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# ACQUISITION RESEARCH SPONSORED REPORT SERIES

**Analysis of Naval Facilities Engineering Command's (NAVFAC) Contracting Processes Using the Contract Management Maturity Model (CMMM)**

**15 December 2006**

**by**


**Lieutenant Walter S. Ludwig, USN**

**Lieutenant Commander Alexander M. Moore, USN**

**Co-Advisors: Rene G. Rendon, Lecturer, and**

**Leslie E. Sekerka, Assistant Professor**



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# Abstract

This study assesses the process capabilities and competencies of Naval Facilities Engineering Command's (NAVFAC) Mid-Atlantic. The assessment uses a cross-sectional questionnaire covering contracting processes and selected ethical context. The purpose of this study is to analyze NAVFAC's contracting processes, establish a baseline for contract management maturity and ethical context, and recommend target areas for improvement efforts by application of the Contract Management Maturity Model (CMMM) and the associated Contract Management Maturity Assessment Tool (CMMAT) to NAVFAC Mid-Atlantic's Facilities Engineering and Acquisition Department. An ethics questionnaire is administered to examine NAVFAC's ethical context.

**Keywords:** Contracting, Maturity Model, Ethical Context, Ethics, Rule Bending

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Walter S. Ludwig

I would like to dedicate this thesis to my very supportive wife, Joanna, daughter, Tabitha, and sons, Chris and Matt. Without their understanding and support this thesis would have never been completed.

Alexander M. Moore

I would like to dedicate this thesis to my wife, Deborah, for her patience, love, and support.

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# About the Authors

**Lieutenant Walter S. Ludwig**, Civil Engineer Corps, United States Navy, is a native of Illinois. He enlisted in the Navy in 1987 as an Electronics Warfare Technician (EW). He graduated from the University of Illinois at Chicago with a Bachelor of Science Degree in Industrial Engineering and was commissioned an Ensign in May 1998 via the Enlisted Commissioning Program. He is a registered Professional Engineer in the State of Georgia.

LT Ludwig reported for duty as an ESM/ECM operator onboard the USS Carl Vinson (CVN-70) in September 1987, deploying to the Western Pacific/Indian Ocean operating area. In April 1989 he attended EW "C" school. In March 1990, he joined Fleet Tactical Deception Group Pacific as an Operational Deception Planner, deploying aboard the USS Kansas City (AOR-3) in support of Operation Desert Shield/Desert Storm. In May 1993, he reported to Navy Recruiting District Omaha, Navy Recruiting Station (NRS) Moline, IL as a Recruiter. He later became the Recruiter-in-Charge of NRS Moline, IL. In August 1995, he was selected for the Enlisted Commissioning Program and reported aboard Naval Reserve Officer Training Corps Unit Illinois Institute of Technology as an Officer Candidate. In May 1998, he was commissioned an Ensign. In June 1999, he attended Naval School, Civil Engineer Corps Officers (CECOS). In October 1999, he joined Navy Public Works Center Norfolk as an Assistant Operations Officer, Headquarter Support Activity, Norfolk. He later became the Operations Officer for the Naval Medical Center Portsmouth. In September 2001, he reported aboard Naval Mobile Construction Battalion ONE THIRTY-THREE where he served as the Bravo Company Commander deployed to Guam, Alfa Company Commander and the OIC, DFT Dominican Republic/Commander, Task Force, New Horizons 2003. In August 2003, he reported aboard Naval Construction Training Center, Port Hueneme, where he served as the Operations Officer. In July 2005, he reported aboard Naval Postgraduate School where he is a student in the Masters of Business Administration program.

LT Ludwig is Seabee Combat Warfare designated and his personal awards include the Navy and Marine Corps Commendation Medal (two awards) and the Navy and Marine Corps Achievement Medal (four awards).

He is married to the former Joanna May Freimuth of Poway, California. They have three children: Tabitha Lenea 20, Christopher Michael 12, and Matthew Ryan 7.

**Lieutenant Commander Alexander M. Moore**, Civil Engineer Corps, United States Navy, is a native of Centerville, New York, graduated from Tulane University with a Bachelor of Science Degree in Civil Engineering, and was commissioned as a Surface Warfare Officer in May of 1996.

LCDR Moore served as Damage Control Assistant onboard the USS PATRIOT (MCM 7) homeported in Sasebo, Japan. He transferred to USS CLARK (FFG 11) homeported in Norfolk, VA and served as the Combat Information Center Officer until CLARK's decommissioning in December of 1999.

LCDR Moore was next assigned to Navy Personnel Command Millington, Tennessee as a Rating Assignment Officer for the OS, GM, and FC ratings. He was selected for lateral transfer to the Civil Engineer Corps during this tour and attended CEC Officer Basic Qualification training in Port Hueneme, CA in September of 2001.

Following CECOS, LCDR Moore reported to Resident Officer In Charge of Construction Naval Base Ventura County in December of 2001 as Senior AROICC. While at ROICC NBVC, he volunteered for an Individual Augment as the Naval Special Warfare Unit THREE Staff Civil Engineer in support of Operation Iraqi Freedom (OIF-I).

LCDR Moore's next assignment was as Shops Engineer for the Public Works Department at Naval Air Station Keflavik, Iceland. Following NASKEF, he reported to Naval Postgraduate School Monterey, California in June of 2005. He is currently pursuing a Master of Business Administration Degree in Financial Management at NPS and is scheduled to graduate in December of 2006.

LCDR Moore is a Surface Warfare Qualified Officer and a registered Professional Engineer in the State of Connecticut.

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Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the Federal Government.

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# List of Acronyms

| | |
|---|---|
| CECOS | Civil Engineer Corps Officers School |
| CEO | Chief Executive Officer |
| CMMAT | Contract Management Maturity Assessment Tool |
| CMMM | Contract Management Maturity Model |
| CNO | Chief of Naval Operations |
| COC | Chain of Command |
| CPAF | Cost Plus Award Fee |
| DoD | Department of Defense |
| FacTS | Facilities Team Survey |
| FEAD | Facilities Engineering and Acquisition Division |
| FEC | Facilities Engineering Command |
| FFP | Firm Fixed Price |
| FFPAF | Firm Fixed Price Award Fee |
| NAVFAC | Naval Facilities Engineering Command |
| NAVSUP | Naval Supply Command |
| NFI | Naval Facilities Institute |
| NWCF | Navy Working Capital Fund |
| $PM^2$ | Berkley Project Management Process Maturity Model |
| PMAP | Performance Management and Assistance Program |
| PMMM | Project Management Maturity Model |
| PMPG | Performance Management Programs Group |
| PWD | Public Works Department |
| ROICC | Residents Officer in Charge of Construction |
| SEI -CMMI | Software Engineering Institute's Capability Maturity Model Integration |
| SMC | Space and Missile Systems Center |
| USAF | United States Air Force |
| USOGE | U. S. Office of Government Ethics |

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# I. Introduction

## A. Purpose of Study

Today, more so than any time in the past, the United States Department of Defense (DoD) outsources functions that were previously accomplished in-house. Contract management is the vehicle which enables this outsourcing to occur. As a result, contract management must be viewed as a core competency that should also be considered an essential part of corporate strategy (Kelman, 2001). Contract management undeniably impacts an organization's competitive advantage (Garret & Rendon, 2005).

The purpose of this study is to analyze Naval Facilities Engineering Command's (NAVFAC's) contracting processes and recommend target areas for improvement efforts by application of the Contract Management Maturity Model (CMMM) and the associated Contract Management Maturity Assessment Tool (CMMAT) to NAVFAC Mid-Atlantic's Facilities Engineering and Acquisition Department. Additionally an ethics questionnaire is administered to examine NAVFAC's ethical context.

This study is outlined in five chapters. Chapter I provides an overview of this study. Chapter II consists of a review of literature used to develop the study. Chapter III includes background information regarding the NAVFAC Mid-Atlantic study. Chapter IV presents findings and results of the NAVFAC Mid-Atlantic study along with recommendations. Chapter V provides a summary and suggestions for further research.

## B. Background Information

NAVFAC is the Navy's installation facility expert, managing the planning, design, and construction of shore facilities. NAVFAC is a global organization that prides itself on being Fleet focused, innovative, a surge enabler, ever faster and

committed to continuous cost reduction. It employs 15,000 military, civilians, and contractors and had an annual volume of business in excess of $8.5 billion in fiscal year 2004. Contracting for construction, maintenance, repairs, and facilities services is a significant portion of NAVFAC's mission (NAVFAC, 2005).

In recent years, NAVFAC aggressively pursued plans to dramatically transform its organization in accordance with the Chief of Naval Operations (CNO) mandate – initiated by Admiral Clark and revalidated by Admiral Mullen - to align organization structure and processes throughout the Navy, and drive "business improvement from a cross-enterprise perspective to minimize redundancy and eliminate waste (Bueno, 2006)."

Realignment of the Naval Facilities Engineering Command (NAVFAC) in July 2004 consolidated NAVFAC from 25 to 16 commands. NAVFAC's old system of Engineering Field Divisions, Engineering Field Activities, Officers in Charge of Construction, and Public Works Centers was changed to create Facilities Engineering Commands (FECs) which encompass all of NAVFAC's business lines. The goal of this restructuring was to enable NAVFAC to better align and focus on Regional and Client requirements, surge support across regional boundaries, globally implement common business processes, eliminate redundancy, and return substantial financial savings to the Navy, Marine Corps, and other Clients (Bueno, 2004).

On January 22, 2006, Naval Facilities Engineering Command (NAVFAC) integrated 47 Navy public works departments (PWD) and all Regional Engineer staffs into its organization. The merger was viewed as a further step in establishing a uniform delivery model for NAVFAC's products and services and creating a single access point for all facilities services needs for individual installation commanders (Bueno, 2006).

In addition to incorporating PWDs into the FECs, NAVFAC also reorganized the chain of command for its installation contracting offices, Resident Officers in

Charge of Construction (ROICCs). ROICCs were incorporated into the Public Works Departments at each installation and are now referred to as the Facilities Engineering and Acquisition Division (FEAD) (NAVFAC, 2005). ROICCs and FEADs handle NAVFAC field level contracting services.

As stated in the NAVFAC Concept of Operations the organization has transformed from a purely hierarchical command structure to a matrix organization. This suggests that they have integrated business line development and management teams to create horizontal management along with the traditional vertical leadership functions and responsibilities. This change in command structure along with a transition to Navy Working Capital Fund (NWCF) for many activities has significantly modified the funding distribution process (NAVFAC, 2005).

## C. Problem Statement

Given NAVFAC has transformed its organization the concerns are:

1. What is NAVFAC's post-transformation baseline with regard to its contract management maturity? Maturity is defined as "a measure of effectiveness in any specific process (Garrett & Rendon, 2005)." "In terms of contract management, it [maturity] relates to organizational capabilities that can consistently produce successful business results for buyers and sellers of products, services, and integrated solutions (Garrett & Rendon, 2005)."
2. What factors exist with NAVFAC that may suggest areas of organizational ethics needing additional attention?
3. What key areas can NAVFAC target for improvement efforts?

## D. Conceptual Framework

NAVFAC's leadership and management require a conceptual framework for assessing their contracting capabilities as formerly separate contract management functions are integrated throughout the organization. The framework utilized for this purpose is the Contract Management Maturity Model (CMMM) and an application of an ethical assessment tool adapted from "Measuring corporate integrity: a survey-

based approach" as presented by Muel Kaptein and Scott Avelino (Garret & Rendon, 2005; Avelino & Kaptein, 2005).

## E. Research Questions

This study assesses the maturity of NAVFAC Mid-Atlantic's contract management processes and examines specific aspects of NAVFAC's organizational ethical context. Through the CMMM assessment a maturity level will be assigned to each process area. The maturity level by itself is not enough to assist NAVFAC in improving its contract management processes. In conjunction, the ethics questionnaire analyzes factors within NAVFAC that may suggest areas of organizational ethics potentially needing attention. The following research questions are addressed in the study and reflect a coupling of ethics and CMMM frameworks:

1. How can a contract management process maturity and ethics assessment assist NAVFAC Mid-Atlantic's contract management continuous improvement program?
2. How mature are NAVFAC Mid-Atlantic's post-transformation contract management processes and organizational ethical context?
3. How can the results of the assessment identify areas for improvement within NAVFAC Mid-Atlantic?

## F. Nature of Study

This study assesses the process capabilities and competencies of NAVFAC Mid-Atlantic. The assessment uses a cross-sectional questionnaire covering contracting processes and selected ethical context. A cross-sectional questionnaire is utilized to enable the collection of questionnaire responses at one point in time (Garrett & Rendon, 2005). The questionnaire questions are administered to a selected pool of contract management professionals within NAVFAC Mid-Atlantic. The study is not a statistical analysis; however, it provides an assessment of the organizations contract management maturity level.

## G. Limitations/Implications

The limitation of the current application is it can only provide an assessment of the maturity level, examine selected ethical context, and identify key areas where training or additional policies and standards could be employed to improve NAVFAC's capabilities. The assessment cannot provide the type of training or policies and standards that will correct or improve the contracting process.

The implications from the application of the CMMM and adapted ethics questionnaire may be extended to other US Navy acquisition commands. The CMMM can be used to assess their contract management maturity level. The ethics questionnaire may be used to identify factors that may suggest areas of organizational ethics needing attention. Further adaptation and use of the ethics questionnaire could assist an organization implement best practices that can lead to the development of moral behavior and ethical action within the workforce.

## H. Significance of Study

Contract management processes (activities) must be viewed as a core competency that should be considered as an essential part of corporate strategy (Kelman, 2001). Competitive advantage hinges on activities (processes) and performance of activities generates intangible assets in the form of skills, knowledge, and organizational routines. Conversely, if processes are below par, they can produce liabilities instead of assets. Furthermore, activities should be maintained or improved to sustain competitive advantage (Porter, 1985). These industry theories are applicable to NAVFAC even though NAVFAC is a government organization because NAVFAC faces competition analogous to the corporate world. If NAVFAC fails to provide adequate services, the organization's role could be overtaken by similar contracting service providers within the U.S. Navy such as Naval Supply Command (NAVSUP). Additionally, there is the possibility that NAVFAC's contracting model and organizational structure could be discarded in favor of the

U.S. Air Force or U.S. Army contracting models under a joint vision of the future in which redundant capabilities are combined and streamlined.

NAVFAC, like any successful enterprise, continually seeks to improve its business processes in order to ensure Client satisfaction by improving quality of service, speeding up response time, reducing unneeded redundancies, and meeting customer needs. NAVFAC is an established organization with a long history in contract management; however, it has undergone significant changes in recent years. NAVFAC's drive to continuously improve coupled with recent changes to the organization create a genuine need to assess their process capabilities and competencies. Currently, NAVFAC measures its clients' and employees' satisfactions through the Performance Management Programs Group (PMPG). PMPG accomplishes satisfaction measurements through its two subgroups, the Performance Management and Assistance Program (PMAP) and the Facilities Team Survey (FacTS) (NFI, 2006).

PMPG established PMAP to assess the effectiveness of NAVFAC's acquisition processes. This is done through on-site assist visits. The site visits attempt to make sure acquisition regulations and policies are being followed, to discover best practices, and to provide support to the acquisition community management. PMAP does not assess the maturity of the contract management process (NFI, 2006).

PPMG established the FacTS group to develop and deploy enterprise-wide client and employee surveys. The survey data assists NAVFAC in understanding critical issues related to workforce and client satisfaction. Similar to PMAP, FacTS does not assess contract management maturity (NFI, 2006).

NAVFAC has taken steps to improve their acquisition processes through PMAP and FacTS; however, the key element of ensuring the current processes in place are well understood by their employees has not been fully accomplished as neither group has specifically targeted contract management personnel for a

focused study. Through the CMMM's Contract Management Maturity Assessment Tool (CMMAT) NAVFAC will be provided the maturity assessment required to identify key contract management process areas requiring improvement. Depending on the area identified the assessment will allow NAVFAC to determine if further training is required or if additional policies and standards are needed (Garrett & Rendon, 2005).

## I. Summary

This chapter discussed the purpose of the study, NAVFAC background information, the study's problem statement, the conceptual framework, research questions, the nature of the study, the limitations/implications of the study, and the significance of the study. Chapter II provides the literature review for this study.

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# II. Review of Literature

## A. Why Analyze Contract Management Maturity and Ethical Context?

Success in contract management can be attributed to effective processes combined with ethical behavior. Research shows that, to a great degree, effectual contracts are functions of the processes used to develop them making development, evaluation, and improvement of those processes instrumental to creation of competitive advantage (Garret & Rendon, 2005). However, processes alone are not enough to guarantee sustained superior performance. Without ethical behavior, there is substantial risk that rules could be bent or processes could be circumvented to the detriment of the organization (Sekerka & Zolin, 2006).

## B. Process Improvement through Assessment

Contract management requires a formal and planned approach due to the scope of operations involved and the degree of overlapping disciplines. NAVFAC contract management work covers a broad spectrum which includes civil engineering, finance, information technology, education and training, facilities management, environmental cleanup, transportation, and interactions with other federal entities. Additionally, there are many types of contracts with extensive federal regulations governing contract management under different conditions (i.e., small disadvantaged business) (U.S. Department of Defense, 2005). An informal (ad hoc) dissemination of ideas and best practices between contract/project managers is not as successful as a structured distribution approach for most large organizations with complex systems of interactions (Wysocki, 2004).

In addition to developing a structured methodology to process development and distribution, an organization's processes should also be evaluated. Processes reflect capabilities and are directly related to the organization's ability to maintain itself as a viable ongoing entity. Evaluating processes allows the organization to

develop a baseline which reveals in which areas they are already successful and what areas need improvement. Evaluation assists the organization in construction of an informed corporate strategy which plays to capability strengths while avoiding or seeking to correct weaknesses (Ghemawat, 1997). It permits a logical approach to answer the strategic questions, “where will the organization compete, against whom will the organization compete, and how will the organization compete (Kerzner, 2001)?”

Industry theories are applicable to NAVFAC even though NAVFAC is a government organization because NAVFAC faces competition analogous to the corporate world. If NAVFAC fails to provide adequate services, the organization’s role could be overtaken by similar contracting service providers within the U.S. Navy such as Naval Supply Systems Command (NAVSUP). Additionally, there is the possibility that NAVFAC’s contracting model and organizational structure could be discarded in favor of the U.S. Air Force or U.S. Army contracting models under a joint vision of the future in which redundant capabilities are combined and streamlined.

Evaluating processes enables development of an informed corporate strategy; however, the ultimate goal of structured process evaluation should be to create a sustainable competitive advantage through continuous improvement in the functional areas that support the organization’s strategy (Kerzner, 2001). Development of sustainable competitive advantage hinges on the presumption that activities (processes) – and superior performance of those activities - generate intangible assets in the form of skills, knowledge, and organizational routines. Conversely, if processes are performed below par, they can produce liabilities instead of assets. Furthermore, activities should be maintained or improved to sustain competitive advantage (Porter, 1985). The initial process evaluation provides a capability baseline to develop corporate strategy. Subsequent evaluations are compared to the baseline to determine if there has been improvement or deterioration in proficiency (maturity) of the processes. Comparison to the baseline

ensures the organization that critical capabilities are still strong, allows the organization to target areas for improvement, or serves as a warning flag to reveal erosion of critical capabilities.

Sustained competitive advantage can only be maintained through continuous process improvement and attention to ethical conduct (Harris, 2006; Hosmer, 1994: 25 & 32). The importance of ethical conduct is covered in the next section of Chapter II. If the organization does not perpetually seek to improve their processes, competitors will eventually be able to imitate their achievements and eat away at the organizations competitive advantage. The organization must seek to stay one step ahead of the competition. The success of Honda and Toyota during the 1980s is a telling example of continuous process improvement leading to sustained competitive advantage. The Japanese automakers produced cars that were comparably priced to their counterparts from GM, Ford, and Chrysler. Furthermore, they marketed their product to the same customer base. The difference, and success, of the Japanese approach was not drawn from creative strategic positioning. Their success came from superior engineering development and manufacturing processes/capabilities (Ghemawat, 1997). Honda and Toyota were able to repeatedly bring comparable new models to the marketplace significantly faster and at less cost. Their focus on process evaluation and improvement led to the development of tangible, sustainable competitive advantages which ensured the success and continued viability of their companies.

Repeated process evaluation facilitates continuous improvement. Improvement can be measured by evaluating process maturity – where maturity is defined as “a measure of effectiveness in any specific process (Garrett & Rendon, 2005).” There are a host of process improvement models available including the Software Engineering Institute’s Capability Maturity Model Integration (SEI-CMMI), Kerzner Project Management Maturity Model (PMMM), the People Capability Maturity Model, Project Management Solutions, Inc.’s Project Management Maturity Model, the Berkley Project Management Process Maturity ($PM^2$) Model, and the

Contract Management Maturity Model (CMMM) (Garrett & Rendon, 2005). The separate models, while unique, have general similarities. Each model seeks to act as a tool which can be used to aid continuous improvement through application of a process improvement life cycle (Figure 2-1). The organization uses the assessment model to determine where they are currently and how well they achieved previous objectives. Additionally results from the model facilitate planning for where the organization wants to go with regard to improvement and how they will get there (Wysocki, 2004). The CMMM was developed through research of previous models and their limitations. The CMMM focuses specifically on the contract management function and breaks the contract management into sub-processes which can be examined at a degree of detail not available in many of the other models (Garrett & Rendon, 2005).

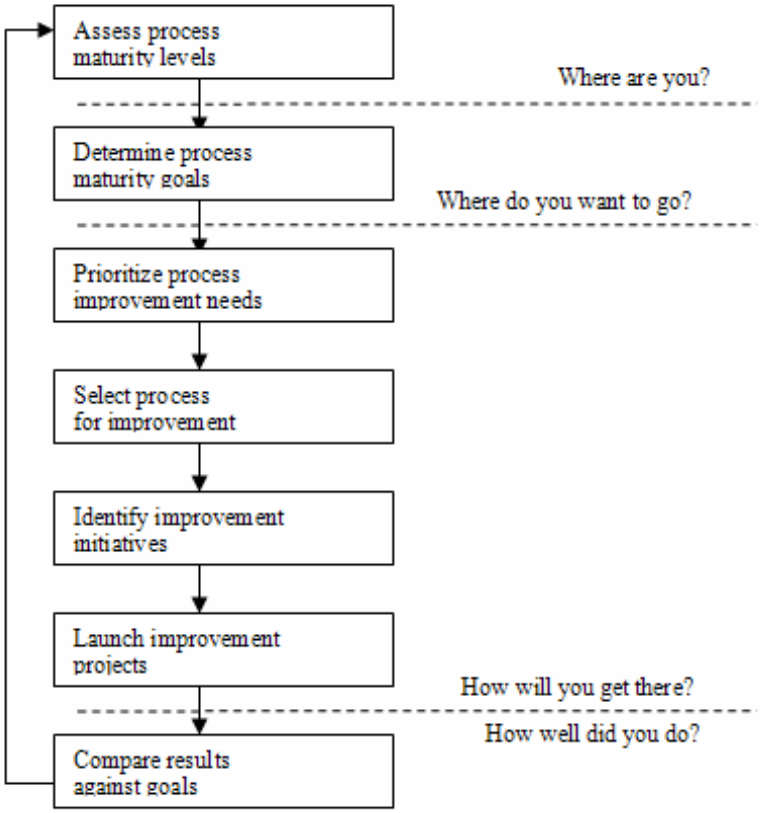


**Figure 2-1. Process Improvement Life Cycle (From: Wysocki, 2004)**

## C. The Importance of Ethics

Processes mean little unless they are combined with ethical behavior (Downes, 2005; Sekerka & Zolin, 2005: 23). The federal arena provides a litany of examples exhibiting the ineffectiveness of established processes and regulations when there is a failure in ethical behavior. A Defense Department official and other employees were bribed in return for influencing contract awards as part of the 2006 scandal involving Representative Randy 'Duke' Cunningham and defense contractor, Mitchell Wade. Also, probably the most famous ethics and law violation in recent history was the Darleen Druyun case in which Ms. Druyun pleaded guilty to engaging in conspiracy with the Boeing Company and breaking federal conflict of interest laws while negotiating a $23 billion contract (Zazaian, 2006). The Druyun and Wade cases show that developing processes or even creating laws such as the Procurement Integrity Act, the Federal Acquisition Regulation, Defense Federal Acquisition Regulation, etc. do not ensure that individuals will behave in an ethical manner. The Druyun example and similar mishaps are partially attributed to an inadequate ethical culture within the organization (Zazaian, 2006).

Ethics are an integral part of government service, to include contract management. Ethical principles are explicitly stated in Executive Order 12674, April 12, 1989 (USOGE, 2006). DoD and NAVFAC further define their department's and agency's requirement in mandating contracting personnel to receive training on ethics, and to exhibit ethical behavior (DoD 5000.52M Ch.1, 1995 & NAVFAC, 2002). Ethical behavior is also implied within the Department of the Navy's Core Values of Honor, Courage, and Commitment. Courage is defined as "the value that gives me the moral and mental strength to do what is right, with confidence and resolution, even in the face of temptation and adversity (NAVFAC, 2006)."

Management must be proactive in the establishment and maintenance of the organization's culture of ethical behavior (Zazaian, 2006; Sekerka & Zolin, 2005: 23). If executive decision makers simply develop a code of conduct without ensuring compliance or assessing effectiveness of current measures, they may be creating a

sense of false comfort (Avelino & Kaptein, 2005). Unless management strives to develop ethical behavior and continues to prevent ethical failures by checking for compliance, the program can falter and employees may not take the program seriously (Avelino & Kaptein, 2005; Sekerka & Zolin, 2005: 27).

An effective formal method of monitoring corporate integrity is periodic administration, and evaluation, of employee ethics questionnaires. Ethics questionnaires have many benefits including; showing management's commitment to the program, raising awareness among employees, providing confidentiality for participants, collection of information from the employee's perspective, and the ability to compare results from period to period (Avelino & Kaptein, 2005). An ethics evaluation enables the organization to examine factors that could suggest areas of organizational ethics that may need additional attention. Results from the questionnaire facilitate discussion on ethical context and could assist in planning efforts for where the organization wants to go with regard to improvement of ethical values and how they will get there. Development of each employee's individual competency of self-regulation and organizational programs that elevate the use of moral action are an effectual means of growing an informal process of monitoring organizational integrity which can be used to augment formal monitoring. (Sekerka & Zolin, 2005: 20).

## D. Background Information for CMMM

This study uses the Contract Management Maturity Model (CMMM) along with the Contract Management Maturity Assessment Tool (CMMAT) to evaluate NAVFAC's contract management processes and a variation of the Kaptein ethical survey to appraise NAVFAC's ethical context. The CMMM and CMMAT are selected because of their contract management focus and previous application to government contracting within the United States Air Force. The Kaptein survey is selected due to its focus on organizational ethics from the employee perspective and previous application in a broad study of corporate America.

The purpose of the CMMM and associated CMMAT is to help buying organizations evaluate their processes and identify principal areas for focusing improvement efforts. It is broken down into six sections addressing the key process areas involved with purchasing of services and supplies; procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Table 2-1). The model defines maturity as full development of organizational capabilities that can consistently produce desired outputs. The CMMM uses rating levels to quantify organizational maturity ranging from “Ad-Hoc” to “Optimized” (Table 2-2). The CMMAT questionnaire includes ten questions per section which are evaluated using a Likert scale ranging in value from zero to five. Employee responses for individual questions are totaled and divided by the number of questionnaire participants to generate an average score for every question. The results for each section are totaled to determine the maturity level the organization has achieved in each functional process area (Garrett & Rendon, 2005). A maturity score of 0 – 20 correlates to a level of process capability maturity of “Ad-Hoc”; 21 – 30 correlates to a level of process capability maturity of “Basic”; 31 – 40 correlates to a level of process capability maturity of “Structured”; 41 - 45 correlates to a level of process capability maturity of “Integrated”; 46 - 50 correlates to a level of process capability maturity of “Optimized”. A copy of the CMMAT questionnaire is contained in Appendix A.

| Key Process Area | Description |
|---|---|
| **Procurement Planning** | The process of identifying which business needs can be best met by procuring products or services outside the organization. This process involves determining whether to procure, how to procure, what to procure, and when to procure. |
| **Solicitation Planning** | The process of preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources. |
| **Solicitation** | The process of obtaining information (bids and proposals) from prospective sellers on how project needs can be met. |
| **Source Selection** | The process of receiving bids or proposals and applying evaluation criteria to select a provider. |
| **Contract Administration** | The process of ensuring that each party's performance meets contractual requirements. |
| **Contract Closeout** | The process of verifying that all administrative matters are concluded on a contract that is otherwise physically complete. This involves completing and settling the contract, including resolving any open items. |

**Table 2-1. Contract Management Key Process Areas (From: Garrett & Rendon, 2005).**

**Contract Management Maturity Model (CMMM) – Narrative**

***Level 1 – Ad-Hoc***

- The organization acknowledges that contract management processes exist, that these processes are accepted and practiced throughout various industries, and the organization's management understands the benefit and value of using contract management processes.
- Although there are not any organizationwide established basic contract management processes, some established contract management processes exist and are used within the organization, but applied only on an ad-hoc and sporadic basis to various contracts.
- Informal documentation of contract management processes may exist within the organization, but are used only on an ad-hoc and sporadic basis on various contracts.
- Organizational managers and contract management personnel are not held accountable for adhering to, or complying with, any contract management process or standards.

***Level 2 – Basic***

- Some basic contract management processes and standards have been established within the organization, but are required only on selected complex, critical, or high-visibility contracts, such as contracts meeting certain dollar thresholds, or contracts with certain customers.
- Some formal documentation has been developed for these established contract management processes and standards.
- The organization does not consider these contract management processes or standards established or institutionalized throughout the entire organization.
- There is no organizational policy requiring the consistent use of these contract management processes and standards other than on the required contracts.

***Level 3 – Structured***

- Contract management processes and standards are fully established, institutionalized, and mandated throughout the entire organization.
- Formal documentation has been developed for these contract management processes and standards, and some processes may even be automated.
- Since these contract management processes are mandated, the organization allows the tailoring of processes and documents, allowing consideration for the unique aspects of each contract, such as contracting strategy, contract type, terms and conditions, dollar value, and type of requirement (product or service).

**Table 2-2. CMMM Level Definitions (From: Garrett & Rendon, 2005)**

In 2003, the CMMM and the CMMAT were utilized to assess the U.S. Air Force (USAF) Space and Missile Systems Center's (SMC) Directorate of Contracting Office in Los Angeles, California. A total of seven SMC program offices were assessed to determine SMC's maturity level.

The respondents chosen to participate in the assessment were all fully qualified USAF warranted contracting officers, both military and civilian. These respondents were selected because their positions mandated they maintain competency and proficiency in contract management best practices as well as SMC's contract processes. These attributes made them prime responders to the assessment questions (Garret & Rendon, 2005).

The results indicated that SMC's Directorate of Contracting Office was rated at the "Integrated" level in the Source Selection process area; rated "Structured" in Procurement Planning, Solicitation Planning, Solicitation, and Contract Administration process areas; and "Ad-Hoc" in the Contract Closeout process area. Figure 2-2 provides a summary of the assessment results:

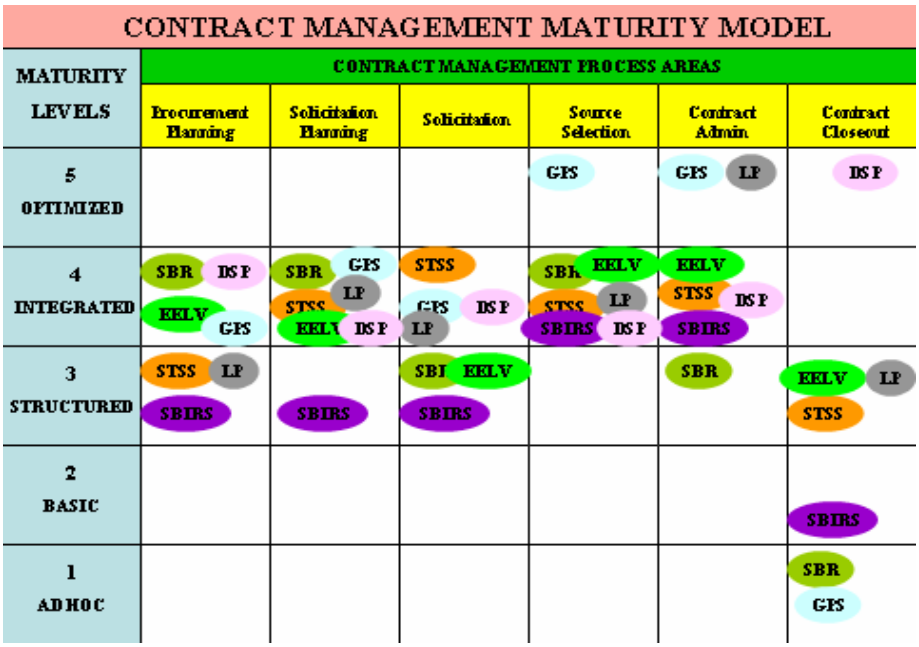


**Figure 2-2. CMMM Results for USAF Study (From: Garrett & Rendon, 2005)**

The assessment results were utilized as a guide for improving SMC's contract management process capability. For example, in the procurement planning process area the results indicated a "Structured" maturity level. Given a "Structured" result it was recommended that the SMC Directorate of Contracting Office "should provide specific and focused procurement planning training in the areas of integrating procurement planning process activities with other organizations…" (Garret & Rendon, 2005) The recommendation to work towards a maturity level of "Integrated" was based upon the CMMM's focus of improving contract management maturity to the next higher maturity level. The assessment results were provided to the SMC Directorate of Contracting Office where the results were utilized to implement various initiatives directed towards improving SMC's contract management process (Garret & Rendon, 2005).

## E. Background Information for Ethics Questionnaire

The ethics questionnaire being used to assess NAVFAC is a modification of the internal context portion of Kaptein's organizational ethics survey employed to evaluate United States corporations (Avelino & Kaptein, 2005). It uses a Likert scale, and questions were tailored to change the corporate language to terms relating more directly to the DoD (i.e., the phrase "CEO and other corporate executives" was changed to "chain of command"). Several additional questions were added to the Kaptein questionnaire to reflect ethical dilemmas unique to government contracting (i.e., end of FY deadline spending pressures).

The reason for using the ethics questionnaire is to examine factors within NAVFAC which may reveal areas of organizational ethics that could be improved. The ethics questionnaire is clustered into three broad categories; a general overview of internal context (questions 7.1 – 7.11), organization ethical process controls (7.12 – 7.13), and propensity to rule bend (7.14 – 7.17). A copy of the ethics questionnaire is included in Appendix B. Responses are grouped by category to provide a general overview and analyzed on an individual question basis to determine if there are any ethical "red flags" that should be highlighted for further review and improvement.

In 2000, Kaptein's organizational ethics survey was used to assess the extent of unethical conduct and the condition of ethical culture within corporate America. The results from Kaptein's survey reveal that unethical conduct is a significant issue throughout American corporate society. The survey was distributed to 3,075 pre-qualified members of the U.S. workforce with a response rate of 78 percent - 2,390 completed questionnaires. The most alarming result of the survey commissioned was that 76 percent of respondents reported that they were knowledgeable of a colleague or manager, who within the past year, either broke the law or violated company standards.

The questionnaire results can be clustered into specific areas to include leadership, communication, and disciplinary decision making. With regards to leadership, the study found 27 percent of respondents do not feel that their organization's leadership is dedicated to executing their standards of conduct. Also, 40 percent of the respondents do not perceive their senior leadership as positive role models. Communication factors revealed 54 percent of employees do not feel comfortable pursuing senior leadership mentoring regarding ethical standard issues and 57 percent of employees feel that the leadership does not know what kind of behavior is being exhibited in the organization. With regard to disciplinary decision making, the study found 60 percent of the respondents feel that discipline is administered unfairly and 61 percent of employees lacked confidence in their corporation's ability to be consistent and fair with regard to discipline for ethical violations (Avelino & Kaptein, 2005).

Kaptein's model is relevant to government organizations. Although there are differences between corporate and government organizations there are enough similarities for the results of Kaptein's survey to warrant concern regarding ethics in both American corporate and government organizations. Government and the private sector draw their employees from the same population pool and experience similar budgetary deadline and other pressures that could lead to rule bending or other ethical violations. Since government and the private sector draw from the

same population pool and experience similar pressures, the assumption can be made that ethical problems common to corporate America could also be reflected within the government. Due to these similarities, an adapted version of specific areas of Kaptein's questionnaire should be a valid tool to assess NAVFAC's contract management ethical context.

## F. Summary

This chapter discussed the importance of contract management processes and ethical behavior. It provided background information on the CMMM, CMMAT, and ethical assessment tools. Chapter III will discuss the NAVFAC Mid-Atlantic study.

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# III. NAVFAC Mid-Atlantic

## A. Why NAVFAC Mid-Atlantic?

NAVFAC Mid-Atlantic is a major component of NAVFAC's global organization. It has a professional workforce comprised of 143 military and over 3,300 civilian personnel. NAVFAC Mid-Atlantic provides facilities engineering and acquisition services to include base development, capital improvements, contingency engineering, environmental, public works, and real estate through its business lines and integrated product teams. Additionally, NAVFAC Mid-Atlantic operates with an annual Navy Working Capital Fund business volume of approximately "$560 million and executes over $1.5 billion a year in construction, professional engineering and facilities services (NAVFAC Mid-Atlantic, 2006)."

NAVFAC Mid-Atlantic encompasses Public Works Department (PWD) Naval Air Station Oceana, Virginia, Naval Amphibious Base Little Creek, Virginia, Naval Shipyard Portsmouth, Virginia, Naval Weapons Station Yorktown, Virginia, Naval Station Norfolk, Virginia, Naval Support Activity Norfolk, Virginia, as well as PWDs in Pennsylvania, New Jersey, Maine, Rhode Island, and Connecticut. Each PWD has a Facilities Engineering and Acquisition Division (FEAD) within its organization. NAVFAC Mid-Atlantic operates individual Resident Officers in Charge of Construction (ROICC) offices in North Carolina at Marine Corps Base Camp Lejeune and Marine Corps Air Station, Cherry Point. (NAVFAC Mid-Atlantic, 2006) ROICCs and FEADs handle NAVFAC Mid-Atlantic field level contracting services.

NAVFAC Mid-Atlantic executes "over $1.5 billion a year in construction, professional engineering, and services" contracts (NAVFAC Mid-Atlantic, 2006). Typical contracts managed by NAVFAC Mid-Atlantic are fixed price contracts (i.e., Firm Fixed Price (FFP) and Firm Fixed Price Award Fee (FFPAF)), cost reimbursable contracts (i.e., Cost Plus Award Fee (CPAF), indefinite delivery contracts (i.e., indefinite delivery requirements based, indefinite delivery indefinite

quantity and indefinite delivery definite quantity), and other specific contracts (i.e., time and materials, and labor hour) (CECOS, 2002). Examples of current NAVFAC Mid-Atlantic contracts include $7 million Ammunition Supply Point Upgrade at the Marine Corps Base, Camp Lejeune, N.C., and a $7 million contract to design and construct a new transducer test/calibration facility at the Portsmouth Naval Shipyard, N.H. (NAVFAC Mid-Atlantic, 2006).

NAVFAC Mid-Atlantic provides an excellent opportunity to conduct a contract management maturity level and ethical context assessment. It has a significant amount of contracted programs in engineering, military construction and facility support services.

## B. Questionnaire Participant Selection

The Garret and Rendon method of participation selection is utilized; that is, selecting a "small, purposive sample (Garret & Rendon, 2005)." The study sample size is 16 participants. The "small, purposive sample" supports the study's focus of assessing the process capabilities and competencies of NAVFAC Mid-Atlantic through a cross-sectional questionnaire covering contracting processes and selected ethical context. The study is not a statistical analysis making the actual number of questionnaire participants insignificant (Garret & Rendon, 2005).

The questionnaire is administered to a select pool of military and civilian contract management professionals within the NAVFAC Mid-Atlantic workforce who have obtained at least Level II Contracting certification under the Defense Acquisition Workforce Improvement Act. Additionally, 88% of the questionnaire participants are warranted contracting officers. The Level II Contracting certification provides evidence that each participant has met education/training, experience requirements set forth by DoD and NAVFAC (DoD 5000.52M Ch.1, 1995 & NAVFAC, 2002). The significance of warranted contracting officers is their designation as employees of the U.S. Government with the authority to legally obligate the U.S. Government through signing contractual agreements (Nash,

Schooner, & O'Brien, 1998). The nature of each participant's position requires them to maintain proficiency and competency in contract management to include acceptable best practices and maintain knowledge of NAVFAC's contract management processes. The questionnaire participants, 16 in total of which 14 are warranted contracting officers, have an average contracting experience of 22.4 years and an average of 19.4 years of NAVFAC experience. This high level of experience makes each participant an ideal questionnaire candidate.

The participants are from PWD (FEAD) Naval Air Station Oceana, Naval Amphibious Base Little Creek, Naval Shipyard Portsmouth, Virginia, and Naval Station Norfolk. These offices are closest to NAVFAC Mid-Atlantic's command offices and collectively manage the full array of NAVFAC Mid-Atlantic's contract offerings and processes. Although, the questionnaires are administered to separate offices the results are delivered in the aggregate to provide anonymity for participants and to assess the overall NAVFAC Mid-Atlantic organization rather than separate operating units. Assessing at the organizational level provides NAVFAC Mid-Atlantic a measurement of how their organizational processes are being integrated across the command. The analysis of NAVFAC Mid-Atlantic's contract management process capability and ethical culture is discussed in Chapter IV.

## C. Summary

This chapter provided an overview of NAVFAC Mid-Atlantic, and why NAVFAC Mid-Atlantic was chosen to be studied. It discussed the selection of questionnaire participants, and the size of the participant pool and the participants' demographics. Finally, this chapter discussed how the questionnaire was administered.

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# IV. Findings, Results, and Recommendations

## A. Contract Management Maturity Assessment Tool Results

This section focuses on the contract management maturity level assessment results. The Contract Management Maturity Model is separated into six contract management processes; Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout. (Garret & Rendon, 2005) Figure 4-1 provides a listing of each process, NAVFAC Mid-Atlantic's maturity score, and corresponding level of process capability maturity.

| CONTRACT MANAGEMENT MATURITY MODEL | | | | | | |
|---|---|---|---|---|---|---|
| MATURITY LEVELS | CONTRACT MANAGEMENT PROCESS AREAS | | | | | |
| | Procurement Planning | Solicitation Planning | Solicitation | Source Selection | Contract Admin | Contract Closeout |
| 5 OPTIMIZED | | | | | | |
| 4 INTEGRATED | | | | | | |
| 3 STRUCTURED | NAVFAC 34 | NAVFAC 35 | NAVFAC 33 | NAVFAC 39 | NAVFAC 37 | NAVFAC 33 |
| 2 BASIC | | | | | | |
| 1 ADHOC | | | | | | |

**Figure 4-1. NAVFAC Mid-Atlantic Contract Management Maturity Assessment Tool Results. (From: Garret & Rendon, 2005)**

As shown in Figure 4-1 all of NAVFAC Mid-Atlantic questionnaire scores correspond to a "Structured" maturity level for each contract management key process area. The following paragraphs provide further explanation of NAVFAC's

results and steps NAVFAC should consider to improve their contract maturity level. Additionally, a general improvement roadmap is provided at the end of this chapter to facilitate identification and correction of differences in perception between NAVFAC's vision of industry best practices and the "Structured" maturity level of current field operations indicated by the CMMAT results.

NAVFAC Mid-Atlantic's questionnaire assessment results indicate all key contract management process area capabilities are rated at the "Structured" level. A "Structured" rating indicates that explicit, written "contract management processes and standards are fully established, institutionalized, and mandated" throughout NAVFAC Mid-Atlantic (Garret & Rendon, 2005). Also, NAVFAC Mid-Atlantic permits the tailoring of processes and documents, allowing consideration for the unique aspects of each contract (Garret & Rendon, 2005)". Additionally, NAVAFAC Mid-Atlantic leadership "is involved in providing guidance, direction, and even approval of key contracting strategy (Garret & Rendon, 2005)." A full definition of the "Structured" maturity level is contained in Table 2-2.

NAVFAC should aspire to the next maturity level of "Integrated" and once achieved work towards the highest maturity level of "Optimized" in order to maintain and build upon their competitive advantage against potential rivals. If NAVFAC fails to improve, they could potentially lose Client base to potential U.S. Navy competitors such as NAVSUP or U.S. Air Force/U.S. Army contracting organizations which under a joint vision of the future could replace NAVFAC's unique combined contracting and engineering services model.

To reach an "Integrated" maturity level, NAVFAC should consider implementing best practices as described by the Garrett and Rendon model. These practices consist of including the customer as an integral member of the procurement team; integrating contract management processes with other organizational core processes such as cost control, schedule maintenance, performance management and systems engineering. Additionally, NAVFAC should use efficiency and effectiveness metrics to make procurement-related decisions; and

management must strive to understand its role in the procurement management process (Garret & Rendon, 2005). An “Integrated” maturity capability level translates to a synergized NAVFAC workforce with all process areas - contract management and non-contract management - working in unison to obtain organizational results.

Once NAVFAC obtains an “Integrated” level of maturity, the organization should seek to implement further best practices as described by the Garrett and Rendon model to achieve an “Optimized” maturity level. NAVFAC should consider implementing continuous contract process improvement efforts. Improving the contract management process can be accomplished through compiling contract management lessons learned and best practices and, implementing streamlined contract management process initiatives in their process improvement program (Garret & Rendon, 2005). An “Optimized” maturity capability level will show that NAVFAC efficiently and effectively serves their Clients and possesses a superior dedication to maintaining their competitive advantage.

NAVFAC Mid-Atlantic reports implementation of industry best practices; however, questionnaire results show that processes and tools are not fully implemented and utilized throughout the workforce (Griffin, 2006). A general improvement roadmap is provided at the end of this chapter which NAVFAC could use as a means to identify and correct apparent discrepancies between the NAVFAC’s corporate level vision of industry best practices and the CMMAT results which indicate that the organization is rated at a “Structured” maturity level in the field offices.

## B. Ethical Context

The ethical conduct questionnaire is broken down into three general clusters of interest; an overview of internal context (questions 7.1 – 7.11), organization ethical process controls (7.12 – 7.13), and propensity to rule bend (7.14 – 7.17). While the majority of respondents feel that the Chain of Command (COC) is fully committed to upholding organizational standards of conduct and will respond

appropriately if they become aware of improper conduct, results (Appendix C) indicate that there are specific areas within each of the three clusters that NAVFAC management might consider for further investigation and potential dialog with the workforce.

Internal context responses suggest that employees feel the COC is devoted to maintaining organizational standards of conduct and will respond to improper conduct if they are aware of it. However, it appears that there is an alarming general unease and lack of trust within the workforce when it comes to dealing with the COC and a sense that management is not fully aware of behavior within the workforce. Only 25% of respondents fully agreed that the COC knows what type of behavior goes on in the organization while 25% completely disagreed with this statement. Some of the other internal context responses may indicate why the COC is not aware of workforce behavior. For instance, only 31% of employees fully agreed with the statement that, members of the COC are approachable if employees have questions or need to deliver bad news and only 25% fully agreed that they would be comfortable seeking advice from the COC if they had a question/concern about standards. Only 44% of respondents fully agreed members of the COC are positive role models and 37% of the COC did not fully agree the COC is dedicated to upholding the organizational standards of conduct. Additionally, only 25% of employees surveyed indicate they feel discipline for violations would be delivered consistently and fairly by management while 25% completely disagreed.

With regard to organization ethics process controls, the majority of participants feel that NAVFAC has established processes to address ethics in contracting issues; however, only 38% fully agreed that those procedures were "standardized throughout the organization and understood by employees."

The propensity to bend rules section of the ethical conduct questionnaire does not ask if employees have broken organization rules but instead attempts to identify sources of pressure which could result in rule bending by employees. Overall NAVFAC employees appear to be subject to a variety of pressures which could lead

to rule bending. Only 31% of respondents fully agreed with the statement that "the COC sets reasonable performance goals." An alarming 0% fully agreed with "deadlines (i.e., end of Fiscal Year) are appropriately planned for and do not create pressure in the contracting process to cut corners or bend rules." Only 25% fully agreed that "senior leadership creates a professional environment without pressure to cut corners or bend the rules for specific projects in the contracting process." Additionally, a small but still concerning percentage of employees reported that long-term relationships with contractors create a bias to bend rules on enforcement of regulations in the post-award phase.

NAVFAC should consider the following measures to improve apparent organizational ethical context issues found by the study. Sekerka and Zolin's research suggest the following methods. Management should develop each employee's individual competency of self-regulation. The organization should implement participatory organizational programs that elevate the use of moral action. Employees' needs should be addressed "through focused moral development – education and dialogue at all levels." "Primary decision-makers must support the ethics programs and processes utilized – overseeing implementation and ensuring individual and organizational development at all levels." An ethics advisor should be appointed "to raise ethical issues within different organizational functional areas." Additionally, management should "re-examine procedural guidelines and processes so that they are altered to allow for and to encourage moral risk-taking (Sekerka & Zolin, 2005: 20-24)." If NAVFAC implements these measures they could lead to an improvement in the organization's ethical context.

NAVFAC prides itself on being a highly ethical organization; however, the results from this study show that there could be some reason for concern regarding ethical behavior within the workforce (NAVFAC, 2005). A general improvement roadmap is provided at the end of this chapter which NAVFAC could use as a means to identify and correct apparent discrepancies between the stated NAVFAC goal of high ethical standards and ethical context questionnaire results which

indicate that the organization has potential ethical issues to consider at the field offices.

Given the findings, it is recommended that NAVFAC further investigate adverse questionnaire responses by implementing the improvement roadmap as specified below.

## C. Improvement Roadmap

It is recommended that NAVFAC form a continuous improvement working group consisting of a mix of management and workforce personnel with contracting experience. The purpose of the working group should be to assist NAVFAC with further analysis of the results of this study, specifically identification and solution of problems which may have lead to the apparent difference of perceptions between NAVFAC senior management and the results of this study with regard to organizational contract management maturity level and ethical behavior.

NAVFAC could consider adopting a modification of the seven step process improvement cycle advanced by Robert Wysocki in his book, ***Project Management Process Improvement.*** The Wysocki improvement model is specifically tailored to project management process improvement and has been in use for a number of years (Wysocki, 2004). The Wysocki model could serve as a means to facilitate employee buy-in and ownership with regard to contract management maturity improvements and ethical behavior within the workforce as recommended by Sekerka and Zolin (2006). Figure 4-2 illustrates the Wysocki improvement model and the following paragraphs provide a detailed explanation of how each of the improvement steps could be applied to NAVFAC.

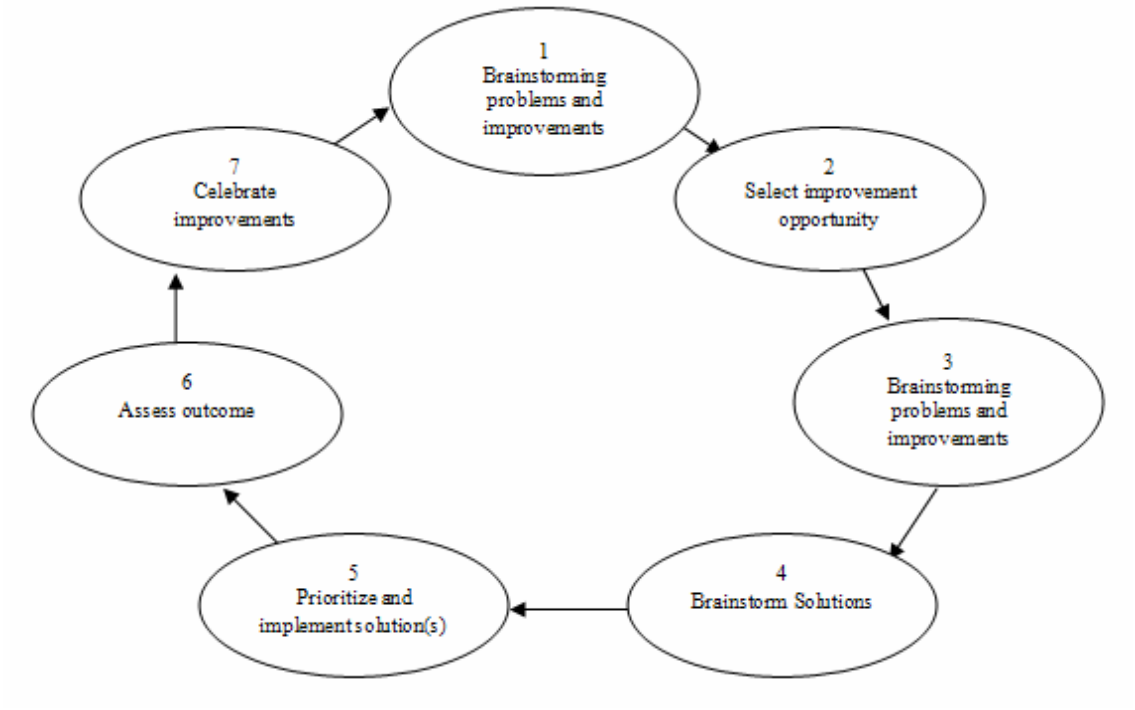


**Figure 4-2. Problem Solving Model for Continuous Improvement Programs (From: Wysocki, 2004).**

**Step 1: Brainstorming Problems and Improvements**

The working group analyzes study results and, in an open format, brainstorms ideas on what specific problems might have contributed to lower than expected contract management process maturity scores and undesirable ethical context questionnaire results. The group also brainstorms ideas for improvement opportunities and initiatives (Wysocki, 2004).

**Step 2: Select Improvement Opportunity**

The group develops a consensus opinion as to which problems are the most significant and selects improvement opportunities that address the identified significant problems (Wysocki, 2004).

**Step 3: Analyze Causes**

The group generates lists of probable causes for each of the identified problems from Step 2 through additional brainstorming sessions, discussions, or the

use of analysis tools such as fishbone diagrams, force field analysis, process charts, etc. (Wysocki, 2004).

**Step 4: Brainstorm Solutions**

The group develops possible solutions for the problems listed in Step 3 through brainstorming and/or discussion (Wysocki, 2004)

**Step 5: Prioritize and Implement Solutions**

The working group ranks solutions and presents their recommendations to NAVFAC senior management. NAVFAC senior management reviews the working group's input, selects solutions, and implements selected solutions throughout the organization.

**Step 6: Assess Outcome**

At a periodic time interval (quarterly, semi-annually, or annually), NAVFAC conducts another study to determine if the implemented solutions achieved desired goals. Results of the new study are provided to the working group which starts again at Step 1.

**Step 7: Celebrate Improvements**

NAVFAC should take the opportunity to recognize accomplishments within the organization in order to foster a positive atmosphere which is receptive to change initiatives. Continuous improvement necessitates constant change which is a concept that is difficult for employees to accept if they do not see the rewards of their pain/effort (Wysocki, 2004).

## D. Summary

This chapter discussed results from the CMMAT and ethical context questionnaire, suggested possible solutions for implementation, and provided an improvement roadmap to facilitate further analysis of study results.

# V. Summary, Conclusion, Further Action/Research

## A. Summary

In recent years, NAVFAC has aggressively transformed its organization in order to minimize redundancy and eliminate waste. NAVFAC's drive to continuously improve coupled with recent changes to the organization structure create a genuine need to evaluate process capabilities and competencies.

This study assesses NAVFAC's contracting processes from maturity and ethical context perspectives through application of the CMMM, CMMAT, and an ethics questionnaire to select members of NAVFAC Mid-Atlantic's contracting workforce. The study provides a detailed conceptual framework for assessing contracting capabilities and establishes NAVFAC's post-transformation baseline with regard to contract management maturity while identifying factors that may suggest areas of organizational ethics needing additional attention. This study addressed the following research questions:

1. How can a contract management process maturity and ethics assessment assist NAVFAC Mid-Atlantic's contract management continuous improvement program?

2. How mature are NAVFAC Mid-Atlantic's post-transformation contract management processes and organizational ethical context?

3. How can the results of the assessment identify areas for improvement within NAVFAC Mid-Atlantic?

The assessment sets a baseline for NAVFAC with regard to contract management maturity and ethical context within the organization. It also identifies areas for further improvement. Study results reveal that NAVFAC's contract maturity level is "Structured," and suggests that with regards to ethical context the perception exists within the workforce that there is room for improvement in the areas of communication and leadership. A specific area of interest within leadership that is

highlighted within the ethical context response is fair and consistent application of disciplinary decision making.

To improve from a contract management maturity level of “Structured” to a contract management maturity level of “Integrated,” “management must understand its role in the procurement management process and execute the process well (Garret & Rendon, 2005).” To improve from a contract management maturity level of “Integrated” to a contract management maturity level of “Optimized,” “management must insure continuous process improvement efforts are implemented to improve the contract management process, and lessons learned and best practice programs are implemented to improve the contract management processes, standards, and documentation (Garret & Rendon, 2005).” These improvements cannot be accomplished without effective leadership and communication. Therefore, it is predicted that improving an organization’s ethical context, specifically communication and leadership, will provide the foundation and basis for the improvement in its contract management maturity level. This is stated as:

**Proposition 1:**

Improving ethical context in the specific areas of leadership and communication facilitates an organization’s ability to progress from the “Structured” maturity level to the “Integrated” and “Optimized” maturity levels within the Contract Management Maturity Model.

With regard to leadership, questionnaire results show 37 percent of the respondents did not fully agree that the COC is dedicated to upholding the organizational standards of conduct, that only 44 percent of respondents fully agree that members of the COC are positive role models, and only 25 percent of respondents fully agreed that discipline would be administered consistently and fairly by management. These results lead to the assumption that leadership can be improved by senior management who model ethical behavior and are consistent in their judgment and administration of discipline. Therefore, it is predicted that an

organization whose senior management uphold organizational standards of conduct, are positive role models, and administer discipline consistently and fairly will have a greater leadership capability. This is stated as:

**Proposition 2:**

Improving the specific leadership factors of senior management being fully dedicated to upholding the organizational standards of conduct, acting as positive role models, and fairly and consistently administering discipline will increase organizational leadership capability helping to facilitate an achievement of higher organizational contract management maturity levels.

Given that responses show 75 percent of the respondents did not fully agree that  senior management knows what type of behavior goes on in the organization and that 75 percent of the respondents did not fully agree that they would be comfortable seeking advice from senior management with regards to questions/concerns about standards leads to the assumption that communication could be improved if senior management was more informed with regards to behavior within the organization and employees felt more comfortable seeking advice from senior management. Therefore, it is predicted that an organization in which senior management is more informed and more approachable will have a better communication capability. This is stated as:

**Proposition 3:**

Improving the specific communication factors of senior management approachability and knowledge of actions within the workforce will increase organizational communication capability helping to facilitate an achievement of higher organizational contract management maturity levels.

## B. Conclusion

Results show that NAVFAC's maturity level is categorized as "Structured" in all phases of the CMMM. Responses to the ethics questionnaire identify areas of concern to be targeted for further study. Recommendations for additional analysis and general improvement techniques are provided.

## C. Further Action/Research

NAVFAC, like any successful enterprise, has the objective of continually improving its business processes to ensure Client satisfaction and reduce costs. This study recommends that the following additional research actions be taken by NAVFAC and/or other researchers:

1. Adopt Wysocki's continuous improvement model in conjunction with CMMM and associated CMMAT and ethical context assessment tools provided in this study throughout NAVFAC's global organization.
2. Use CMMAT and ethical context results to initiate dialog between NAVFAC regions with the goal of sharing best practices across the entire organization.
3. Conduct a cost benefit analysis to determine the extent to which implementation of CMMM, CMMAT, and the contract management improvement process results in cost savings to the government.
4. Fund additional research through NPS or another entity to further develop the ethical assessment tool used for this study.

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# Appendix A. CMMAT Buyer's Perspective[1]

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 1.0 Procurement Planning | | | | | | |
| 1.1 The organization has an established process for planning acquisitions and effectively determining the scope of work or description of the product to be procured. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.2 The acquisition planning process is standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.3 The acquisition planning process is well documented, and some portions may be automated. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.4 The result of the acquisition planning process is a documented acquisition management plan that effectively provides a roadmap for the upcoming procurement. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.5 Senior organizational management, both functional and program, are involved in providing input and approval of key procurement decisions and documents. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.6 The team responsible for the acquisition planning process includes representatives from other functional areas of the program, as well as the end-user. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.7 The acquisition planning process is fully integrated with other organizational processes, such as cost management, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.8 The acquisition planning process includes an integrated assessment of contract type selection, risk management, and contract terms and conditions. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.9 The organization uses efficiency and effectiveness metrics in systematic evaluations of the procurement planning process. | 1 | 2 | 3 | 4 | 5 | DK |
| 1.10 The organization adopts lessons learned and best practices as methods for continuously improving the acquisition planning process. | 1 | 2 | 3 | 4 | 5 | DK |

[1] Contract Management: Organizational Assessment Tools, Garrett, Gregory A. and Rendon, Rene

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 2.0 Solicitation Planning | | | | | | |
| 2.1 The organization has an established process for developing solicitations and effectively documenting the requirements of the procurement. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.2 The process described in Question 2.1 is documented and standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.3 The solicitation planning process uses standard procurement documents, such as formal requests for proposal, model contracts, and pre-approved terms and conditions, and some portions may be automated or paperless. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.4 The result of the solicitation planning process is a solicitation document structured to facilitate accurate and complete responses from prospective offerors. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.5 Senior organizational management, both functional and program, are involved in providing input and approval of key solicitation decisions and documents. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.6 The team responsible for preparing the various solicitation documents include representatives from other functional areas of the program, as well as the end user. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.7 The solicitation planning process is fully integrated with other organizational processes, such as cost management, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.8 The resulting solicitations are rigorous enough to ensure consistent, comparable responses but flexible enough to allow consideration of offeror suggestions for better ways to satisfy the requirement. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.9 The solicitation documents include appropriate evaluation criteria consistent with the acquisition strategy of the project. | 1 | 2 | 3 | 4 | 5 | DK |
| 2.10 The organization uses efficiency and effectiveness metrics in systematic evaluations and adopts lessons learned and best practices for continuously improving the solicitation planning process. | 1 | 2 | 3 | 4 | 5 | DK |

G., NCMA 2005, pp. 63-68.

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 3.0 Solicitation | | | | | | |
| 3.1 The organization has an established process for issuing solicitations and requesting bids or proposals from prospective offerors. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.2 The solicitation process is standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.3 The solicitation process is well documented, and some portions may be automated. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.4 The results of the solicitation process are accurate and complete bids or proposals from prospective offerors who have a clear common understanding of the technical and contractual requirements of the procurement. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.5 The solicitation process includes using an established qualified bidders list, conducting market research, advertising, and holding bidders' conferences. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.6 The team responsible for issuing solicitations as well as the activities in 3.5 includes representatives from other functional areas of the program, as well as the end-user. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.7 The solicitation process, including the activities listed in 3.5, is fully integrated with other organizational processes such as cost management, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.8 The solicitation process includes soliciting inputs from industry to be used in developing solicitations for certain types of procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.9 The organization uses efficiency and effectiveness metrics in systematic evaluations of the solicitation process. | 1 | 2 | 3 | 4 | 5 | DK |
| 3.10 The organization adopts lessons learned and best practices as methods for continuously improving the solicitation process. | 1 | 2 | 3 | 4 | 5 | DK |

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 4.0 Source Selection | | | | | | |
| 4.1 The organization has an established process for evaluating proposals and awarding contracts. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.2 The proposal evaluation and contract award process is standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.3 The proposal evaluation and contract award processes are well documented, and some portions may be automated. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.4 The organization uses evaluation criteria, evaluation standards, and a weighting system to evaluate proposals. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.5 The organization uses the appropriate selection criteria, such as lowest cost/technically acceptable or best value, to meet the objectives of the acquisition strategy. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.6 During the evaluation process, the organization compares cost proposals with independent, internal cost estimates. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.7 During the proposal evaluation process, the organization considers the offerors' past performance, as well as technical, managerial, and financial capability. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.8 The organization uses an integrated team approach, including representatives from other functional areas as well as the end-user, for evaluating proposals. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.9 The proposal evaluation and contract award process is fully integrated with other organizational processes such as cost, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 4.10 The organization uses efficiency and effectiveness metrics in systematic evaluations and adopts lessons learned and best practices for continuously improving the source selection process. | 1 | 2 | 3 | 4 | 5 | DK |

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 5.0 Contract Administration | | | | | | |
| 5.1 The organization has an established process for assigning contracts to individuals or teams for managing the post-award contract activities. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.2 The contract administration process is standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.3 The contract administration process is well documented, and some portions may be automated. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.4 The organization conducts pre-performance conferences with new contractors to discuss such issues as communication, contract change control, and performance monitoring procedures. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.5 The organization has an established process for managing contract changes, contractor invoices and payments, and contract incentive and award fees. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.6 The organization maintains a conformed copy of the contract, electronically or hard copy, reflecting all changes to contract requirements. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.7 The organization uses a team approach, with representatives from other functional areas as well as the end-user, for managing the post-award contract activities. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.8 The organization uses a team approach for conducting periodic integrated cost, schedule, and performance evaluations. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.9 The contract administration process is fully integrated with other organizational processes such as cost, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 5.10 The organization uses efficiency and effectiveness metrics in systematic evaluations and adopts lessons learned and best practices for continuously improving the contract administration process. | 1 | 2 | 3 | 4 | 5 | DK |

| | Never | Seldom | Sometimes | Usually | Always | Don't Know |
|---|---|---|---|---|---|---|
| 6.0 Contract Closeout | | | | | | |
| 6.1 The organization has an established process for closing out contracts, ensuring completion of work, complete documentation, and resolution of financial and contract performance issues. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.2 The contract closeout process is standardized throughout the organization and mandatory for all procurements. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.3 The contract closeout process is well documented, involving checklists, templates, and standard forms, and some portions may be automated. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.4 The contract closeout process requires verifying final delivery and payment, as well as obtaining the seller's release of claims. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.5 The organization has an established process for resolving contract claims and disputes promptly and dispassionately. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.6 The organization uses a team approach, with representatives from other functional areas as well as the end-user, for managing the contract closeout activities. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.7 The contract closeout process is fully integrated with other organizational processes, such as cost, engineering, and program management. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.8 The organization uses efficiency and effectiveness metrics in systematic evaluations of the contract closeout process. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.9 The organization adopts lessons learned and best practices as methods for continuously improving the contract closeout process. | 1 | 2 | 3 | 4 | 5 | DK |
| 6.10 The organization maintains a lessons-learned and best-practices database for use in planning future procurements and contracts. | 1 | 2 | 3 | 4 | 5 | DK |

# Appendix B. Ethics Questionnaire[2]

| | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree |
|---|---|---|---|---|---|
| 7.0 Ethical Conduct | | | | | |
| 7.1 Organization provides information to help employees to understand overall principles and values. | 1 | 2 | 3 | 4 | 5 |
| 7.2 Employees feel comfortable reporting an observed violation to their supervisor. | 1 | 2 | 3 | 4 | 5 |
| 7.3 The Chain of Command (COC) is fully committed to upholding the organizational standards of conduct. | 1 | 2 | 3 | 4 | 5 |
| 7.4 The COC would respond appropriately if they become aware of improper conduct. | 1 | 2 | 3 | 4 | 5 |
| 7.5 Employees will bring observed violations to the attention of their supervisor. | 1 | 2 | 3 | 4 | 5 |
| 7.6 The members of the COC are positive role models. | 1 | 2 | 3 | 4 | 5 |
| 7.7 The COC sets reasonable performance goals. | 1 | 2 | 3 | 4 | 5 |
| 7.8 Employees feel comfortable seeking advice from the COC if they had a question/concern | 1 | 2 | 3 | 4 | 5 |

[2] 7.1 through 7.11 adapted from Measuring corporate integrity: a survey-based approach, Muel Kaptein; Scott Avelino, Corporate Governance; 2005.

| | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree |
|---|---|---|---|---|---|
| about standards. | | | | | |
| 7.9 The COC knows what type of behavior goes on in the organization. | 1 | 2 | 3 | 4 | 5 |
| 7.10 Offenders will be disciplined consistently and fairly by management. | 1 | 2 | 3 | 4 | 5 |
| 7.11 Employees believe the members of the COC are approachable if employees have questions or need to deliver bad news. | 1 | 2 | 3 | 4 | 5 |
| 7.12 The organization has established processes for employees and managers to address ethics in contracting issues if they occur in the pre-award, bidding, or post-award phase. | 1 | 2 | 3 | 4 | 5 |
| 7.13 Procedures to address ethics violations are standardized throughout the organization and understood by employees. | 1 | 2 | 3 | 4 | 5 |
| 7.14 Senior leadership creates a professional environment without pressure to cut corners or bend the rules for specific projects in the contracting process. | 1 | 2 | 3 | 4 | 5 |

| | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree |
|---|---|---|---|---|---|
| 7.15 Deadlines (i.e., end of Fiscal Year) are appropriately planned for and do not create pressure in the contracting process to cut corners or bend rules. | 1 | 2 | 3 | 4 | 5 |
| 7.16 Long-term working relationships between the contracting office personnel and specific contractors are professional and do not create a bias to bend rules on enforcement of regulations in the post-award phase. | 1 | 2 | 3 | 4 | 5 |
| 7.17 Long-term working relationships between the contracting office personnel and program/functional managers are professional and do not create a bias to bend rules on enforcement of regulations in the procurement process. | 1 | 2 | 3 | 4 | 5 |

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# Appendix C. Ethics Questionnaire Results

| | Percent of Responses | | | | |
|---|---|---|---|---|---|
| | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree |
| 7.0 Ethical Conduct | | | | | |
| 7.1 Organization provides information to help employees to understand overall principles and values. | 6% | 13% | 6% | 19% | 56% |
| 7.2 Employees feel comfortable reporting an observed violation to their supervisor. | 0% | 0% | 13% | 44% | 44% |
| 7.3 The Chain of Command (COC) is fully committed to upholding the organizational standards of conduct. | 0% | 0% | 6% | 31% | 63% |
| 7.4 The COC would respond appropriately if they become aware of improper conduct. | 0% | 6% | 0% | 31% | 63% |
| 7.5 Employees will bring observed violations to the attention of their supervisor. | 0% | 0% | 13% | 50% | 38% |
| 7.6 The members of the COC are positive role models. | 6% | 6% | 19% | 25% | 44% |
| 7.7 The COC sets reasonable performance goals. | 13% | 6% | 19% | 31% | 31% |
| 7.8 Employees feel comfortable seeking advice from the COC if they had a question/concern about standards. | 6% | 0% | 19% | 50% | 25% |
| 7.9 The COC knows what type of behavior goes on in the organization. | 25% | 6% | 19% | 25% | 25% |
| 7.10 Offenders will be disciplined consistently and fairly by management. | 25% | 6% | 13% | 31% | 25% |

| | Percent of Responses | | | | |
|---|---|---|---|---|---|
| | Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Agree |
| 7.0 Ethical Conduct | | | | | |
| 7.11 Employees believe the members of the COC are approachable if employees have questions or need to deliver bad news. | 6% | 0% | 19% | 44% | 31% |
| 7.12 The organization has established processes for employees and managers to address ethics in contracting issues if they occur in the pre-award, bidding, or post-award phase. | 6% | 0% | 6% | 31% | 56% |
| 7.13 Procedures to address ethics violations are standardized throughout the organization and understood by employees. | 0% | 6% | 6% | 50% | 38% |
| 7.14 Senior leadership creates a professional environment without pressure to cut corners or bend the rules for specific projects in the contracting process. | 6% | 13% | 13% | 44% | 25% |
| 7.15 Deadlines (i.e. end of Fiscal Year) are appropriately planned for and do not create pressure in the contracting process to cut corners or bend rules. | 44% | 25% | 6% | 25% | 0% |
| 7.16 Long-term working relationships between the contracting office personnel and specific contractors are professional and do not create a bias to bend rules on enforcement of regulations in the post-award phase. | 6% | 6% | 6% | 38% | 44% |
| 7.17 Long-term working relationships between the contracting office personnel and program/functional managers are professional and do not create a bias to bend rules on enforcement of regulations in the procurement process. | 6% | 0% | 6% | 56% | 31% |

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