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Analysis of the Contracting Processes and Ethical Culture at Ogden Air Logistics Center, Hill AFB UT

15 January 2008

by

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Abstract

This study assesses the process capabilities and competencies of Air Force Material Command's (AFMC) Ogden Air Logistics Center (OO-ALC), Contracting Directorate at Hill AFB, UT. This project is conducted with the sponsorship and assistance of the Acquisition Research Program. The assessment uses a cross-sectional questionnaire covering contracting processes and procedure. The assessment spans five units and delves into six different key contracting process areas. The purpose of this study is to analyze the OO-ALC's contracting processes and procedures to better establish a baseline for contract management maturity. This model, in conjunction with the Contract Management Maturity Assessment Tool (CMMAT), is used to gain information on potential areas of weakness and how to leverage those with strengths. Additionally, this study produces an analysis of the ethical culture currently present in the OO-ALC through the administration of an ethics questionnaire. In these times of significant transformation, it is critical to have mature contracting processes and procedures in place to ensure continuity and constant improvement throughout the organization as well as high ethical standards.

Keywords: Contracting Management Maturity Model

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List of Acronyms

ABW   Air Base Wing

AF   Air Force

AFMC   Air Force Material Command

ALC   Air Logistics Center

AT&L   Acquisition, Technology, and Logistics

CMMM   Contract Management Maturity Model

CMMAT   Contract Management Maturity Assessment Tool

DAWIA   Department of Defense Acquisition Workforce Improvement Act

DoD   Department of Defense

DSP   Defense Support Program

H1a   Hypothesis 1a

H1b   Hypothesis 1b

H2   Hypothesis 2

H3   Hypothesis 3

H4   Hypothesis 4

H5a   Hypothesis 5a

H5b   Hypothesis 5b

ICBM   Intercontinental Ballistic Missile

LA AFB   Los Angeles Air Force Base

OO-ALC   Ogden Air Logistics Center

PK   Contracting Directorate

PMMM   Project Management Maturity Model

SEI-CMMI   Software Engineering Institute's Capability Maturity Model Integration

SMSC   Space and Missile Systems Center

UT   Utah

UCI   Unit Compliance Inspection

WWII   World War II

Executive Summary

This research provides OO-ALC Hill AFB with a solid baseline that reveals the contracting management maturity levels of its six key contracting process areas and ethical culture. The research identifies areas of improvement and recommends specific training in order to improve in all six key process areas. This study assesses the contract management maturity levels and ethical culture of the five Wings at Hill AFB and provides the contracting leadership with opportunities for knowledge transfer and opportunities for improvement.

This study assesses the process capabilities and competencies of Air Force Material Command's (AFMC) Ogden Air Logistics Center (OO-ALC), Contracting Directorate at Hill AFB, UT. This project is conducted with the sponsorship and assistance of the Acquisition Research Program. The assessment uses a cross-sectional questionnaire to analyze the contracting processes and procedures, and an ethics/rule-bending questionnaire to probe the ethical culture at the OO-ALC. The CMMM assessment spans five units and delves into six different key contracting process areas.

The purpose of this study is to analyze the OO-ALC's contracting processes and procedures to better establish a baseline for contract management maturity. This model, in conjunction with the Contract Management Maturity Assessment Tool (CMMAT), is used to gain information on potential areas of weakness and how to leverage those with strengths. Additionally, this study produces an analysis of the ethical culture currently present in the OO-ALC through the administration of an ethics questionnaire. In these times of significant transformation, it is critical to have mature contracting processes and procedures in place, as well as high ethical standards to ensure continuity and constant improvement throughout the organization.

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I.   Introduction

A.   Chapter Introduction

This chapter presents an overview of the research and specifically outlines the purpose, background, problem identification, research questions, limitations, and the significance of this research.

B.   Purpose of Study

The Department of Defense (DoD) is outsourcing many functions today, more than ever before in its long history. Significant cutbacks of organic functions have taken place throughout the DoD in an attempt to cut costs; as a result of these actions, the DoD has become more reliant on contractors. Contracting organizations have become an integral part of the DoD arsenal and contracting processes, in particular, must be robust to maximize contracting unit effectiveness.

The purpose of this study is to assess the maturity of the contracting processes and procedures at the Ogden Air Logistics Center (OO-ALC), Hill Air Force Base (AFB), Utah (UT). This study will also establish a contracting processes baseline and set a proverbial "water mark" from which to gauge future assessments. The Contract Management Maturity Model (CMMM) will give the OO-ALC leadership and training managers a clear site path on what processes/areas are in need of training. The leadership will also become better informed about individual unit strengths/opportunities and can better orchestrate internal personnel movements in order to leverage best practices and encourage knowledge transfer. In addition, this study will also produce a clearer understanding of the current ethical culture in the OO-ALC through the administration and analysis of an ethical questionnaire that specifically probes the phenomenon of rule-bending (Sekerka & Zolin, 2007). The analysis of this questionnaire will allow the OO-ALC leadership to gain insight into the ethical culture present within the organization as a whole and provide a subsequent comparison of the wings that fall within the OO-ALC organization. As a

result of this project, a clear roadmap will form depicting the current organization's contract management process maturity level and what needs to be accomplished to enhance those processes as well as provide an ethical baseline from which the OO-ALC leadership can formulate plans for improvement.

C.   Background

Hill AFB is an Air Force Material Command (AFMC) base located in northern Utah. Hill is home to many operation and support missions, with the OO-ALC serving as the host organization and the 75th Air Base Wing (ABW) providing the support. The center provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II, and Minuteman III intercontinental ballistic missile. The 75th ABW provides base operating support for the OO-ALC, the 388th and 419th Fighter Wings, 84th Combat Sustainment Wing and 25 associate units (OO-ALC, 2007).

Ogden Air Logistics Center is the major organization at Hill AFB and aims to be America's best warfighter sustainment organization. It is one of three centers assigned to the AFMC, headquartered at Wright-Patterson AFB, Ohio. It is the largest employer in Utah, with more than 23,500 civilian, military, and contractors supporting an estimated 7.5 million production hours. The OO-ALC delivers superior support anytime, anywhere, while exceeding customer expectation for service, quality, timeliness, and value (OO-ALC, 2007).

D.   Problem Identification

With all the current transformation initiatives, more and more DoD civilians and military are eligible for retirement/separation. Along with their retirement/separation goes their corporate knowledge, which is a critical asset to the Air Force (AF). This corporate knowledge must be retained, and the only way to ensure retention is to have established organizational processes and procedures that will remain in place to provide guidance for the remaining junior and less experienced personnel. The CMMM will help determine if the OO-ALC is postured

for a considerable turnover in personnel. Additionally, recent scandals in the Federal and DoD communities have prompted leadership to stress the importance of moral courage in addressing ethical challenges in their daily actions. However, no studies exist on the OO-ALC that focus on the ethical culture of the organization. The ethics questionnaire (with an emphasis on rule-bending that will be conducted as a supplement to the CMMM and the associated CMMAT) will provide information and insight into the ethical culture of the OO-ALC.

E.   Research Questions

This study will assess both the maturity of the contracting processes and the ethical culture present at the OO-ALC. Information about the current contracting processes will be gathered by using the Contract Management Maturity Assessment Tool (CMMAT) and administering surveys consisting of 60 questions each. A maturity level will be assigned to each of the 6 critical contracting processes by using the CMMM. The following questions will be answered for the CMMM portion of this study:

1.   What level of maturity are the contracting processes at OO-ALC?

2.   How can the OO-ALC leadership leverage highly mature contract management processes within the various organizational units?

3.   What training is needed to improve the OO-ALC's contracting processes?

Information about the ethical culture is gathered by using an Ethics/Rule-bending questionnaire consisting of 24 questions. The following questions will be answered for the Ethics/Rule-bending portion of this study:

1.   Are there policies and standards in place within the organization regarding ethical conduct?

2.   What level of trust or confidence do employees place in their leadership to enforce and uphold those policies and standards in fair and consistent manner?

3.   What areas of the OO-ALC's ethical culture need to be improved?

In addition to answering these questions, the researchers also collected data to test five hypotheses. The hypotheses were prepared by Sekerka and Zolin, based upon their published work explicating the construct of rule-bending in journals such as *Public Integrity* (2007). The following hypotheses were examined and tested in this study:

H1a.   Employees who view rule-bending as less of a threat to their organization are more likely to engage in rule-bending behavior.

H1b.   Employees who view rule-bending as more of a threat to their organization are more likely to avoid rule-bending behavior.

H2.   Employees who view rule-bending as necessary to perform their job are less likely to view rule-bending as a threat to their organization.

H3.   Employees who consider personal motives in the decision-making process are less likely to view rule-bending as a threat to their organization.

H4.   Employees directed to rule-bend by superiors who abdicate responsibility are more likely to view rule-bending as a threat to their to their organization and use prudential judgment which is the "practical deliberation and consideration of others" when faced with a moral dilemma (Sekerka & Zolin, pp. 230).

H5a.   Employees who view rule-bending as a threat to their organization are more likely to use prudential judgment.

H5b.   Employees who use prudential judgment are more likely to recognize the threat to their organization posed by rule-bending.

F.   Limitations

The limitations of the study are centered on the candor and effort given to the surveys by the participants. The survey results are only as accurate as the responses. It was vital that the respondents have enough time to complete the survey. To help combat these limitations, the authors traveled to Hill AFB to get total "buy in" from the contract management leadership. The authors stressed the importance of accurate answers and the message was passed on to the survey respondents.

Another limitation of the study involves the roadmap ahead and implementing the recommendations. The information gathered from the research and recommendations developed based on the gathered information will help develop mature organizational processes for the OO-ALC, if they are implemented. This study can place a lot of information and well-supported directions at the hands of the OO-ALC leadership, but they must act on the information if the critical processes are to improve.

G.   Significance of Study

Contracting processes and ethical conduct are at the heart of contracting organizations. People come and go in every organization, but processes and a strong ethical culture have staying power and can help provide consistent results. Because the watchful eye of the public continues to scrutinize government spending at an increasing rate, it is becoming ever more important that business is conducted in an ethical manner. Furthermore, a significant amount of contracting professionals are becoming eligible for retirement and the OO-ALC leadership fears this could result in a huge loss of corporate knowledge. Retirements can adversely affect the OO-ALC's contracting corporate knowledge in two ways: employees can directly retire from the OO-ALC and employees can relocate to other bases to backfill positions vacated from employees retiring elsewhere.

The CMMM will offer the OO-ALC a true measure of contracting process capability. There is no established, AF-wide system in place to measure the capability of contracting processes. The traditional inspection practices used by the Air Force are the Unit Compliance Inspections (UCI) and self inspections. These inspections do not measure contracting process capability; they merely assess the finished products. The inspectors look for the proper paperwork/forms and ensure all appropriate signatures are present. The current system overlooks the contracting processes that are at the heart of the contracting organization and have a profound impact on the finished products.

This research will help the training manager at the OO-ALC by identifying specific areas/processes that need attention and the areas/processes that are already well-developed. The CMMM will vividly distinguish the strengths of each individual unit and identify opportunities for units to leverage that knowledge with those units that are not operating at the desired level. The ethics information will also benefit the OO-ALC by raising areas of concern that may not be visible, such as the perceptions some employees may have but are not vocalized. Moreover, by providing information about perceptions or behaviors that may need to be addressed to avoid the next major acquisition scandal.

H.   Overview of Research

This research is organized into five chapters. Chapter I sets the stage; it gives the purpose of the study, explains background, identifies the problem, spells out the research questions, and gives the limitations and significance of the study. Chapter II is a literature review. It provides background information on the CMMM and on the ethics and rule-bending. Chapter III provides insight to the mission of the Ogden Air Logistics Center and subordinate units. Chapter III also details the questionnaire participant selection. Chapter IV presents the findings, results, and the recommendations of the research. The results for both the CMMAT and the ethics and rule-bending questionnaire are discussed in chapter IV. Chapter V entails the summary, conclusion and further action/research.

I.   Summary

This chapter presented an overview for the entire study and outlined the purpose, background, problem identification, research questions, limitations, and the significance of this study. Chapter II will consist of a literature review of the assessment models in practice and research results from previous studies on ethics and, more specifically, rule-bending.

II.   Review of Literature

A.   Chapter Introduction

This chapter presents a literature review of varying assessment models currently in practice and why the Contract Management Maturity Model was chosen for this research. This chapter also details why this research focuses on process improvement rather than merely assessing end products. CMMM background information is provided in this chapter along with some previous uses of the CMMM. Chapter II also states why ethics and rule-bending were targeted in this research and provides background information for the questionnaire.

B.   Use of the Contract Management Maturity Model (CMMM) and Ethics Questionnaire

The purpose of this chapter is to provide a literature review of the assessment models in practice and research results from previous studies on ethics, and more specifically, rule-bending. This study utilizes the CMMM and CMMAT to assess the maturity of contracting processes at the OO-ALC. The model was chosen because it is the only model that measures the maturity of the underlying contracting processes. Other professional disciplines have maturity models in practice (engineering and project management), but the CMMM is the only model tailored to contract management processes (Garrett & Rendon, 2005). The model also has extensive AF application and continues to gain a foothold within the DoD and throughout industry. To assess the ethical culture of the OO-ALC an ethical questionnaire was used. This questionnaire was developed from two articles that focused on the use of questionnaire-based research to gather information about ethical cultures within organizations. Because there was no known tool or questionnaire that would fit the purpose of this research precisely, the researchers developed the ethics questionnaire from these two effective research tools.

C.   Process Improvement through Assessment

Why focus on process improvement and not end results? The AF has traditionally focused on measuring the compliance of contracting units through Unit Compliant Inspections. In a compliance inspection, completed contracting actions are reviewed, and inspectors issue a rating to the unit. Mature contracting processes increase the chances of consistently producing quality contracts. Mature contracting processes will allow the DoD to maintain contracting excellence in the face of many baby boomers nearing government service retirement.

Maintaining a high maturity level of the underlying contracting processes will be essential to the DoD's contracting success in both the near and long-term future. In fact, 20% of the 28,000 federal contracting employees are eligible for retirement (Weigelt, 2007). The aging acquisition workforce has led some experts such as Rachel Schwarz (who is a published author in such journals as *Defense AT&L* and *Crain's Cleveland Business*), to characterize the situation as a human capital crisis. According to her, over half of the federal workforce is between the ages of 49 and 69. By 2010, 70% of the acquisition, technology, and logistics (AT&L) workforce will be eligible for retirement (Schwarz, 2004). There is concern about a potentially devastating loss of experience, knowledge, and continuity (Schwarz, 2004). The problem is that when the experienced contracting workforce retires, the knowledge, skills and expertise will leave the contracting organization. Hence, the knowledge, skills, and expertise are in the people and not in the contracting processes. If contracting organizations devote some time and energy into the maturity of their contracting processes, then the damage caused by the mass retirements can be minimized.

A great example of successful process improvement lies within Japanese industry. The Japanese industry base benefited immensely from process improvement in the post-World War II (WWII) era. Following the end of WWII, Japan's industrial base was in ruins, with 40% of its urban development damaged by US bombing campaigns. Through US funding and efforts to rebuild Japan's

infrastructure, as well as the application of manufacturing process improvement techniques such as Statistical Process Control (SPC), Japan's industry was able to rise from the ashes and grow into a global giant. Japan's economy grew 469% from 1952-1971; this was more than five times the rate of growth of the US (Luecke, 1994). The US industry inspected quality much like the AF currently inspects contracts--by inspecting the end product. Finding problems at the tail end of the process leads to added cost, scrap, and rework. By assessing a system's processes and improving the maturity of those processes, an organization can substantially increase the efficiency and consistency of the development of any quality end product.

Several other organizational processes utilize maturity models. Some popular models include the Software Engineering Institute's Capability Maturity Model Integration (SEI-CMMI) and Kerzner's Project Management Maturity Model (PMMM). Several of the well-known models are used in the project management profession. Program management and contracting agencies have much in common; the CMMM shares much of the basic framework of existing, proven models (Garrett & Rendon, 2005).

D.   Background Information for the CMMM

The CMMM helps managers assess the maturity of the contracting processes that are integral to contracting organizations. Traditional AF methods of measuring the effectiveness of contracting units have been through reviewing contract file documents. The Air Force has traditionally sent inspectors to a contracting unit during a Unit Compliance Inspection (UCI) and the inspectors have reviewed contract files to check for compliance. The end products, such as modifications and price negotiation memorandums, are inspected for items such as proper dates and signatures. This traditional approach does not uncover the root of the problems; the root of many problems lies within the processes that are utilized to produce the outputs. The CMMM peels back the onion and looks at the processes that are used to produce the outputs instead of just inspecting the outputs.

The CMMM breaks down the contracting process into six sub-processes: procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Garrett & Rendon, 2005). Table 1 lists the processes and provides correlating definitions.

Table 1. Contract Management Key Process Areas
(Garrett & Rendon, 2005)

CM Key Process Areas, Buyer's Perspective	
1. 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, how much to procure, and when to procure.	**4. Source Selection** The process of receiving bids or proposals and applying evaluation criteria to select a provider.
2. Solicitation Planning The process of preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources.	**5. Contract Administration** The process of ensuring that each party's performance meets contractual requirements.
3. Solicitation The process of obtaining information (bids and proposals) from prospective sellers on how project needs can be met.	**6. Contract Closeout** The process of verifying that all administrative matters are concluded on a contract this is otherwise physically complete. This involves completing and settling the contract, including resolving any open items.

These six processes are part of every contract and are vital to the overall success of the contracting organization (Garrett & Rendon, 2005). The

effectiveness and efficiency of the contract and the organization will suffer if any one of these processes is performing at a low maturity level.

The Contract Maturity Model Assessment Tool (CMMAT) is the mechanism that actually measures the maturity of the sub-processes. In order to accomplish this, the CMMAT utilizes a 60-question survey with a Likert scale. The survey has 10 questions for each sub-process. The survey participants have 6 response choices ranging from "never" to "always." The answers are given weights that range from 0-5; "Don't know" is an optional response that carries a weight of 0 and an answer of "Always" has a corresponding weight of 5. The scores for each sub-process are totaled and a corresponding maturity level is assigned (Rendon & Garrett, 2005).

Maturity levels range from "ad-hoc" to "optimized" as seen below in Table 2. "ad-hoc" is the lowest level, with a score ranging from 0-20; on the other end of the spectrum, "optimized" is the highest level of maturity and results from a score ranging from 46-50. The complete maturity level ranges are listed in Table 2. A maturity score is given for each one of the six sub-processes (Rendon & Garrett, 2005).

Table 2. Contract Maturity Management Model–Narrative
(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 processes 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).

- Senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents.

Level 4—Integrated

- The procurement project's end-user customer is an integral member of the procurement team.

- Basic contract management processes are integrated with other organizational core processes such as cost control, schedule management, performance management, and systems engineering.

- Management uses efficiency and effectiveness metrics to make procurement-related decisions.

- Management understands its role in the procurement management process and executes the process well.

Level 5—Optimized

- Contract management processes are evaluated periodically using efficiency and effectiveness metrics.

- Continuous process improvement efforts are implemented to improve the contract management process.

- Lessons learned and best practice programs are implemented to improve the contract management processes, standards, and documentation.

- Procurement process streamlining initiatives are implemented as part of the process improvement program.

The CMMM is gaining a foothold throughout the DoD and the federal government, as well as commercial industry. The initial application was in 2003 at

the Space and Missile Systems Center (SMSC), Los Angeles Air Force Base (LA AFB). The CMMM has also been implemented at commercial, international and other DoD organizations such as Goodyear Inc., United Nations and Naval Facilities Engineering Command (NAVFAC), respectively. The CMMM is currently being implemented at Tinker AFB (Oklahoma), Hill AFB (Utah), and Little Rock AFB (Arkansas). The LA AFB assessment provided the leadership a clear picture as to the maturity of their contracting processes and identified opportunities for knowledge transfer and improvement. Seven programs were assessed and a snapshot of the results is seen in Figure 1. Some programs were rated at the ad-hoc level and other programs were rated at the optimized level. An obvious solution to this is for the SMSC leadership to leverage knowledge sharing. One of the many knowledge sharing transfer opportunities lies in the contract closeout arena; the Defense Support Program (DSP) is at the "optimized" maturity level and no other programs are higher than the "structured" maturity level (Rendon & Garrett, 2005).

MATURITY LEVELS	CONTRACT MANAGEMENT PROCESS AREAS					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection	Contract Admin	Contract Closeout
5 OPTIMIZED				GIS	GIS LP	DSP
4 INTEGRATED	SBR DSP EELV GIS	SBR GIS LP STSS EELV DSP	STSS GIS DSP LP	SBR EELV STSS LP SBIRS DSP	EELV STSS DSP SBIRS	
3 STRUCTURED	STSS LP SBIRS	SBIRS	SBI EELV SBIRS		SBR	EELV LP STSS
2 BASIC						SBIRS
1 ADHOC						SBR GIS

Figure 1.   LA AFB Analysis Results
(Garrett & Rendon, 2005)

E.   Ethics and Rule-bending In Organizations

Proper management of contract processes is critical for an organization, but it is also important that individuals are conducting business from the moral high ground (meaning that the decision making is done at a higher level than simply right or wrong). In today's federal and DoD acquisition and procurement world, the environment is ripe for unethical conduct as they begin to outsource more to civilian organizations. Time after time the media reports on an acquisition or procurement scandal that involves both industry and the federal government. However, more public unrest occurs when the government is involved. This unrest is justified, as pointed out by Ralph Capio:

> [P]ublic employees must be held to this uncompromisingly high yet simply stated *standard of care*: they shall not use their public offices for illicit private gain; they must act impartially and fairly toward all; they must operate in full

public view; they must jealously guard the taxpayer's scarce resources entrusted into their care; and they must serve the public's best interest at all times, under all circumstances. (Capio, 2006)

While there are always opportunities for individuals from all career fields to act unethically, it seems as though the microscope is always focused on government and DoD acquisition, but, more specifically, on contracting. A contracting officer's unique role as the sole obligator of government dollars puts him or her in a very powerful position. With great power comes great responsibility. As stewards of the taxpayer's dollar and business advisors to leadership, it is the responsibility of the contracting officer to ensure that the procurement of goods and services is done in an effective, efficient and ethical manner. There are numerous metrics, evaluations and investigations the federal government, the DoD and the Air Force use to determine if personnel are completing the correct task and doing so at the lowest cost or best value to the taxpayer. However, there is no established tool that leadership and contracting officers can use to evaluate the perceptions or behaviors of their units and/or organizations from an ethical standpoint.

Many organizations inside and outside the government have established a code of conduct or ethics which "is a written set of standards of behavior about how individuals are to act in order to be part of an organization" (Turk, 2007). The creation and publication of codes of conduct or ethics is becoming increasingly commonplace in the business world, both within the United States and internationally. In 2004, 52.5% of the Global Fortune 200 companies had developed and published codes of conduct and that percentage has surely risen in the past three years (Kaptein, 2004) as companies strive to separate themselves from unethical corporations such as WorldCom and "let the world know…that [their] company is serious about its obligations to the community and that its employees intend to be ethical regardless of the bottom line" (Bowman, Armstrong & Grabulis, 2003). In additional to codes of conduct, business organizations, including the DoD and the Air Force, have also developed employee communication and training, hotlines, enforcement mechanisms and response protocols as noted by Kaptein's

reference to the work of Paine (1994), and Treviño (1999). However, all this is useless unless an organization has a way to evaluate the effectiveness of the program.

Enron, a company infamous for unethical behaviors that eventually led to its destruction, had these ethical program plans and procedures in place, but there were two major issues. The first issue was that there did not seem to be a measurement tool or tools in place for those in charge to effectively track the impact the program had on the organization. Furthermore, if there were measurement tools available, then they were not used properly. Secondly, the organizational environment did not support or reinforce ethical behavior. As seen in many reports surrounding the scandal, leadership had created environments that incentivize high performance reports over ethical practices. It is important to have an ethics program that establishes a code of conduct, creates an environment that is conducive for employees to act ethically, and provides tools to measure the program's effectiveness.

The Air Force, as an organization, strives to promote ethical conduct within its ranks; in fact, the first of the Air Force's Core Values is "Integrity first" (USAF, 2007). However, the USAF does not have a standard tool to effectively measure the impact of programs that focus on the adherence to high integrity/ethical standards. It is critical that the Air Force and all other government agencies develop and implement tools to measure ethics programs. Ensuring that these programs are functioning properly fosters environments that promote and incentivize ethical conduct rather than unethical. The environment must be supportive because "although someone may be 'ethical,' it will be difficult for him [or her] to follow this inclination if his [or her] environment is not conducive to such behavior" (Rumbaugh, 2004 p. 35). This approach will help to reduce and possibly eliminate the unethical behavior that has been in the headlines and on the front pages of many newspapers over the recent years.

Many organizations like the Air Force have programs that emphasize and promote ethical behavior. Yet, without a tool to measure a program's effectiveness and a culture that promotes dialogue about ethical issues, management may be unaware of unethical behavior that may be occurring in their organization. In the article entitled "Measuring Corporate Integrity: A Survey Based Approach," Kaptein and Avelino (2005) discuss the issues surrounding the management and oversight needed to ensure that a company's code of conduct compliance program is operating effectively and efficiently.

F. Background Information for the Ethics\Rule-bending Questionnaire

Many key issues highlight the need for an ethics tool that addresses the ethical culture "not only on corporate level, but also on departmental levels so that it can form a part of the regular planning and control cycle of each department with the organization" (Kaptein & Avelino, 2005, p.46). There are five main areas that should be assessed when developing a tool to measure the effectiveness of an integrity/ethics program. These can be seen in Figure 2.
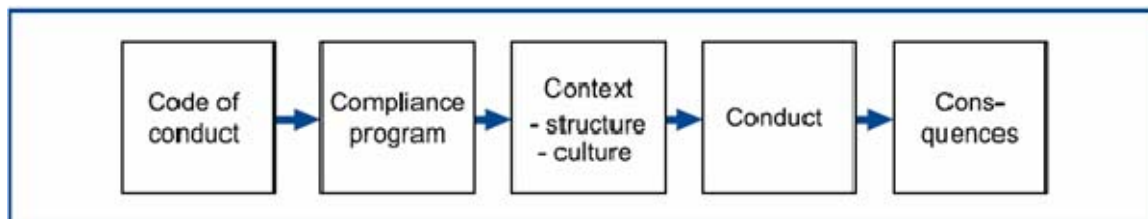
Figure 2.   Assessment Perspectives Ranging from Code to Consequences
(Kaptein & Avelino, 2005)

The organization will first assess if there is an established and published code of conduct. If there is no code of conduct, then one should be established. The organization will then assess if there an established compliance program that is monitored and applied consistently and how well it is it designed. Then they move to defining the corporate structure and culture of the organization and determining if the principles of the program are embedded and supported by its structure and culture.

They find out how often unethical conduct occurs with in the organization. Lastly, the organization will assess the effect or consequences of that unethical behavior on the program. Kaptein and Avelino provide a questionnaire in their article that is based on Figure 2. The first section of the ethics\rule-bending questionnaire uses many of the questions from this prior research, while the second section of the questionnaire is focused on rule-bending.

The rule-bending portion of the questionnaire comes from an article entitled "Rule-bending: Can Prudential Judgment Affect Rule Compliance and Values in the Workplace" by Sekerka and Zolin (2007). Too often, integrity and ethical behavior in organizations is judged on the basis of whether a rule was broken or not. In many situations, there may be pressure from supervisors or peers to find a way to get the job done by circumventing the rules without breaking them. This mentality leads organizational members to find ways to justify pushing the limits of policy or "not fully following a rule, requirement, procedure, or specification" to accomplish a task (Sekerka & Zolin, 2007, p. 228). Often people think that they are acting ethically so long as they do not break a rule. This portion of the questionnaire takes a deeper look into what causes individuals to engage in rule-bending. The rule-bending questions explore how individuals view rule-bending, what pressures and influences determine their behavior and to what extent they believe rule-bending has an impact on the organization.

G.   Summary

This chapter presented a literature review pertaining to this study. Several issues were discussed to include why the CMMM was chosen for the assessment, process improvement, the background of CMMM, the importance of ethics and the background information pertaining to the questionnaire. Chapter III will discuss the OO-ALC study; it explains why the OO-ALC was chosen, further explains the questionnaire participant selection and describes the methodology for conducting and analyzing the survey instruments.

III.   Ogden Air Logistics Center, Hill AFB

A.   Chapter Introduction

The purpose of this chapter is to explain why the OO-ALC was chosen for this research; it will further explain the questionnaire participant selection and will describe the methodology for conducting and analyzing the survey instruments. The missions of the AF, ALCs, and the Ogden ALC in particular, and the mission of OO-ALC's Wings are described in this chapter.

B.   Why Ogden Air Logistics Center?

The Ogden Air Logistics Center is a major cog within the Air Force. The OO-ALC is part of the Air Force Material Command (AFMC), which is one of the nine Major Commands within the Air Force. The Air Force is charged with the responsibility to deliver sovereign options for the defense of the United States of America and its global interests to fly and fight in air, space and cyberspace (United States Air Force, 2007).

The Air Force Material Command (AFMC) is one of the Air Force's nine commands. The AFMC mission is to develop, acquire, and sustain aerospace power needed to defend the United States and its interests for today and tomorrow. The AFMC accomplishes this through management, research, acquisition, development, testing and maintenance of existing and future weapons systems and their components (Air Force Material Command, 2007).

The Ogden Air Logistics Center is one of only three air logistics centers assigned to the Air Force Material Command. The other two ALCs are at Robins AFB, Georgia, and Tinker AFB, Oklahoma. Air logistic centers are responsible for the logistics and sustainment of all platforms used by the Air Force. Depot level maintenance and item management are some of the responsibilities of an ALC.

Hill AFB is comprised of several organizations with the Ogden Air Logistics Center serving as the primary organization. The other major wings are the 75th Air Base Wing (ABW), the 84th Combat Sustainment Wing, the 526th Intercontinental Ballistic Missile (ICBM) Wing, and the 508th Aircraft Sustainment Wing.

The Contracting Directorate (PK) is part of the OO-ALC and is responsible for developing and managing all contracting policies and processes used across the center. THE CONTRACTING DIRECORATE also provides contracting policy and pricing support, data management services, career development and training for contracting personnel, and computer systems support to the wings for contract specific activities (OO-ALC, 2007).

The 75th ABW provides base operating support for the OO-ALC and the other Wings at Hill AFB. The 75th Air Base Wing provides base operating support for approximately 20,000 military, civilian and contractor personnel assigned to the OO-ALC and other Wings across the base (OO-ALC, 2007).

The 84th Combat Sustainment Wing provides program management of weapon systems, resource management, and planning. It also supplies system support manager functions to air-to-air munitions, and multiple command, control, communication and intelligence systems. In addition, the 84 Combat Sustainment Wing provides supply chain management for space systems, landing gear, power systems, and multiple aircraft programs (OO-ALC, 2007).

The 526th ICBM Wing develops, acquires and supports silo based ICBMs and provides program direction and logistics support its customers. It also is responsible for the acquisition, systems engineering, depot repair, managing spares, and the modifications and replacement of silo-based ICBM systems (OO-ALC, 2007).

The 508th Fighter Sustainment Group is responsible for the sustainment of the F-16 program office at Wright-Patterson AFB, Ohio. They are also responsible for F-

16 production, and the development, modification, and worldwide deployment of more than 3,900 F-16s for units of the U.S. and 18 foreign nations (OO-ALC, 2007).

The OO-ALC is by far the largest employer in the state of Utah; it employs more than 23,500 civilians, military, and contractors (OO-ALC, 2007). In fiscal year 2007, the OO-ALC performed 12,771 contracting actions and obligated $2,898,312,039 (Atterbury-Ramirez, 2007, November 6).

The OO-ALC has its hand in practically every aircraft in the AF inventory. It is responsible for AF-wide item management; depot level overhaul and repair for all types of landing gear, wheels, brakes and tires; and is the logistics manager for all conventional air, solid propellants and explosive devices utilized throughout the AF. The OO-ALC provides an expansive range of sustainment and logistics support for space and command, control, communication and intelligence systems (OO-ALC, 2007).

The program management for the F-16 Fighting Falcon and the A-10 Thunderbolt II takes place at the OO-ALC. In addition, the program management for the KC-135 workload occurs at the OO-ALC in conjunction with the Boeing Aerospace Support Center in San Antonio, Texas. The center also performs depot level maintenance for the C-130 Hercules (OO-ALC, 2007).

The OO-ALC also has global engineering, sustainment and logistics management and maintenance support responsibilities for the Minuteman intercontinental ballistic missiles. The center is the lead for stealth aircraft structural composite materials and offers support for the B-2 Spirit multi-role bomber (OO-ALC, 2007).

C.   Questionnaire Participant Selection

The participants for the CMMM were selected based on their level of experience within the contracting career field and their organization. Rendon and Garrett's "small, purposive sample" model was utilized in this study. This selection

was much like the small, purposive sample used for the CMMM assessment at Space and Missile Systems Center at Los Angeles Air Force Base by Rendon and Garrett. The participants were required to meet a set of minimum criteria. They had to be at least Level II Contracting certified under the Department of Defense Acquisition Workforce Improvement Act (DAWIA) and a warranted contracting officer. Level II Contracting certification requires a bachelor's degree with a minimum of 24 credit hours in business administration courses, at least two years of contracting experience, and completion of the required DoD contracting and acquisition courses (Garrett & Rendon, 2007).

The CMMAT was administered in the Fall of 2007 via an online survey. The participants were not forced to fill out the survey because quantity is not as important as quality. The sample size is very focused and relatively small, one or two participants could really affect the findings if they did not accurately respond to the questions. To help ensure the respondents accurately answered the questions, the authors emphasized the importance of honesty with the Contracting Directorate. The Contracting Directorate sent the e-mails/correspondence to the participants so that the respondents realized the importance of the assessment and that leadership was supportive of it.

The ethics/rule-bending questionnaire was conducted differently than the CMMM questionnaire. While the CMMM questionnaire participant selection was based on a "small, purposive sample," the participant selection for the ethics\rule-bending questionnaire included all acquisition and/or contracting organizational members within the OO-ALC to include military, DoD civilians and contractors. The purpose of this research is to obtain a clear understanding of the OO-ALC's ethical culture as a whole rather than from a "small, purposive sample." The target participant group was very large and, for the purpose of the research, 100 completed questionnaires was the preferred amount to obtain an adequate sample size; however only 96 responses were received. It was important to receive a large number of completed surveys so that the statistical analysis would be accurate. The

analysis of the ethics portion (questions 7.1-7.12) will be done based on percentage of responses for each question. The rule-bending portion of the survey, (questions 8.0-8.2) will be analyzed through statistical analysis. To test for interrelationships between the variables in this analysis, the researchers computed Pearson correlation coefficients with respective p-values. Linear regression was used to model the relationship between the perceived threat that rule-bending had on the organization (the dependent variable) and the various independent variables, such as mission completion, personal motives and directives from a boss or supervisor (Zolin & Dillard, 2005). The Pearson correlation was used to determine the correlation between two variables, "which is concerned with the question of whether there is a relationship between the variables" (Chase & Bown, 2000, p. 97). More specifically, this particular correlation analysis was chosen because it allows the analysis to be completed with the use of the variables' mean and standard deviation (Agresti & Finlay, 1997). Regression analysis was used because it indicates if there is a relationship between two variables, which was critical to test the hypotheses.

The analysis of the OO-ALC's contract management processes and ethical culture is discussed in Chapter IV.

D.   Summary

This chapter discussed why the Ogden Air Logistics Center was chosen for the assessment. This chapter also explained how the questionnaire participants were selected and described the methodology for conducting and analyzing the survey instruments. The missions of the AF, ALCs, and the Ogden ALC in particular, and the mission of OO-ALC's Wings were also described in this chapter. Chapter IV will discuss the findings, results, and recommendations that emerged from the CMMAT and the ethics/rule-bending questionnaire.

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IV. Findings, Results, and Recommendations

A.   Chapter Introduction

This chapter discusses the CMMAT results, the ethical results, and the improvement roadmap. The CMMAT results are summarized in a snapshot in Table 3. The results for each of the five agencies will be given individually, along with an enterprise-wide assessment. The results are very helpful in determining the current maturity of the contract management process, and the snapshot also points out some obvious opportunities for knowledge transfer/sharing.

B.   Contract Management Maturity Assessment Tool Results

The CMMM is broken down into six sub-processes. They are procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Garrett & Rendon, 2005). The six sub-processes are shown in yellow along the top of Table 3. Along the left side of the table, the maturity levels are also listed. The OO-ALC has five contracting organizations; the agencies are the 508th Aircraft Sustainment Wing, the 526th Inter-Continental Ballistic Missile (ICBM) Systems Wing, the 75th Air Base Wing, the 84th Combat Sustainment Wing, and the Contracting Directorate. Table 3 shows the corresponding level of process capability maturity.

It is important to remember that the CMMM is not a quantitative survey. The CMMM focuses on qualitative analysis and not statistical significance and uses a small purposeful sample. The survey questions focus on the organization contract management processes, not on the respondents' knowledge of contract management. There were 40 survey respondents and the responses ranged from 2 per organization to 20 per organization. The survey respondents were carefully selected and were fully qualified contracting officers. The participants were required to meet a set of minimum criteria. They had to be at least Level II Contracting certified under the Department of Defense Acquisition Workforce Improvement Act

(DAWIA) and a warranted contracting officer. Level II Contracting certification requires a bachelor's degree with a minimum of 24 credit hours in business administration courses, at least two years of contracting experience, and completion of the required DoD contracting and acquisition courses (Garrett & Rendon, 2007).

Table 3.   OO-ALC Contract Maturity Management Assessment Tool Results
(After: Garrett & Rendon, 2005)

CONTRACT MANAGEMENT MATURITY MODEL©						
MATURITY LEVELS	CONTRACT MANAGEMENT KEY PROCESS AREAS					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection	Contract Admin	Contract Closeout
5 Optimized						
4 Integrated						
3 Structured	84 75 508 526 PK	84 75 52 PK	75 PK 84	84 75 526 PK	84 75 526 PK	84 75 526 PK
2 Basic		508	508 526	508	508	
1 Ad Hoc						508

1. Contracting Directorate (PK)

In the Contracting Directorate, twenty individuals provided responses. Of the 1,200 questions answered (60 questions times 20 participants), 60 responses were in the "don't know" category, 6 were in the "never" category, 66 were in the "seldom" category, 256 were in the "sometimes" category, 495 were in the "usually" category, and 317 responses were in the "always" category. The overall maturity level was rated as "structured" across all six key process areas. The key process areas are procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout.

This contract management maturity model assessment indicates that based on the survey responses of the 20 participants for the Contracting Directorate,

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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

2. 75th Air Base Wing

In the 75th Air Base Wing, two individuals provided responses. Of the 120 questions answered (60 questions times 2 participants), no responses were in the "don't know" category, 1 was in the "never" category, 25 were in the "seldom" category, 30 were in the "sometimes" category, 29 were in the "usually" category, and 35 responses were in the "always" category. Just like the Contracting Directorate, the overall maturity level was rated as "structured" across all six key process areas. The key process areas are procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout.

This contract management maturity model assessment indicates that based on the survey responses of the 2 participants for the 75th ABW, 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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

3. 84th Combat Sustainment Wing

In the 84th Combat Sustainment Wing, eleven individuals provided responses. Of the 660 questions answered (60 questions times 11 participants), 21 responses were in the "don't know" category, 3 was in the "never" category, 23 were in the "seldom" category, 154 were in the "sometimes" category, 247 were in the "usually" category, and 212 responses were in the "always" category. Just like the Contracting Directorate and the 75th ABW, the overall maturity level was rated as "structured" across all six key process areas. The key process areas are procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout.

This contract management maturity model assessment indicates that based on the survey responses of the 11 participants for the 84th Combat Sustainment Wing, 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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

4. 526th ICBM Systems Wing

In the 526th ICBM Systems Wing, five individuals provided responses. Of the 300 questions answered (60 questions times 5 participants), 6 responses were in the "don't know" category, 30 was in the "never" category, 29 were in the "seldom" category, 68 were in the "sometimes" category, 111 were in the "usually" category, and 56 responses were in the "always" category. The highest maturity level was rated as "structured" across five key process areas: procurement planning, solicitation planning, source selection, contract administration, and contract closeout. Their lowest maturity level was "basic" in one key process area of solicitation.

This contract management maturity model assessment indicates that based on the survey responses of the 5 participants for the 526th ICBM Systems Wing, the key process areas of: procurement planning, solicitation planning, source selection, contract administration, and contract closeout, 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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

For the key process area of solicitation, this contract management maturity model assessment indicates that 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. Finally, there is no organizational policy requiring the consistent use of these contract management processes and standards other than on the required contracts (Garrett & Rendon, 2005).

5. 508th Aircraft Sustainment Wing

In the 508th ICBM Systems Wing, two individuals provided responses. Of the 120 questions answered (60 questions times 2 participants), 27 responses were in the "don't know" category, no responses were in the "never" category, 19 were in the "seldom" category, 39 were in the "sometimes" category, 35 were in the "usually" category, and no responses were in the "always" category. The highest maturity level was rated as "structured" across one key process area: procurement planning. They were rated "basic" across four key process areas: solicitation planning, solicitation, source selection, and contract administration. The lowest rated maturity level was "ad hoc" in one key process area of contract closeout.

This contract management maturity model assessment indicates that based on the survey responses of the 2 participants for the 508th ICBM Systems Wing, in the key process area of procurement planning, 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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

For the key process areas of solicitation planning, solicitation, source selection, and contract administration, this contract management maturity model assessment indicates that 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. Finally, there is no organizational policy requiring the consistent use of these contract management processes and standards other than on the required contracts (Garrett & Rendon, 2005).

For the key process area of contract closeout, this contract management maturity model assessment indicates 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 organization-wide 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. Finally, organizational managers and contract management personnel are not held accountable for adhering to, or complying with, any contract management processes or standards (Garrett & Rendon, 2005).

6. CMMM Assessment Results at the Enterprise Level

The overall enterprise level assessment is founded on the organization's lower-level assessments. It is important to provide an enterprise-level assessment in order to give a top-level assessment of the OO-ALC. The enterprise assessment

is determined by taking the lowest maturity rating across the five organizations within each key process area. This method of determining the enterprise maturity rating for each process area is based on contract management processes only being as good as its weakest point. Just as a chain is as strong as its weakest link, an organization's processes are only as mature as its weakest process (Garrett & Rendon, 2005).

At the enterprise level, the key process area of procurement planning was assessed at the "structured" maturity level. The four areas of solicitation planning, solicitation, source selection, and contract administration were assessed at the "basic" maturity level. Finally, the contract management maturity assessed resulted in an "ad hoc" maturity level in key process area of contract closeout (Garrett & Rendon, 2005).

At the enterprise level, for the key process area of procurement planning, 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). It also indicates that senior management is involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

At the enterprise level, for the key process areas of solicitation planning, solicitation, source selection, and contract administration, the contract management maturity model assessment indicates that 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. Finally, there is no organizational policy requiring the consistent use of these contract management processes and standards other than on the required contracts (Garrett & Rendon, 2005).

At the enterprise level, for the key process area of contract closeout, the contract management maturity model assessment indicates 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 organization-wide 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. Finally, organizational managers and contract management personnel are not held accountable for adhering to, or complying with, any contract management processes or standards (Garrett & Rendon, 2005).

C.   Ethical Context

The ethics questionnaire is broken down into two sections. The first section, which can be seen in Appendix A, focused on organizational perceptions regarding the ethical culture of the OO-ALC as well as the ethical procedures and controls in place (7.1-7.12). The second section of the questionnaire, which can be seen in Appendix B, focused on rule-bending (8.1-8.2). The rule-bending section is intended to focus on what situations and pressure may influence individuals to bend rules to accomplish a desired outcome.

The results from the first section of the of the ethics questionnaire (7.1-7.12) are divided into two parts. The first part shows the results for the OO-ALC's contracting functional areas combined and the second part provides a subsequent comparison of the contracting functional areas individually (526 ICBM Systems Wing, 508 Aircraft Sustained Wing, 84th Combat Sustained Wing and 75th Air Base Wing), to include the Contracting Directorate, that fall under the OO-ALC organization. In the analysis it was evident that there is some room for improvement. All results can be seen in Appendix C; however, there are a few areas that will be highlighted in this research. The overall picture is positive, but there are some areas of concern. The first area is the response to the second question which asks if employees feel comfortable reporting observed violations to superiors. According to the results, only 27% of the respondents agreed that they felt comfortable. The second area for concern may be a direct result of the first--in which only 20% of respondents agreed that employees will bring observed violations to the attention of the superiors. The last two areas providing the most alarming results were from questions nine and ten. Question 9 asks if the Chain of Command (COC) knows what type of behavior goes on in the organization, to which only 16% of the respondents fully agreed. Although, 57% of the participants "somewhat agreed" that the COC knew what kind of behavior went on. Question 10 asks participants if offenders would be disciplined consistently and fairly by management, to which only 14% of respondents fully "agreed" with an additional 35% "somewhat agreeing."

As the results were broken down into the individual units, they varied a little bit regarding areas for improvement. There were two main areas that varied a few percentage points between the units, but still seem to reoccur in each case. The two that stand out are the perception that overall the COC does not know what type of behavior goes on in the organization and that the participants do not feel as though offenders will be disciplined consistently and fairly by management. Of these two observations, the latter is the mostly clearly present in all of the surveyed units.

The second section of the questionnaire specifically probes the phenomenon of rule-bending (Sekerka & Zolin, 2007). This part of the analysis was focused on the relationship of the responses to each other through statistical analysis, rather than a percentage analysis as done in the first section. Two types of statistical analysis were done by Zolin[1], the first being a Pearson correlation analysis and the second was multiple regression analysis. The Pearson correlation was used to determine the correlation between two variables and the regression analysis was used because it revealed if there was a relationship between two variables which was critical to test the hypotheses.

Before either statistical analysis could be preformed, the calculation of descriptive statistics was required. There are two main elements that were important for the analysis, the mean and standard deviation of the responses to the rule-bending questionnaire. Table 4 below outlines these elements. The mean and standard deviation provide critical information for both the Pearson correlation analysis and the regression analysis. The mean gives the average response on the 7-point Likert scale, and the standard deviation provides a description about how closely the responses were to the mean or average response or how varied the responses were. The complete text of the rule-bending survey is included in Appendix B.

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[1] Professor Roxanne Zolin provided assistance for this research effort by performing a multivariate statistical analysis on the data received from participants regarding rule-bending. This analysis included the Pearson's correlation and regression analyses.

Table 4.   Rule-bending Descriptive Statistics
(After: Zolin, 2007)

Variable	Mean	Std. Dev.
1. Bend/Avoid Bending	2.34	1.38
2. Mission Completion	4.55	2.53
3. Personal Motives	3.17	2.51
4. Directive from boss or supervisor	3.04	2.23
5. Consideration of others	3.59	2.32
6. Consideration of alternatives	5.08	2.29
7. Rule-bending as a threat to the organization	4.41	2.04
8. Low threat to the organization (Act of rule-bending)	.34	.47
9. High threat to the organization (Act of rule-bending)	.48	.50

Once the descriptive statistics were calculated, the Pearson correlation analysis was conducted. The correlations between the variables are show in Table 5 below. There is a numerical value and a star symbol associated with each correlation analysis. The number is the correlation measurement or r-value between the two variables and the star symbol is the level of significance or p-value of that correlation. If the correlation, or numerical value, is negative that means as one variable has the propensity to increase in value, the correlated variable has the propensity to decrease in value. The reverse is true if the correlation is positive. As the correlation measurement approaches 1.0, the correlation between the two variables becomes stronger. As it approaches 0.0, the correlation becomes weaker. The level of significance (star symbol) tells if the positive or negative correlation is significant. This is very important for testing the hypotheses. If a correlation is not significant, then the hypothesis is not supported by the test results. If the correlation is significant, then the opposite is true. There are three measures of significance: p-value < .05 (significant), p-value < .01 (very significant) and p-value < .001 (extremely significant).

The Pearson correlation analysis table is organized with the variables along the left column (number and description) and along the top column (corresponding number). When the same variable is correlated to itself, it will register as 1.0. While this table reports all the results from the analysis of all variable correlations and the respective levels of significance, the important data to draw out of this table is the data that is significantly correlated. Of that significantly correlated data, it is important to focus on the data that compares the variable on the left (1-9) to the variable columns 1 and 2, which are *threat to the organization* and *bend/avoid bending the rules*. There are some interesting results within these areas. There was a strong and extremely significant positive correlation between the decision to bend or avoid bending a rule and mission completion (r=.420, p-value < .001). The same is true for the consideration of others when considering the possible threat to the organization (r=.396, p-value < .001). These statistics show that mission completion and the consideration of others has a large impact on deciding whether or not to bend a rule. Perhaps the most significant results are correlations to perceptions of high- and low-threat rule-bending has on the organization and whether a rule is broken. The results from the Pearson correlation analysis are interesting and important; however they do not tell the whole story. The regression analysis gives a clearer representation of exactly what the research is saying in accordance with our hypotheses.

Table 5.   Rule-bending Correlations
(After: Zolin, 2007)

	1	2	3	4	5	6	7	8	9
1. Threat	1.000								
2. Bend/Avoid Bending	-0.097	1.000							
3. Mission Completion	0.324**	0.420***	1.000						
4. Personal Motives	0.242*	-0.172	0.043	1.000					
5. Directive from boss or supervisor	0.173	0.193	0.461***	0.186	1.000				
6. Consideration of others	0.396***	0.112	0.372***	0.247*	0.364***	1.000			
7. Consideration of alternatives	0.176	0.283**	0.395***	0.090	0.377***	0.339***	1.000		
8. Low threat to the organization (Act of rule-bending)	-0.842***	-0.035	-0.305**	-0.133	-0.147	- 0.277**	-0.137	1.000	
9. High threat to the organization (Act of rule-bending)	0.868***	-0.168	0.190	0.175	0.156	0.433***	0.057	-0.714	1.00

*** $p<.001$, ** $p<.01$, * $p<.05$

There were five hypotheses tested in this section. Each of these hypotheses was tested using regression analysis. The first hypothesis had two parts. The first part (H1a) stated that employees who view rule-bending as less of a threat to their organization are more likely to engage in rule-bending behavior. When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who viewed rule-bending as less of a threat to the organization to have a propensity to be involved in rule-bending behavior. The test did result in a negative correlation with an r-value of -0.102; however, it was not a significant correlation, which was shown by a p-value of 0.738. In other words, while the results show a negative correlation, as expected, the significance test revealed that the correlation was not significant. These results show, in accordance with the data collected for this research; there is not a significant correlation between employees who view rule-bending as less of a threat to their organization and the

propensity to engage in rule-bending behavior. For this correlation to be significant and support the hypothesis there would have to have been a p-value of 0.05 or less.

The second part of the first hypothesis (H1b) stated that employees who view rule-bending as more of a threat to their organization are more likely to avoid rule-bending behavior. When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant positive correlation between those who viewed rule-bending as more of a threat to the organization and a propensity to avoid being involved in rule-bending behavior. The test did not result in a positive correlation with an r-value of -0.463; furthermore, it was not a significant correlation, shown by a p-value of 0.109. These result shows, in accordance with the data collected for this research, that there is not a significant correlation between employees who view rule-bending as more of a threat to their organization and the propensity to avoid rule-bending behavior.

The second hypothesis (H2) stated that employees who view rule-bending as necessary to perform their job are less likely to view rule-bending as a threat to their organization. When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who viewed rule-bending as necessary to perform their job and the propensity to view rule-bending as less of a threat to the organization. The test did not result in a negative correlation with an r-value of 0.262; however, it was a very significant correlation, which was shown by a p-value of 0.005. These results show, in accordance with the data collected for this research, employees who view rule-bending as necessary to perform their job have a propensity to view rule-bending as a threat to their organization. However, it is important to take into consideration that there is a weak correlation between these two variables.

The third hypothesis (H3) stated that employees who consider personal motives in the decision-making process are less likely to view rule-bending as a threat to their organization. When this hypothesis was tested, the test results did not

support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who involved personal motives in their decision making and the propensity to view rule-bending as less of a threat to the organization. The test did not result in a negative correlation with an r-value of 0.189; however, it was a significant correlation, which was shown by a p-value of 0.027. These result shows, in accordance with the data collected for this research, employees who consider personal motives in the decision-making process are more likely to view rule-bending as a threat to their organization. However, it is important to take into consideration, just as in H2, that there is a weak correlation between these two variables.

The fourth hypothesis (H4) stated that employees directed to rule-bend by superiors who abdicate responsibility are more likely to view rule-bending as a threat to their organization and use prudential judgment. When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between the two variables. The test did result in a negative correlation with an r-value of -0.02; however, it was not a significant correlation, shown by a p-value of 0.780. In other words, while the results show a negative correlation, as expected, the significance test revealed that the correlation was not significant. These results show, in accordance with the data collected for this research, there was not a significant correlation between employees directed to rule-bend by superiors who abdicate responsibility and the propensity to view rule-bending as a threat to their organization and to use prudential judgment. In order for this correlation to be significant and support the hypothesis, there would have to have been a p-value of 0.05 or less.

The fifth hypothesis was broken down into two parts. The first part (H5a) stated that Employees who view rule-bending as a threat to their organization are more likely to use prudential judgment. H5a was broken down further into two subparts to test both components of prudential judgment: consideration of others

and consideration of alternatives. When H5a was tested, the test results did not support the hypothesis. The results showed that there was an extremely significant positive correlation (r-value of 0.412, p-value of 0.000) between employees who view rule-bending as threat and their consideration of others; however, the test results also showed a non-significant correlation (r-value of 0.183, p-value of 0.137) between employees who view rule-bending as threat and their propensity to consider alternatives to rule-bending. In order for this correlation to be significant and support the hypothesis there would have to have been a p-value of 0.05 or less for both subparts tested.

The second part of the fifth hypothesis (H5b) stated that employees who use prudential judgment are more likely to recognize the threat posed to their organization by rule-bending. Just as in H5a, H5b was broken down further into two subparts to test both components of prudential judgment: consideration of others and consideration of alternatives. When H5b was tested the test results did not support the hypothesis. The results for the first subpart showed that there was an extremely significant positive correlation (r-value of 0.338, p-value of 0.001) between employees who take into account the consideration of others when making decision and their propensity to view rule-bending as threat to the organization. When the second subpart, the consideration of alternatives to rule-bending, was tested the test resulted in a positive correlation with an r-value of 0.028; however it was not a significant correlation which was shown by a p-value of 0.764. In order for this correlation to be significant and support the entire hypothesis there would have to have been a p-value of 0.05 or less for both subparts tested.

All of the hypotheses tested were derived by previous research done by Sekerka and Zolin in 2007. Several limitations may have caused the lack of support for the hypotheses. First, the sample size may have not been large enough to properly test the hypotheses. A minimum quantity of 100 respondents to the ethics/rule-bending survey was recommended by Sekerka and Zolin; however, only 92 were obtained during the period allotted to conduct the surveys. The second

possibility is that the instruction and/or questions were not clear to the participants. If the participants did not fully understand what was being asked of them, then they may have not responded properly to the questions, which would cause a skewing of the test results. A final possibility is that participants may not have felt comfortable being candid in their responses to the survey. Respondents may have answered the questions in a way that caused the test results to be limited.

D.   Improvement Roadmap

This CMMM assessment conducted at the OO-ALC provides some key insights to the maturity levels of the six key process areas. The following recommendations are ways the enterprise can improve its maturity level within each contract management process area.

1. Procurement Planning

Based on the results of the CMMM assessment, the enterprise received a maturity level of "structured" in the key process area of procurement planning. To get to the "integrated" maturity level, the enterprise needs to ensure the procurement project's end-user customer is an integral member of the procurement team. Basic procurement planning processes will need to be integrated with other organizational core processes such as cost control, schedule management, performance management, and systems engineering. Management will need to use efficiency and effectiveness metrics to make procurement-related decisions. Finally, management will need to understand its role in the procurement planning process and execute the process well (Garrett & Rendon, 2005).

The enterprise should provide training and guidance on integrating procurement planning activities, such as conducting outsourcing analysis, conducting stakeholder analysis, determining and developing requirements (supply or service) and related documents, conducting market research, determining procurement methods, and selecting contract type. This training should focus on

integrating these activities with other organizational core processes (Garrett & Rendon, 2005).

2. Solicitation Planning

Based on the results of the CMMM assessment, the enterprise received a maturity level of "basic" in the key process area of solicitation planning. To get to the "structured" maturity level, they need to ensure solicitation planning processes and standards are fully established, institutionalized, and mandated throughout the entire organization. Formal documentation will need to be developed for these solicitation planning processes and standards, and some processes may even be automated. Since these solicitation planning processes are mandated, the organization will need to allow 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). Senior management will need to be involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents. This training should focus on integrating these activities with other organizational core processes (Garrett & Rendon, 2005).

The enterprise should provide training and guidance on establishing, institutionalizing, and mandating these solicitation planning activities such as developing solicitation documents, selecting contract terms and conditions, and determining evaluation criteria throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 75th, or the 526th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

3. Solicitation

Based on the results of the CMMM assessment, the enterprise received a maturity level of "basic" in the key process area of solicitation. To get to the "structured" maturity level, they need to ensure solicitation processes and standards are fully established, institutionalized, and mandated throughout the entire organization. Formal documentation will need to be developed for these solicitation processes and standards, and some processes may even be automated. Since these solicitation processes are mandated, the organization will need to allow 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). Senior management will need to be involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

The enterprise should provide training and guidance on conducting pre-proposal conferences, performing advertising, and amending solicitation documents as required. This training should focus on establishing, institutionalizing, and mandating these solicitation activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, or the 75th to help out the 508th and 526th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th and 526th to help increase the maturity of their key process areas.

4. Source Selection

Based on the results of the CMMM assessment, the enterprise received a maturity level of "basic" in the key process area of source selection. To get to the "structured" maturity level, they need to ensure source selection processes and standards are fully established, institutionalized, and mandated throughout the entire organization. Formal documentation will need to be developed for these source

selection processes and standards, and some processes may even be automated. Since these source selection processes are mandated, the organization will need to allow 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). Senior management will need to be involved in providing guidance, direction, and even approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

The enterprise should provide training and guidance on evaluating proposals, conducting negotiations, and selecting contractors. This training should focus on establishing, institutionalizing, and mandating these source selection activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

5. Contract Administration

Based on the results of the CMMM assessment, the enterprise received a maturity level of "basic" in the key process area of contract administration. To get to the "structured" maturity level, they need to ensure contract administration processes and standards are fully established, institutionalized, and mandated throughout the entire organization. Formal documentation will need to be developed for these contract administration processes and standards, and some processes may even be automated. Since these contract administration processes are mandated, the organization will need to allow 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). Senior management will need to be involved in providing guidance, direction, and even approval of key contracting strategy,

decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005).

The enterprise should provide training and guidance on conducting pre-performance conferences, monitoring and measuring contractor performance, and managing contract changes. This training should focus on establishing, institutionalizing, and mandating these contract administration activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

6. Contract Closeout

Based on the results of the CMMM assessment, the enterprise received a maturity level of "ad hoc" in the key process area of contract closeout. To get to the "basic" maturity level, they will need some basic contract closeout processes and standards to be established within the organization. Some formal documentation will need to be developed for these established contract closeout processes and standards. The organization will need to consider these contract closeout processes or standards established or institutionalized throughout the entire organization. Finally, there will need to be an organizational policy requiring the consistent use of these contract management processes and standards other than on the required contracts (Garrett & Rendon, 2005).

The enterprise should provide training and guidance for verifying contract completion, documenting contract completion, making final payments, documenting lessons learned and best practices, and processing contract closeout procedures. This training should focus on establishing these basic CCO activities within the organization (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the

Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

E. Implementing Process Improvement

Just as the analysis of the OO-ALC contract processes using the CMMM and the associated CMMAT has give the OO-ALC a baseline to improve their contract processes, the analysis of the ethical environment present at the OO-ALC has given them a baseline to improve upon. It is critical that the OO-ALC use this analysis in a productive manner and let it aid them in their improvement of their ethical environment. Just as there are tools for analysis, there are also tools that the OO-ALC can use to "investigate improvement opportunities" (Wysocki, 2004). In his book *Project Management Process Improvement*, Robert Wysocki discusses his problem-solving tool that work well for process improvement programs, which OO-ALC could use to improve any deficiencies in their ethical environment or contract processes. Wysocki's process flow chart is show in Figure 3.
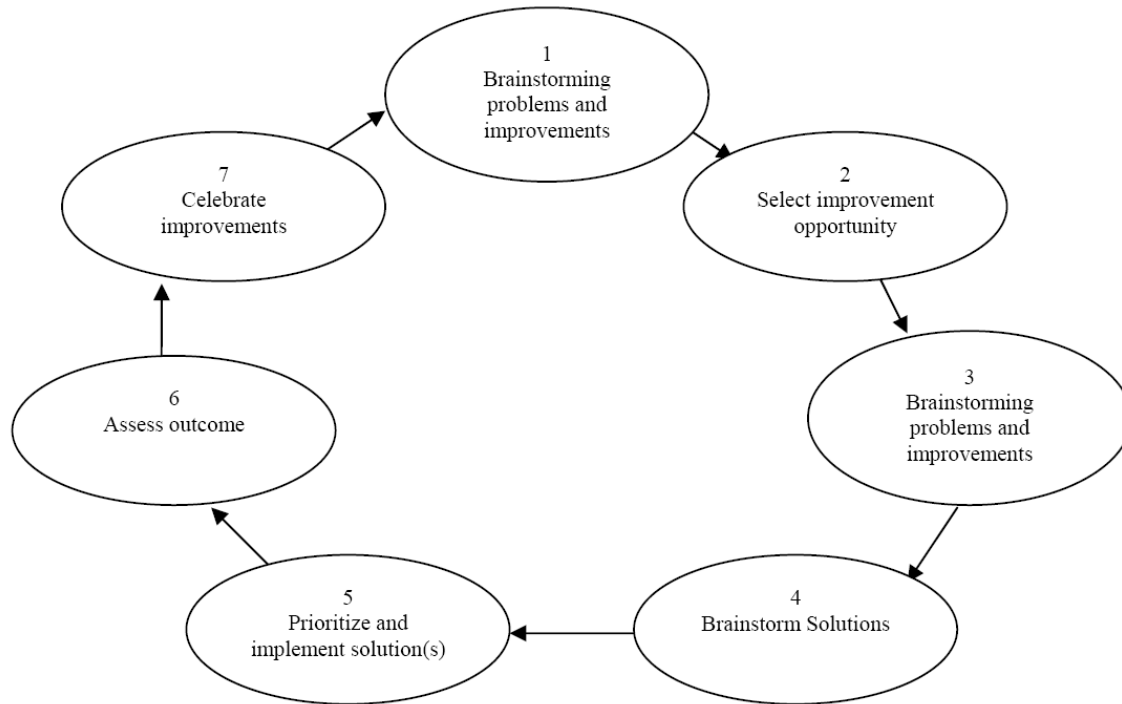
Figure 3.   Problem-solving Model for Continuous Improvement Programs
(Wysocki, 2004)

Step 1: Brainstorming Problems and Improvements

Form a group that is tasked with the responsibility to use this problem solving model. Members of this group should have varying levels of experience and the goal here is to brainstorm so that "underlying problems" and "improvement opportunities" might come out during brainstorming sessions. These sessions should create a comfortable environment so that participants openly share ideas so that the group can get any and all ideas "out on the table" (Wysocki, 2004).

Step 2: Select Improvement Opportunity

After the brainstorming phase, there should be a number of ideas visible for discussion, and a consensus should start to form about the "most significant problem". The most significant problem tells the group which "improvement opportunity" should be sought. If there is more than one problem then the group can modify Step 3-7 to accommodate more than one improvement opportunity (2004).

Step 3: Analyze Causes

In this step, groups should discuss and record the cause of the problem (Wysocki, 2004).

Step 4: Brainstorm Solutions

In this step, there is simply a discussion or brainstorming session of the possible solutions (2004).

Step 5: Prioritize and Implement Solution(s)

In this step, it is important to create a complete and mutually exclusive list of solutions from the brainstorming phase in Step 4. It is also important that the solution can be implemented and measured on its own and additional solutions can follow if needed. The implementation can be viewed as a short-term project. During the implementation, the groups must be open and able to adapt and change the solutions as needed. They must also be willing to cancel the implementation if it is not having the desired results (2004).

Step 6: Assess Outcomes

The success of the implementation must be measurable so that the teams can evaluate the degree of success. Also, the team must have a clear understanding of the expectations of the "improvement initiative". The projects success should be monitored to determine if it is meeting the expected outcomes. If it is not, then the project may need to be cancelled and another put in its place (2004).

Step 7: Celebrate Improvements

When a project is successful, there must be some recognition for the team that was in charge. It is always important to recognize the positive accomplishments of those teams. This step closes the improvement loop (2004).

F. Improvement of Ethical Culture

While all of the hypotheses that were tested were not supported by the test results, there was still some useful definitive information that came from the first section of the ethics/rule-bending questionnaire (which focused on organizational perceptions regarding the ethical culture of the OO-ALC, as well as the ethical procedures and controls in place). There were four major areas that have definite room for improvement. The four areas were the comfort level employees felt about reporting observed violations to supervisors, the perception that employees would or would not bring observed violations to the attention of the supervisor, the perception held by a large percentage of employees that the Chain of Command did not know what type of behavior went on in the organization, and finally a large portion of respondents did not fully agree that offenders would be disciplined consistently and fairly by management. All of these areas are interrelated and the good news is that they can all be improved by creating an environment that is more conducive for employees to act ethically.

For any change to take place, it is important for leadership to take responsibility and lead by example. One of the most important and beneficial actions that leadership should take to create an environment that is more conducive for employees to act ethically is to remove the stigma attached to ethics and promote individuals in the organization to openly discuss ethical situations and dilemmas they may see or be in themselves. Too often the prescription for these problems is to throw down more policy and unproductive training sessions. Promoting open discussion is often difficult, but not impossible. One method that has proven to be very effective is the use of case studies or case scenarios. To ensure success, it is crucial for the scenarios to be relevant to the organization and leadership must play an active role in the training. Utilizing a case study is great because "the goal of using the case scenario [or case study] is to improve employee reasoning skills" which are critical when employees find themselves in an ethical dilemma (Rambaugh 2004, p. 39). There are five important steps to remember when using the case scenario method that Rambaugh discusses in her article *Ethical Decision-*

Making: Issues for Contract Managers and Educators. The five steps are to "determine the relevant facts and define the problem; identify the stakeholders; identify the ethical issues; list applicable laws or regulations; and decide what the alternatives are" (Rambaugh 2004, p. 39). Using this method will help in two areas: first, it will create a training environment that is more dynamic and much more effective and secondly, it will help foster an environment in which employees feel comfortable openly discussing ethical issues.

G.   Summary

This chapter discussed the CMMAT results, the ethical results, and the improvement roadmap. Detailed results were given for each of the five agencies along with an enterprise wide assessment. The process improvement roadmap was laid out for each of the key process areas. Chapter V will discuss the summary, conclusions, and further recommended action/research.

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V. Summary, Conclusion, and Further Action/Research

A. Chapter Introduction

This chapter will discuss the summary of the research, the conclusions, and further actions/research that is needed. A vivid baseline has surfaced as a result of the CMMM ethics/rule-bending assessments. This research has established a water mark for the current key process maturity levels and the ethical culture across Hill AFB's contracting organizations.

B. Summary

This research assessed both the maturity of the contracting processes and the ethical culture present at Hill AFB. Information about the current contracting processes was gathered by using the CMMAT and administering surveys consisting of 60 questions each. The maturity levels were assigned to each of the six critical contracting processes by using the CMMM. The following questions were answered for the CMMM portion of this study:

1. **What level of maturity are the contracting processes at OO-ALC?**

    Answer:

    The CMMM assessed the key process area of procurement planning at the "structured" level. The key process areas of solicitation planning, solicitation, source selection, and contract administration were all assessed at the "basic" maturity level. The key process of contract closeout was assessed at the "ad hoc" maturity level.

2. **How can OO-ALC leadership leverage highly mature processes from one unit to others?**

    Answer:

    The CMMM shows that a significant amount of leveraging can occur between units that were assessed with high mature processes to units that were assessed at low maturity levels. For instance, the 508th was

assessed at the "ad hoc" maturity level in the key process area of contract closeout,
and the other four Wings were all assessed at the "structured maturity level. The Hill AFB leadership can leverage the mature processes of the other four Wings to help out the 508th.

3. **What training is needed to improve OO-ALC's contracting processes?**

    Answer:

    For the area of procurement planning, the enterprise should provide training and guidance on integrating procurement planning activities such as conducting outsourcing analysis, conducting stakeholder analysis, determining and developing requirements (supply or service) and related documents conducting market research, determining procurement methods, and selecting contract type. This training should focus on integrating these activities with other organizational core processes (Garrett & Rendon, 2005).

    For the area of solicitation planning, the enterprise should provide training and guidance on establishing, institutionalizing, and mandating these solicitation planning activities such as developing solicitation documents, selecting contract terms and conditions, and determining evaluation criteria throughout the enterprise throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 75th, or the 526th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

    For the area of solicitation, the enterprise should provide training and guidance on conducting pre-proposal conferences, performing advertising, and amending solicitation documents as required. This training should focus on establishing, institutionalizing, and mandating these solicitation activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, or the 75th to help out the 508th and 526th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th and 526th to help increase the maturity of their key process areas.

    For the area of source selection, the enterprise should provide training and guidance on evaluating proposals, conducting negotiations, and

selecting contractors. This training should focus on establishing, institutionalizing, and mandating these source selection activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into the 508th to help increase the maturity of their key process areas.

For the area of contract administration, the enterprise should provide training and guidance on conducting pre-performance conferences, monitoring and measuring contractor performance, and managing contract changes. This training should focus on establishing, institutionalizing, and mandating these contract administration activities throughout the enterprise (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

For the area of contract closeout, the enterprise should provide training and guidance for verifying contract completion, documenting contract completion, making final payments, documenting lessons learned and best practices, and processing contract closeout procedures. This training should focus on establishing these basic CCO activities within the organization (Garrett & Rendon, 2005). Another recommendation is for the enterprise to leverage some of the expertise of the more mature Wings like the Contracting Directorate, the 84th, the 526th or the 75th to help out the 508th. The contract directorate could also transfer some personnel from a higher maturity level unit into 508th to help increase the maturity of their key process areas.

Information about the ethical culture is gathered by using an Ethics/Rule-bending questionnaire consisting of 24 questions. The following questions were answered for the Ethics/Rule-bending portion of this study:

1. **Are there policies and standards in place within the organization regarding ethical conduct?**

Answer:

Yes, there are policies and standards in place within the OO-ALC and its units. However, there are some concerns about the fidelity of those policies and standards.

2. **What level of trust or confidence do employees place in their leadership to enforce and uphold those policies and standards in fair and consistent manner?**

    Answer:

    There is an adequate level of trust or confidence within the OO-ALC as a whole, however there is definitely room for improvement within some of OO-ALC's units. According to the results, only 27% of the respondents agreed that they felt comfortable reporting ethics violations to leadership. Additionally, only 20% of respondents agreed that employees will bring observed violations to the attentions of the superior. Furthermore, only 16% of the respondents fully agreed the Chain of Command (COC) knows what type of behavior goes on in the organization. Finally, only 14% of respondents fully "agreed" offenders would be disciplined consistently and fairly by management.

3. **What areas of the OO-ALC's ethical culture need to be improved?**

    Answer:

    There were four areas that stood out which had substantial room for improvement. The four areas were the comfort level employees felt about reporting observed violations to supervisors, the perception that employees would or would not bring observed violations to the attentions of the supervisor, the perception held by a large percentage of employees that the Chain of Command did not know what type of behavior went on in the organization, and finally a large portion of respondents did not fully agree that offenders would be disciplined consistently and fairly by management. All of these areas are interrelated and the good news is that they can all be improved by creating an environment that is more conducive for employees to act ethically.

In addition to these questions the authors also tested five hypotheses based on research conducted on the phenomenon of rule-bending by Leslie Sekerka and Roxanne Zolin, who are both published authors in journals such as *Public Integrity.* The following are the hypotheses that were tested:

H1a. **Employees who view rule-bending as less of a threat to their organization are more likely to engage in rule-bending behavior.**

Results:

When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who viewed rule-bending as less of a threat to the organization to have a propensity to be involved in rule-bending behavior. The test did result in a negative correlation with an r-value of -0.102; however it was not a significant correlation, shown by a p-value of 0.738.

H1b. **Employees who view rule-bending as more of a threat to their organization are more likely to avoid rule-bending behavior.**

Results:

When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who viewed rule-bending as necessary to perform their job to have a propensity to view rule-bending as less of a threat to the organization. The test did not result in a negative correlation with an r-value of 0.262; however, it was a very significant correlation which was shown by a p-value of 0.005.

H2. **Employees who view rule-bending as necessary to perform their job are less likely to view rule-bending as a threat to their organization.**

Results:

When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who viewed rule-bending as necessary to perform their job to have a propensity to view rule-bending as less of a threat to the organization. The test did not result in a negative correlation with an r-value of 0.262; however it was a very significant correlation which was shown by a p-value of 0.005.

H3. **Employees who consider personal motives in the decision-making process are less likely to view rule-bending as a threat to their organization.**

Results:

When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between those who involved personal motives in their decision making and the propensity to view rule-bending as less of a threat to the organization. The test did not result in a negative correlation with an r-value of 0.189; however, it was a significant correlation which was shown by a p-value of 0.027.

H4. **Employees directed to rule-bend by superiors who abdicate responsibility are more likely to view rule-bending as a threat to their to their organization and use prudential judgment which is the "practical deliberation and consideration of others" when faced with a moral dilemma (Sekerka & Zolin, pp. 230).**

Results:

When this hypothesis was tested, the test results did not support the hypothesis. For this hypothesis to be supported, the results should have shown a significant negative correlation between the two variables. The test did result in a negative correlation with an r-value of -0.02; however it was not a significant correlation which was shown by a p-value of 0.780.

H5a. **Employees who view rule-bending as a threat to their organization are more likely to use prudential judgment.**

Results:

When H5a was tested, the results did support a portion of the hypothesis. The results showed that there was an extremely significant positive correlation between employees who view rule-bending as threat and their consideration of others. The test resulted with an r-value of 0.412 and a p-value of 0.000. However, when consideration of alternatives was tested it did not support this hypothesis. The test did result in a positive correlation with an r-value of 0.183; however, it was not a significant correlation which was shown by a p-value of 0.137.

H5b. Employees who use prudential judgment are more likely to recognize the threat to their organization posed by rule-bending.

Results:

When H5b was tested, the test results did support a portion of the hypothesis. The results showed that there was an extremely significant positive correlation between employees who take into account the consideration of others when making decision and their propensity to view rule-bending as threat to the organization. The test resulted with an r-value of 0.338 and a p-value of 0.001. However, when consideration of alternatives was tested, it did not support this hypothesis. The test did result in a positive correlation with an r-value of 0.028; however it was not a significant correlation which was shown by a p-value of 0.764.

The purpose of this research is to assess the maturity of the contracting processes and procedures at Ogden Air Logistics Center (OO-ALC), Hill Air Force Base (AFB) Utah (UT). The research establishes a contracting process baseline and set a proverbial "water mark" by which to gauge future assessments. The Contract Management Maturity Model (CMMM) gives OO-ALC leadership and training managers a clear site path on what processes/areas are in need of training. The leadership is now better informed about individual unit strengths/opportunities and can better orchestrate internal personnel movements in order to leverage best practices and encourage knowledge transfer. In addition, this study produces an understanding of the current ethical culture in OO-ALC through the administration and analysis of an ethical questionnaire that specifically probes the phenomenon of rule-bending. The analysis of this questionnaire allows the OO-ALC leadership to gain insight into the ethical culture present within the organization as a whole and provide a subsequent comparison of the wings that fall within OO-ALC organization. As a result of this project, a clear roadmap depicts the current organization's contract management process maturity level and what needs to be accomplished to enhance those processes. It also provides an ethical baseline from which OO-ALC leadership can formulate plans for improvement.

C.   Conclusion

The results show that most of the OO-ALC's organizations are operating at the "structured" maturity level; one of the units was assessed mostly at the "basic" maturity level and it has a many opportunities for process improvement and knowledge transfer. There are also a few ethical areas of concern that OO-ALC should work to improve upon.   Recommendations are included in the research.

D.   Further Action/Research

The OO-ALC successfully meets mission requirements and the organization realizes that continuous improvement must be a part of its future to continue efficiently and effectively meets its mission. The study recommends that the following additional actions and research items are taken by the OO-ALC and/or other researches:

1.   Utilize the CMMM results to initiate dialog with other contracting units across the AF and the DoD.

2.   Use the CMMM/CMMAT to re-assess the OO-ALC periodically to track progress. Re-assessments will also provide training managers and leadership updated training requirements.

3.   Apply the CMMM to Warner Robins ALC, and compare the CMMM results from all ALC's at Tinker AFB, Hill AFB, and Warner Robins AFB to see if there are any general trends in terms of ALC contract management maturity.

4.   Utilize Wysocki's process improvement model to improve not only the contract processes but also the areas of concern regarding the ethical environment.

5.   Lead by example and create an environment that is more conducive for employees to make ethical decisions.

6.   Utilize the case scenario method to foster open discussion about ethical dilemmas, remove the stigma of ethics training, and ethics in general.

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Appendix A.   Ethics Questionnaire

7.0 Ethical Conduct	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree
7.1 Organization provides information to help employees understand overall principles and vales.	1	2	3	4	5
7.2 Employees feel comfortable reporting an observed violation to their superior.	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 responds 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 superior.	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 have a question/concern about standards.	1	2	3	4	5
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 Procedures to address ethics violations are standardized throughout the organization and understood by employees.	1	2	3	4	5

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Appendix B.Rule-bending Questionnaire

| 8.0 Rule-bending							
8.1 Think of a time when you bent the rules at work, or were tempted to bend the rules:							
	Did not bend the Rule						Bent the Rule
8.1.1 To what extent did you bend the rule or avoid bending the rule?	1	2	3	4	5	6	7
	Not at all						Very Likely
8.1.2 To what extent did mission completion motivate your response to 8.1.1?	1	2	3	4	5	6	7
8.1.3 To what extent did personal motives motivate your response to 8.1.1?	1	2	3	4	5	6	7
8.1.4 To what extent did your boss or supervisor motivate your response to 8.1.1?	1	2	3	4	5	6	7
8.1.5 To what extent did you think of the effects your rule-bending may have on others when you thought about bending the rules? (8.1.1)	1	2	3	4	5	6	7
8.1.6 To what extent did you consider possible alternatives to rule-bending? (8.1.1)	1	2	3	4	5	6	7
8.2 To what extent do you think rule-bending is a threat to the organization?	1	2	3	4	5	6	7

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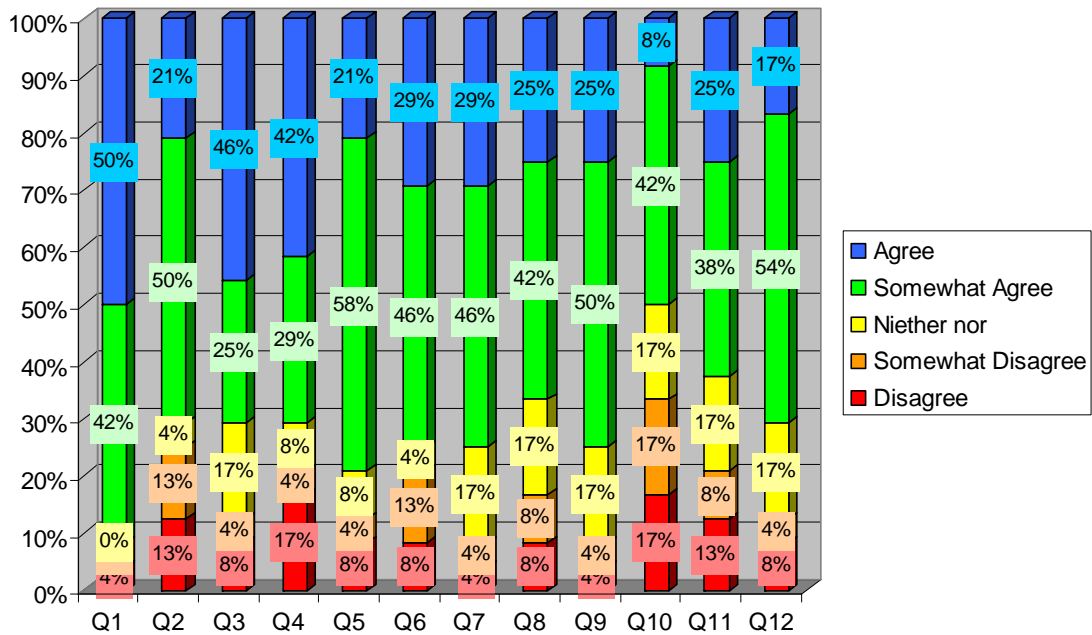# Appendix C.Ethics Questionnaire Results
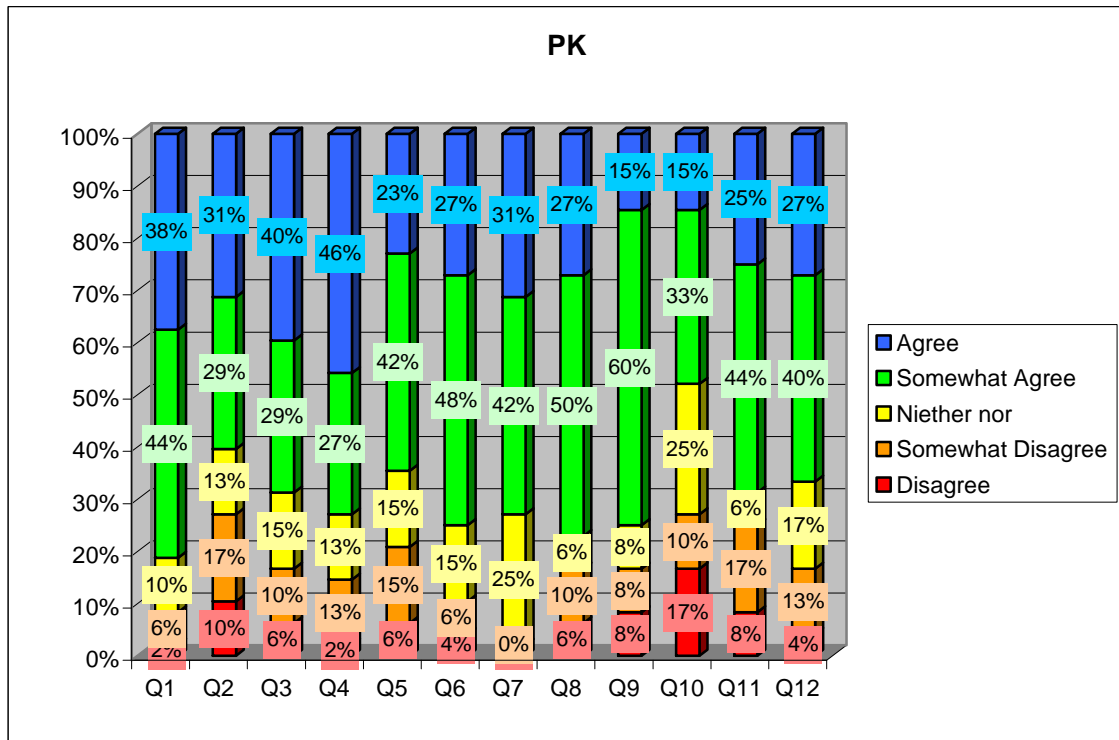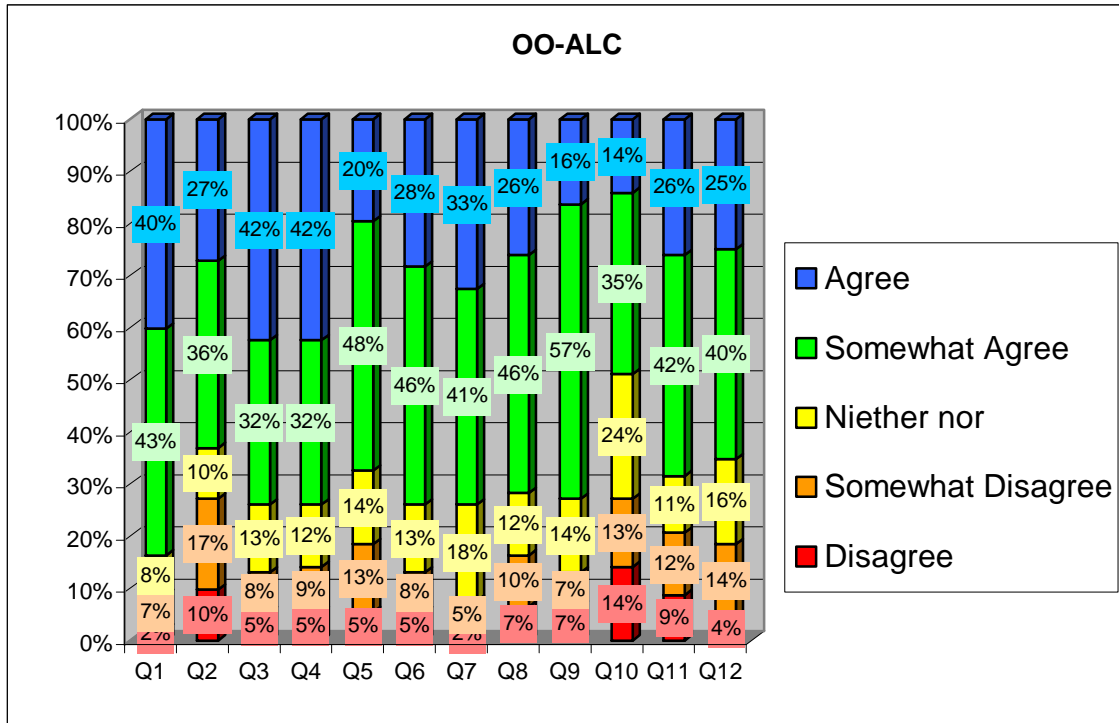
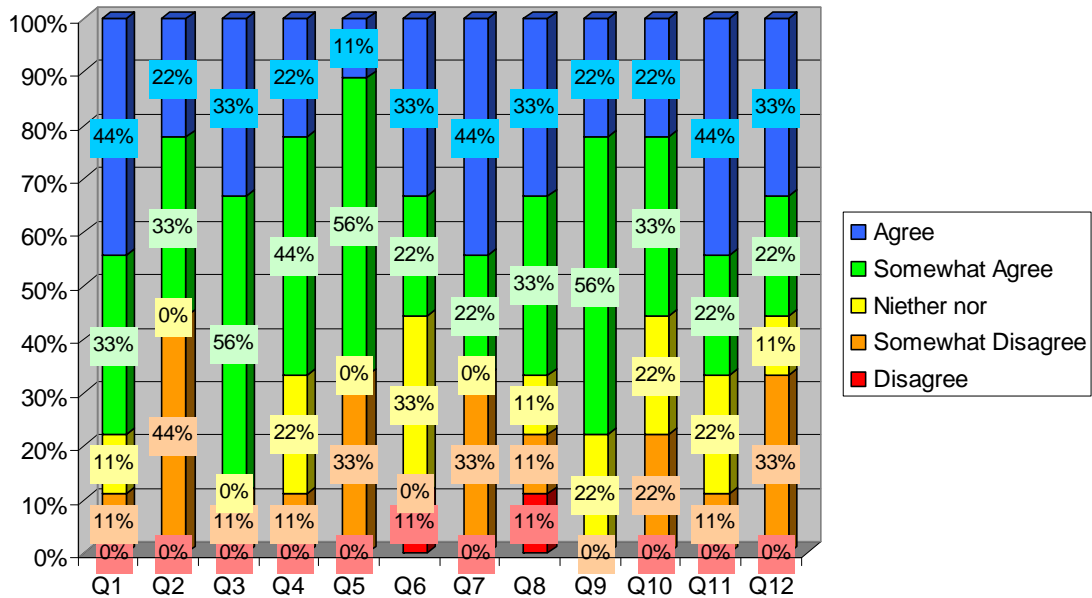**526 ICBM Systems Wing**
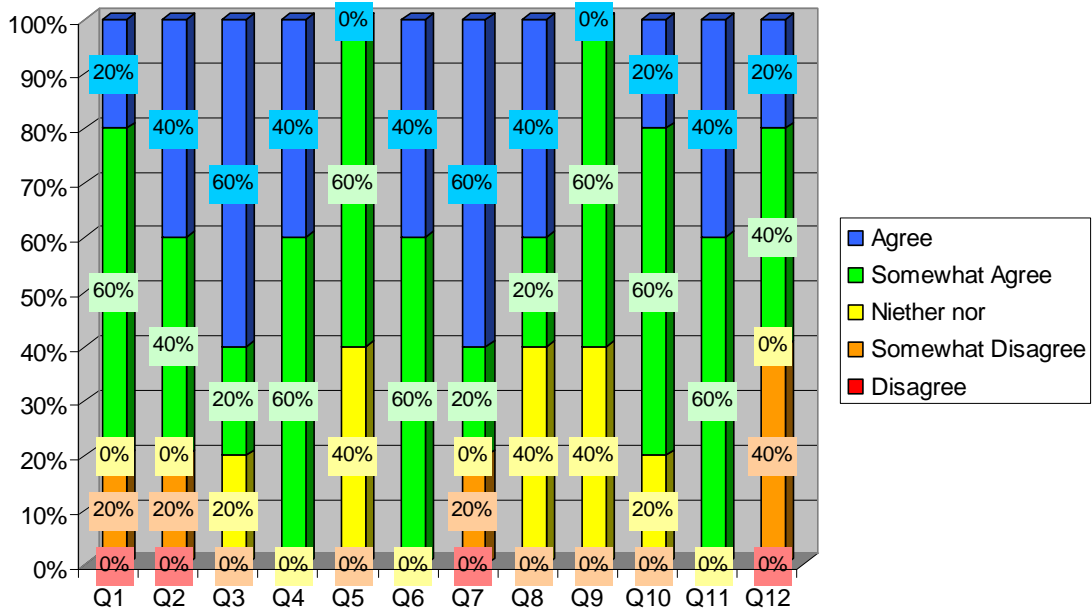
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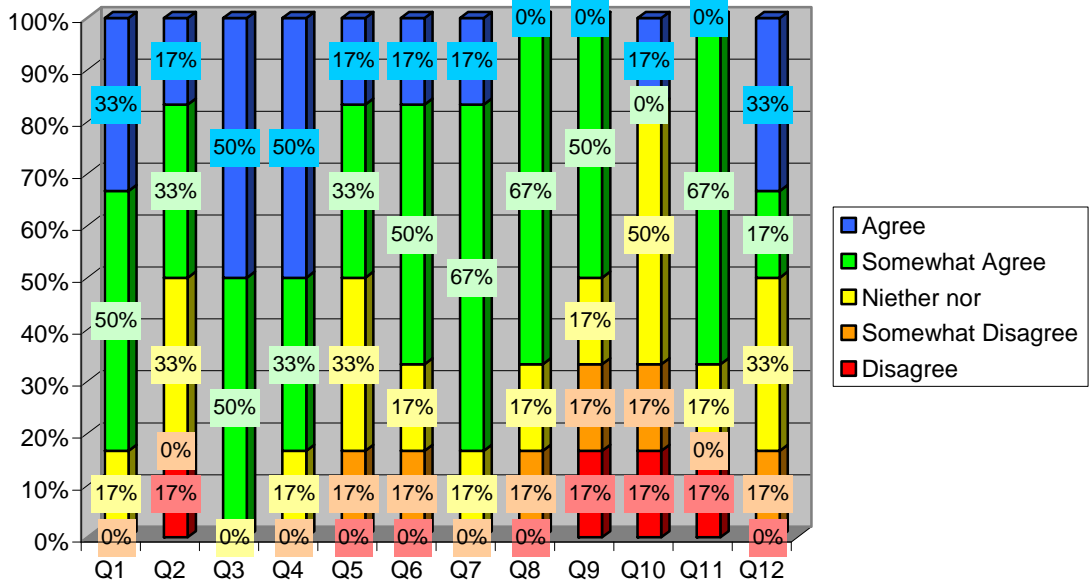
84th Combat Sustained Wing

75th Air Base Wing

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