5#{"page":36,"issue_id":201373}

Bianchi, Carmine and William C. Rivenbark. (2012). "A Comparative Analysis of Performance Management Systems." *Public Performance & Management Review*, (35)3, 509-526.

Bogsnes, Bjarte (2012). "Hack: The end of performance management (as we know it). *Management Innovation eXchange.* June 15, 2012. http://www.managementexchange.com/hack/end-performance-management-we-know-it?utm_source=MIX+Fix&utm_campaign=a672c9e5ea-The_MIX_Fix_July_13_2012&utm_medium=email

Boyatzis, Richard E. (1998). *Transforming Qualitative Information: Thematic analysis and code development.* Thousand Oaks, CA: Sage Publications.

Breckenridge, RADM Jody. (2008). *U.S. Coast Guard: Our History of Reorganization.* Briefing December 9, 2008, Washington, DC. http://www.uscg.mil/history/docs/USCGHistoryOfReorganization20081209.pptx

Bromberg, Daniel. (2009). "Performance Measurement: A System with a Purpose or a Purposeless System?" *Public Performance & Management Review,* 33(2), 214-221.

Brown, Mark Graham. (1996). *Keeping Score*. New York: Quality Resources.

Bunton, Wilett, Lori Byrd, and Linda Nivens. (1997). *Serving the American Public: Best Practices in Performance Measurement.* National Partnership for Reinventing Government Benchmarking Study Report, June 1997.

Card, VADM James C (Ret.). (2007). *Coast Guard Marine Safety Analysis: An Independent Assessment and Suggestions for Improvement*. Washington, DC, November 16, 2007.

Charbonneau, Etienne and Francois Bellavance. (2012). Blame Avoidance in Public Reporting. *Public Performance Management Review*, Vol. 35, No. 3, March 2012, pp. 399-421.

Chen, Kan and Per Bak. (1992). "Self-Organized Criticality and Fluctuations in Economics." Santa Fe Institute, Santa Fe, NM, May 1992. http://www.santafe.edu/media/workingpapers/92-04-018.pdf.

Clarke, Charles S. (2011). "OMB details agency obligations under Government Performance Act." *Government Executive.com*. August 19, 2011. http://www.govexec.com/story_page.cfm?articleid=48583&dcn=e_gvet.

Clark, Charles S. (2013). "Rep. Cuellar hopes to influence agency management from appropriations post." *Government Executive.com*, January 14, 2013. http://www.govexec.com/oversight/2013/01/rep-cuellar-hopes-influence-agency-management-appropriations-post/60661/

Clark, Charles S. (2014a). "Powered by Mission: What makes effective agencies tick." *Government Executive*, January/February, 2014. http://digimag.govexec.com/publication/i.php?i=192908&ver=html5#{"page":0,"issue_id":192908}

Clark, Charles S. (2014b). "Inside the Tech Team Fixing the Obamacare Website." *Nextgov*. March 4, 2014. http://www.nextgov.com/health/health-it/2014/03/inside-tech-team-fixing-obamacare-website/79804/?oref=govexec_today_nl

Clark, Charles S. (2014c). "Senate Panel Presses OMB on Management Agenda." *Government Executive*, March 12, 2014. http://www.govexec.com/management/2014/03/senate-panel-presses-omb-management-agenda/80407/?oref=govexec_today_nl

Clark, Charles S. (2014d). "Outgoing NTSB Chief: People Expect Government to Make Traveling Safer." *Government Executive*, April 21, 2014. http://www.govexec.com/management/2014/04/outgoing-ntsb-chief-people-expect-

government-make-traveling-safer/82906/?oref=govexec_today_nl

Clark, Charles S. (2014e). "Cutting Red Tape Could Prove Lucrative for Agencies." *Government Executive*, July 22, 2014. http://www.govexec.com/oversight/2014/07/cutting-red-tape-could-prove-lucrative-agencies/89354/#.U8-sdm2RV2Y.email

Clark, Timothy B. (2013). "Rebuilding Public Trust." *Government Executive*. November/December 2013, 51-53.

Conklin, Jeff. (2003). *Wicked Problems and Social Complexity.* CogNexus Institute. http://cognexis.org.

Davis, Nancy Y. (1992). *Community Responses to Industrial Hazards.* Chapter 8: The Exxon Valdez oil spill, Alaska. United Nations University Press, New York, NY 1992. http://archive.unu.edu/unupress/unupbooks/uu21le/uu21le0l.htm.

DeCola, Elise. (2009). *A Review of Double Hull Tanker Oil Spill Prevention Considerations.* Nuka Research & Planning Group, LLC. Seldovia, Alaska 2009. http://www.pwsrcac.org/wp-content/uploads/filebase/programs/oil_spill_prevention_planning/double_hull_tanker_review.pdf

Department of Homeland Security (DHS) (2013), Office of Inspector General, *Marine Accident Reporting, Investigations, and Enforcement in the United States Coast Guard*. OIG-13-92, May 23, 2013. http://www.oig.dhs.gov/assets/Mgmt/2013/OIG_13-92_May13.pdf.

Doar, Robert, Dennis C. Smith and Kinsey Dinan (2013). "The Devolution of Performance Management in Federal Programs: Implementation of Federal Programs at the Local Level." *Thirty-Fifth Annual Research Conference of the Association for Public Policy Analysis and Management*, Washington, DC, November 2013.

Dubnick, Melvin. (2005). "Accountability and the Promise of Performance." Public Performance & Management Review, (28)3, 376-417.

Dull, Matthew. (2006). "Why PART? The Institutional Politics of Presidential Budget Reform." Journal of Public Administration Research and Theory, 16, 187-215.

Gardella, Rich and Talesha Reynolds. (2014). "Memos Show VA Staffers Have Been 'Gaming System' for Six Years." *NBC News*, May 13, 2014. http://www.nbcnews.com/storyline/va-hospital-scandal/memos-show-va-staffers-have-been-gaming-system-six-years-n104621

Gilbert, RADM Marshall E. (1987). "Realignment 1987: The new structure and how we got there." *Commandant's Bulletin*, Issue 13-87, June 26, 1987. http://www.uscg.mil/history/docs/org/1987_GilbertStudy-CB.pdf

Government Accountability Office. (1995). *Managing for Results: Status of the Government Performance and Results Act.* GAO/T-GGD-95-193. Washington, DC, June 27, 1995.

Government Accountability Office. (1996a). *Executive Guide: Effectively Implementing the Government Performance and Results Act.* GAO/T-GGD-96-118. Washington, DC, June 1, 1996.

Government Accountability Office. (1996b). *Coast Guard's Marine Safety Program Staffing*. GAO/RCED-96-162R. Washington, DC, Jun 11, 1996. http://www.gao.gov/products/RCED-96-162R.

Government Accountability Office. (2003). *Results-Oriented Cultures: Creating a Clear Linkage between Individual Performance and Organizational Success.* GAO-03-488. Washington, DC, March 14, 2003.

Government Accountability Office. (2005). *Managing for Results: Enhancing Agency Use of Performance Information for Management Decision Making.* GAO-05-927. Washington, DC, September 9, 2005.

Government Accountability Office. (2008). *Government Performance: Lessons Learned for the Next Administration on Using Performance Information to Improve Results.* GAO-08-1026T. Washington, DC, July 24, 2008.

Government Accountability Office. (2009). *Government Performance: Strategies for Building a Results-Oriented and Collaborative Culture in the Federal Government.* GAO-09-1011T. Washington, DC, September 24, 2009.

Government Accountability Office. (2011). *Government Performance: GPRA Modernization Act Provides Opportunities to Help Address Fiscal, Performance, and Management Challenges.* GAO-11-466T. Washington, DC, March 16, 2011.

Government Accountability Office. (2013a). *Agencies Have Elevated Performance Management Leadership Roles, but Additional Training Is Needed*. GAO-13-356. Washington, DC, April 16, 2013.

Government Accountability Office. (2013b). *Executive Branch Should More Fully Implement the GPRA Modernization Act to Address Pressing Governance Challenges.* GAO-13-518. Washington, DC, June 26, 2013.

Government Accountability Office. (2014a). *Government Efficiency and Effectiveness: Views on the Progress and Plans for Addressing Government-wide Management Challenges.* GAO-14-436T. Washington, DC, March 12, 2014.

Government Accountability Office. (2014b). *Enhanced Goal Leader Accountability and Collaboration Could Further Improve Agency Performance*. GAO-14-639. Washington, DC, July, 2014.

Government Accountability Office. (2014c). *Managing for Results: Agencies' Trends in the Use of Performance Information to Make Decisions.* GAO-14-747. Washington, DC, September, 2014.

Government Accountability Office. (2015). *Surface Transportation: DOT Is Progressing toward a Performance-Based Approach, but States and Grantees Report Potential Implementation Challenges.* GAO-15-217. Washington, DC, January 16, 2015.

Government Finance Officers Association (GFOA). *Report on Lessons from Local Governments Experienced in Performance Measurement.* Washington, DC. March 2013.

Government Performance and Results Act of 1993 Report. PL 103-62. http://www.whitehouse.gov/omb/performance/gprm-act

Government Performance and Results Act Modernization Act of 2010, PL 111-352. http://www.gpo.gov/fdsys/pkg/PLAW-111publ352/pdf/PLAW-111publ352.pdf

Greitens, Thomas J. and M. Ernita Joaquin. (2010). "Policy Typology and Performance Measurement: Results from the Program Assessment Rating Tool (PART)." *Public Performance & Management Review,* (33) 4, 555-570.

Homeland Security Institute (HSI). (2009). *Independent Evaluation of United States Coast Guard Prevention Programs – Marine Safety and Marine Environmental Protection.* Arlington, VA, April 25, 2009.

Hou, Yilin, Donald P. Moynihan and Patricia Wallace Ingraham (2003). "Capacity, Management, and Performance: Exploring the Links." *The American Review of Public Administration,* 33(3), 295-315.

Joyce, Phillip G. (2011). "The Obama Administration and PPB: Building on the Legacy of Federal Performance-Informed Budgeting?" *Public Administration Review,* 71(3), 356-367.

Kamensky, John. (2014). "Why Isn't Performance Information Being Used?"

Government Executive.com. October 14, 2014. http://www.govexec.com/excellence/promising-practices/2014/10/why-isnt-performance-information-being-used/96347/.

Kaplan, Robert S. and David P. Norton. (1992). "The Balanced Scorecard--Measures That Drive Performance." *Harvard Business Review*, vol. 70, no. 1 (January/February 1992): 71-79.

Kaplan, Robert S. and David P. Norton. (1993). "Putting the Balanced Scorecard to Work." *Harvard Business Review*, vol. 71, no. 5 (September/October 1993: 134-147).

Kaplan, Robert S. and David P. Norton. (1996). "Using the Balanced Scorecard as a Strategic Management System." *Harvard Business Review*, vol. 74, no. 1 (January/February 1996): 75-85.

Katz, Eric. (2014). "A VA Fix That Goes Beyond Banning Bonuses." *Government Executive*, June 4, 2014. http://www.govexec.com/pay-benefits/pay-benefits-watch/2014/06/va-fix-goes-beyond-banning-bonuses/85831/?oref=govexec_today_nl.

Klimas, Jacqueline. (2014). Huge backlog: 70 percent of VA facilities used alternative wait lists. *The Washington Times.com*, June 9, 2014. http://www.washingtontimes.com/news/2014/jun/9/audit-more-57000-await-initial-va-visits/?page=all.

Koontz, Tomas M. and Craig W. Thomas. (2012). Measuring the Performance of Public-Private Partnerships. *Public Performance & Management Review*, (35) 4, 769-786.

Kravchuk, Robert S. and Ronald W. and Schack. (1996). "Designing Effective Performance-Measurement Systems under the Government Performance and Results Act of 1993." *Public Administration Review.* 56(4), 348-258.

Lauridsen, Peter. (2007). Testimony of Passenger Vessel Association, Subcommittee on Coast Guard and Maritime Transportation Committee on Transportation and Infrastructure, U.S. House of Representatives Hearing on Challenges Facing the Coast Guard's Marine Safety Program, August 2, 2007. http://www.passengervessel.com/documents/reg_msp_testimony_0802207.aspx.

Lauter, David and Paul Houston. (1989). "Coast Guard Cutback in Valdez Staff Stirs Fear for U.S. Safety Programs." Los Angeles Times, April 1, 1989. http://articles.latimes.com/1989-04-01/news/mn-821_1_coast-guard.

Long, Edward and Aimee L. Franklin. (2004). "The Paradox of Implementing the

Government Performance and Results Act: Top-Down Direction for Bottom-Up Implementation." *Public Administration Review,* 64(3), 309-319.

Marshall, Catherine and Gretchen B. Rossman. (2006). *Designing Qualitative Research, 4th Edition.* Thousand Oaks, CA: Sage Publications, Inc.

Maxwell, Joseph A. (2005). *Qualitative Research Design: An Interactive Approach, 2nd Edition.* Applied Social Research Methods Series, Vol. 42. Thousand Oaks, CA: Sage Publications, Inc.

McMurtry, Virginia A. (2005). *Performance Management and Budgeting in the Federal Government: Brief History and Recent Developments.* CRS Report for Congress. Washington, DC, March 16, 2005.

Metzenbaum, Shelley H. (2011). *Building a High Performance Government: Obama Administration's Performance Management Approach.* Brookings Institute, Washington, DC, March 22, 2011.

Moe, Ronald C. (1987). Exploring the Limits of Privatization. *Classics of Public Administration.* Shafritz and Hyde (2012). Boston, MA: Wadsworth, 469-478.

Moynihan, Donald P. (2009). "Through a Glass Darkly: Understanding the Effects of Performance Regimes." *Public Performance & Management Review*, (32)4, 592-603.

Moynihan, Donald P. and Noel Landuyt. (2009). "How do Public Organizations Learn? Bridging Cultural and Structural Perspectives." *Public Administration Review,* (69) 6, 1097-1105.

Moynihan, Donald P. and Sanjay K. Pandey. (2010). "The Big Question for Performance Management: Why Do Managers Use Performance Information?" *Journal of Public Administration Research and Theory*, (20), 849–866.

Moynihan, Donald P. et al. (2011). "Performance Regimes Amidst Governance Complexity." Journal of Public Administration Research and Theory, 21, 114-155.

Moynihan, Donald P. and Sanjay K. Pandey. (2012). "Setting the Table: How Transformational Leadership Fosters Performance Information Use." *Journal of Public Administration Research and Theory*, 22(1), 849-866.

Moynihan, Donald P. and Stephane Lavertu. (2012). "Do Performance Reforms Change How Federal Mangers Manage?" *Issues in Governance Studies*, No. 52, October 2012.

Nadler, Eric. (1989). "Tankers Full of Trouble: One ship sank after rust was overlooked." The Seattle Times, November 15, 1989. http://seattletimes.com/news/local/exxon/series/04.html.

National Partnership for Reinventing Government (NPR). (2011). *Archive: Vice President Gore's National Partnership for Reinventing Government*, Accessed April 14, 2011. http://govinfo.library.unt.edu/npr/index.htm.

National Research Council. (1997). *Advancing the Principles of the Prevention Through People Program.* National Academy Press, Washington, DC. http://www.nap.edu/catalog.php?record_id=9150

National Transportation Safety Board (NTSB). (1990). *Marine Accident Report: Grounding of the U.S. Tankership Exxon Valdez on Bligh Reef, Prince William Sound, Near Valdez, Alaska, March 24, 1989*. PB90-916405 NTSB/Mar-90/04. Washington, DC, March 1990. http://docs.lib.noaa.gov/noaa_documents/NOAA_related_docs/oil_spills/marine_accident_report_1990.pdf.

Office of Management and Budget. (1996). *More Benefits Fewer Burdens: Creating a Regulatory System that Works for the American People,* Report to Congress on the Costs and Benefits of Federal Regulations, Washington, DC, December 1996. http://www.whitehouse.gov/omb/inforeg_chap1#thmrp

Office of Management and Budget. (2002). *Program Performance Assessments for the FY 2004 Budget*, Memorandum M-02-10, Washington, DC, July 16, 2002.

Office of Management and Budget. (2009). *Planning for the President's Fiscal Year 2011 Budget and Performance Plan.* M-09-20. Washington, DC, June 11, 2009.

Office of Management and Budget. (2011). *Delivering an Efficient, Effective, and Accountable Government.* M-11-31. Washington, DC, August 17, 2011.

Osborne, David and Ted Gaebler. (1992). *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector.* Reading, MA: Addison-Wesley Publishing Company.

Patrick, Barbara A. and P. Edward French. (2011). "Assessing New Public Management's Focus on Performance Measurement in the Public Sector: A look at No Child Left Behind." *Public Performance and Management Review,* (35) 2, 340-369.

Pavgi, Kedar. (2012). "Program performance measures aren't living up to their potential, scholars say." *Government Executive.com*, October 16, 2012. http://www.govexec.com/management/2012/10/program-performance-measures-

arent-living-their-potential-scholars-say/58809/?oref=govexec_today_nl

Perrin, Burt. (1998). Effective Use and Misuse of Performance Measurement. *American Journal of Evaluation,* 19(3), 367-379.

Perrow, Charles. (1999). "Normal Accidents: Living with High-Risk Technologies." Princeton, NJ: Princeton University Press.

Pfiffner, James P. (2004). "Traditional Public Administration versus The New Public Management: Accountability versus Efficiency." *Institutionenbildung in the Regierung und Verwaltung: Festschrift fur Klaus Konig.* Berlin, Germany: Duncker & Humboldt, 2004, pp. 443-454.

Posner, Paul and Julianne Mahler. (2009). "The performance movement at a crossroads." Paper presented at the Association for Public Policy Analysis and Management Research Conference, November 4-7, 2009, Washington, D.C.

Putansu, Steven R. *Measured Words: Politics and Performance in the Federal Bureaucracy, Dissertation.* American University, Washington, DC. June 22, 2012

Radin, Beryl A. (1998). The Government Performance and Results Act (GPRA): Hydra-Headed Monster or Flexible Management Tool? *Public Administration Review,* 58(4), 307-316.

Radin, Beryl A. (2000a). The Government Performance and Results Act and the Traditional of Federal Management Reform: Square Pegs in Round Holes? *Journal of Public Administration Research and Theory,* 26(3), 111-135.

Radin, Beryl A. (2000b). Intergovernmental Relationships and the Federal Performance Movement. *Publius: The Journal of Federalism,* 30(1), 143-158.

Radin, Beryl A. (2003). "Caught Between Agendas: GPRA, Devolution, and Politics." *International Journal of Public Administration,* 26(10/11), 1247-1257.

Radin, Beryl A. (2006). *Challenging the Performance Movement: Accountability, Complexity and Democratic Values*. Washington, DC: Georgetown University Press.

Radin, Beryl A. (2012). *Federal Management Reform in a World of Contradictions.* Washington, DC: Georgetown University Press.

Raelin, Joseph A. (2011). "The End of Managerial Control?" Group & Organization Management, 36(2), 135-160.

Risher, Howard. (2015). "Emulating High Performance Companies Comes Down to One

Thing." *Government Executive*, March 31, 2015. http://www.govexec.com/excellence/promising-practices/2015/03/emulating-high-performance-companies-comes-down-one-thing/108754/?oref=eig-homepage-module

Rittel, Hosrt W.J. and Melvin M. Webber. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences* 4, 155-169.

Romzek, Barbara S. and Melvin J. Dubnick. (1987). Accountability in the Public Sector: Lessons from the Challenger Tragedy. *Public Administration Review*, 47(3), 227-238.

Rose, Richard. (1977). Implementation and Evaporation: The Record of MBO." *Public Administration Review*, v. 37 (Jan-Feb 1977), pp.64-71.

Rosenbloom, David. (1983). Public Administration Theory and the Separation of Powers. *Classics of Public Administration.* Shafritz and Hyde (2012). Boston, MA: Wadsworth, 442-453.

Schmidle, Timothy P. (2011). "Performance Management: Laudable Objectives, Limited Use, Lowered Expectations." Public Performance & Management Review, (35)2, 370-389.

Schneiderman, Arthur M. (2006). "Analog Devices: 1986-1992, The First Balanced Scorecard©." http://www.schneiderman.com.

Schuck, Peter H. (2014). *Why Government Fails So Often And How It Can Do Better*. Princeton University Press, Princeton, NJ.

Scott, John. (2000). *Rational Choice Theory*, Understanding Contemporary Society: Theories of The Present. Sage Publications, Washington, DC.

Shafritz, Jay M. and Albert C. Hyde (2012). *Classics of Public Administration.* Boston, MA: Wadsworth.

Skinner, Samuel K. and William K. Reilly. (1989). *The Exxon Valdez Oil Spill: A Report to the President.* The National Response Team, Washington, DC May, 1989.

Snoop, Tom. (2013). "Can President Obama Manage Government?" Government Executive.com, November 26, 2013.

Taylor, Frederick. (1911). *The Principles of Scientific Management.* New York, NY: Harper.

Taylor, Frederick. (1912). Scientific Management. *Classics of Public Administration.* Shafritz and Hyde (2012). Boston, MA: Wadsworth, 37-43.

United States Coast Guard. (1995). *A National Plan for Streamlining the United States Coast Guard.* Washington, DC, 1995. https://www.uscg.mil/history/ccg/Kramek/docs/Streamlining1995.pdf.

United States Coast Guard. (1999). *A Coast Guard for the Twenty First Century; Report of the Interagency Task Force on U.S. Coast Guard Roles and Missions.* Interagency Task Force on Coast Guard Roles and Missions, December 1999.

United States Coast Guard. (2008). *Marine Safety Performance Plan FY 2009 – 2014.* Washington, DC, November 2008. http://www.uscg.mil/hq/cg5/cg54/docs/MSPerformancePlan.pdf.

United States Coast Guard. (2011). *Safety, Security and Stewardship, 2011 DHS White Paper on the U.S. Coast Guard*, Washington, DC. https://www.uscg.mil/history/docs/DHS/DHS_CGWP_2011.pdf

United States Senate Committee on Homeland Security and Government Affairs. (2010). PGRA Modernization Act of 2010, Senate report 111-372, December 16, 2010.Weick, Karl E. (1976). "Educational Organizations as Loosely Coupled Systems." *Administrative Science Quarterly,* (21),(1), 1-19.

Westwick, Peter J. (2007). "Reenginering Engineers: Management Philosophies at the Jet Propulsion Laboratory in the 1990s." *Society for the History of Technology,* Vol. 48, 67-91.

Whittaker, James B. (2003). *Strategy and Performance Management in the Government.* Mountain View, CA: Pilot Software Inc. www.whitehouse.gov/omb/mgmt-**gpra**_gplaw2m/ (accessed October 2009).

Wholey, Joseph S. (1999). Performance-Based Management: Responding to the Challenges. *Public Productivity & Management Review*, 22(3), 288-30.

Zukunft, Admiral Paul, USCG. (2015a). *America's Coast Guard for the 21st Century.* International Security Program, Center for Strategic and International Studies, January 16, 2015.

Zukunft, Admiral Paul, USCG. (2015b). *The State of the United States Coast Guard 2015.* USCG Headquarters, Washington, DC., February 24, 2015.

BIOGRAPHY

Rear Admiral Fred L. Ames, United States Coast Guard (Retired)

Rear Admiral Ames was a Surface Operations Specialist, Naval Engineer and Human Resource professional with service in both the Atlantic and Pacific. He served nine years in both engineering and deck assignments on 378-foot High Endurance Cutters, with varied assignments ashore in naval engineering, training and human resource management.

Rear Admiral Ames commanded the High Endurance Cutters MORGENTHAU (WHEC 722) and MUNRO (WHEC 724). As a Flag Officer, he commanded the Coast Guard Personnel Command and the Coast Guard Maintenance and Logistics Command Pacific. His last active duty flag assignment was Assistant Commandant for Human Resources. Previous shore assignments include District Naval Engineering; Resident Inspectors Office, Tacoma, Washington, overseeing construction of 270-foot Medium Endurance Cutters and 140-foot icebreaking tugs; Chief, Engineering and Weapons Training Schools; Training Officer, Training Center Yorktown, Virginia; Chief of Naval Engineering, Maintenance and Logistics Command Atlantic; Chief, Enlisted Personnel Division and Deputy Chief, Office of Personnel and Training, U.S. Coast Guard Headquarters.

Rear Admiral Ames graduated with high honors from the U.S. Coast Guard Academy with a Bachelor of Science in 1968. He holds the degrees of Ocean Engineer and Master of Science in Mechanical Engineering from the Massachusetts Institute of Technology and a Master of Science in Management from the New York University Polytechnic School of Engineering.

Rear Admiral Ames is a Registered Professional Engineer in Naval Architecture and Marine Engineering, and Mechanical Engineering in the State of Washington. Rear Admiral Ames is a 1988 graduate of the National War College. He served on the Board of Directors and as Chairman, Editorial Board of the U.S. Naval Institute and has served on the Executive Council of the American Society of Naval Engineers. He is a member of the Society of Naval Architects and Marine Engineers and Sigma XI.

Rear Admiral Ames' military awards include the Distinguished Service Medal, three Legions of Merit, two Coast Guard Meritorious Service Medals, three Coast Guard Commendation Medals, the Coast Guard Achievement Medal, two Commandant's Letters of Commendation, six Coast Guard Unit Commendations, three Coast Guard Meritorious Unit Commendations, four Coast Guard Meritorious Team Commendations, four Coast Guard "E" Ribbons, the Humanitarian Service Medal, four Coast Guard Special Operations Ribbons, and the Sea Service Ribbon with two bronze stars.

Upon retirement from active duty in 2002, Admiral Ames spent three years in the

private sector as a management consultant working with the Department of Defense and other Federal agencies. He returned to the Federal government in 2005 as career Senior Executive Service in the Office of the U. S. Trade Representative, an agency within the Executive Office of the President. As Assistant United States Trade Representative for Administration, he is responsible for the management of human resources, facilities, security, finance and budget, information technology and communications.

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Ph.D. Politics
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Fields of Specialization: American Government and Politics; Political Theory; Comparative Government and Politics

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Civic Engagement & Public Participation
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Associate Professor, with tenure, School of Public Policy and Public administration, The George Washington University, Washington, DC, 2005—

Masters Courses taught: Legislative Management, Federal Regulation, Capstone Seminar

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