



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

JOINT APPLIED PROJECT

**Assessing Contract Management Maturity: U.S. Army
Joint Munitions and Lethality Contracting Center,
Army Contracting Command,
Picatinny Arsenal**

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September 2009**

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 2009	3. REPORT TYPE AND DATES COVERED Joint Applied Project	
4. TITLE AND SUBTITLE Assessing Contract Management Maturity: U.S. Army Joint Munitions and Lethality Contracting Center, Army Contracting Command, Picatinny Arsenal.			5. FUNDING NUMBERS	
6. AUTHOR(S) Kevin P Puma and Beth A Scherr				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) <p>This Joint Applied Project assesses the maturity levels of the contracting processes capabilities at the Joint Munitions & Lethality (JM&L) Contracting Center, located at Picatinny Arsenal, New Jersey by applying the Contract Management Maturity Model (CMMM). The JM&L Contracting Center is one of the Army's six major contracting commands under the Army Contracting Command</p> <p>As a metric to measure the results of the CMMM, an analysis of the results of recent Procurement Management Reviews has been completed to determine whether the outcomes are consistent with the finding of the CMMM. Additionally, survey participants have been questioned to determine their opinions as to the reasons for reported strengths and weaknesses, as well as, suggested methodologies for improvement. Finally, these responses have been evaluated to provide opportunities to leverage best practices and knowledge sharing at both the JM&L Contracting Center and potentially with other centers within the Army Contracting Command. The successful application of the assessment tool and appropriate analysis provides an effective way to identify unique challenges and expose opportunities to improve the organization's contracting processes.</p>				
14. SUBJECT TERMS Contract Management, Joint Munitions & Lethality Contracting Command, Contract Management Maturity Model, Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout			15. NUMBER OF PAGES 107	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

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**ASSESSING CONTRACT MANAGEMENT MATURITY: U.S. ARMY
JOINT MUNITIONS AND LETHALITY CONTRACTING CENTER,
ARMY CONTRACTING COMMAND,
PICATINNY ARSENAL**

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Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CONTRACT MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
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JOINT MUNITIONS AND LETHALITY CONTRACTING CENTER,
ARMY CONTRACTING COMMAND, PICATINNY ARSENAL**

ABSTRACT

This Joint Applied Project assesses the maturity levels of the contracting processes capabilities at the Joint Munitions & Lethality (JM&L) Contracting Center, located at Picatinny Arsenal, New Jersey by applying the Contract Management Maturity Model (CMMM). The JM&L Contracting Center is one of the Army's six major contracting commands under the Army Contracting Command

As a metric to measure the results of the CMMM, an analysis of the results of recent Procurement Management Reviews has been completed to determine whether the outcomes are consistent with the finding of the CMMM. Additionally, survey participants have been questioned to determine their opinions as to the reasons for reported strengths and weaknesses, as well as, suggested methodologies for improvement. Finally, these responses have been evaluated to provide opportunities to leverage best practices and knowledge sharing at both the JM&L Contracting Center and potentially with other centers within the Army Contracting Command. The successful application of the assessment tool and appropriate analysis provides an effective way to identify unique challenges and expose opportunities to improve the organization's contracting processes.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACC	Army Contracting Command
AFARS	Army Federal Acquisition Regulation Supplement
AMCOM	Aviation and Missile Command
CCJM-CA	Combat Ammo Systems Contracting Center
CCJM-CC	Close Combat Systems Contracting Center
CCJM-ET	Emerging Technologies Contracting Center
CCJM-JA	Joint Armaments Contracting Center
CCJM-MA	Maneuver Ammo & Ground Systems Contracting Center
CCJM-SW	Solider Weapons Contracting Center
CECOM	Communication Electronics Command
CICA	Competition in Contracting Act
CMMAT	Contract Management Maturity Assessment Tool
CMMM	Contract Management Maturity Model
DA	Department of the Army
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DoD	Department of Defense
DPAP	Director of Defense Procurement and Acquisition Policy
FAR	Federal Acquisition Regulations
FASA	Federal Acquisition Streamline Act
GAO	Government Accountability Office
GO	General Officer
GS	General Schedule
HCA	Head of the Contracting Activity
IPT	Integrated Product Teams
JM&L	Joint Munitions & Lethality Contracting Center
NCO	Non-commissioned Officer

PARC
PMR Principal Assistant Responsible for Contracting
 Procurement Management Reviews

RDECOM Research Development and Engineering Command

SEI
SW-CCC Software Engineering Institute
 Capability Maturity Model for Software

TACOM
TINA Tank-Automotive Command
 Truth-in-Negotiations Act

ACKNOWLEDGMENTS

KEVIN P. PUMA

I would like to express my gratitude to the CPD program and the JM&L Contracting Center for providing me with this amazing opportunity. I would also like to convey my appreciation to Dr. Rene Rendon for his exceptional support and guidance throughout this research project, as well as the experience and knowledge gained from having Dr. Rendon as a Professor in the NPS program. Kudos!

Most importantly, I would like to commend my family for their patience, sacrifice, and unconditional support throughout this two year period. My beautiful wife, Robin, son, Nicholas (5) and daughter, Reese (2) provided the support and encouragement needed to endure this journey. I am eternally grateful. I would also like to thank Beth Scherr. I am so glad we did this together. You are the best!

I am dedicating this achievement to my mother for always keeping the faith and believing in me throughout my scholastic career. Thank you for all your sacrifice and support along the way. Who knew?

BETH A. SCHERR

The undertaking of this project, while finishing coursework for a master's degree, was academically, personally and professionally challenging. As professional and family obligations continued in full-force during this time, it at times appeared to be a mountain too high to climb. I would like to acknowledge and extend my gratitude to the Competitive Professional Development Program, the Naval Postgraduate School staff, and my co-workers, supervisors and the management of the JM&L Contracting Center who made it possible for me to conquer this challenge through their dedication, support and professionalism of not only this project, but my endeavors throughout the program. I would especially like to acknowledge our Lead Advisor, Dr. Rene Rendon, for his patience, dedication and advice which were paramount to my success, along

with our Support Advisor, Bruce Berinato, for being involved in this process despite a myriad of other obligations. I would also like to particularly thank my research partner, Kevin Puma, for his perseverance and commitment to this project. I couldn't have done it without you!

I would like to dedicate this accomplishment in memory of my incredible mother, Carol Jean Balas, who taught me to believe and to never give up. For that, she will always be my hero. Additionally, I would like to acknowledge and thank the countless friends and family members, who have shared the pains of this undertaking alongside me and supported me unconditionally, especially, Kevin Ellis, and my amazing daughters, Shannon and Courtney, who have made countless sacrifices, provided encouragement and kept me grounded through this process. I thank you all from the bottom of my heart and hope that you always remember that no matter what the obstacle, or what the challenge, nothing is impossible if you BELIEVE!

EXECUTIVE SUMMARY

The research conducted for this Joint Applied Project provides the Joint Munitions and Lethality Contracting Command (JM&L) located at Picatinny Arsenal, New Jersey with a method of assessing their contracting processes to determine its contracting capabilities, process strengths and weaknesses, and to provide a roadmap for process improvement. This study applied the Contract Management Maturity Model (CMMM) to the JM&L's sub-centers utilizing a cross-sectional survey made up of sixty-two purposively developed questions related to each contract management process area and related practice activities, which is known as the Contract Management Maturity Assessment Tool (CMMAT). The survey participants were the JM&L's warranted Contracting Officers, all of whom are Defense Acquisition Workforce Improvement Act Level III certified in contracting. The data collected and the resulting maturity assessment was then cross analyzed against previous Procurement Management Reviews conducted at the JM&L.

The results of the CMMM revealed the JM&L enterprise was at the "Structured" level of maturity for the following key process areas: Procurement Planning, Solicitation Planning, Solicitation, and Contract Administration. The results from the CMMM also indicated that the JM&L enterprise was at the "Integrated" maturity level for the key contract processes area of Source Selection. For the Contract Closeout process area, it showed that the JM&L enterprise was at the "Basic" maturity level. Although the PMR looks at process compliance and the CMMM measures process capability maturity, the assessment metrics were consistent with the findings. Both tools found Contract Closeout to be the JM&L's biggest weakness and Source Selection its greatest strength.

Assessing the JM&L's Contract Management Maturity level through the use of the Contract Management Assessment Tool provides a tremendous opportunity for senior leadership to grow its contract management processes by

addressing the identified key process improvement needs. In order to do so however, it will be necessary for senior leadership to use the assessment results as an implementation roadmap for improving the contract management process capability. Additionally, in order to continually improve, it will also be necessary to continuously monitor the improvement efforts by reassessing its process capability at appropriate intervals in the future.

I. INTRODUCTION

A. CHAPTER INTRODUCTION

This chapter will present a general overview for the research project. It will specifically provide the purpose of the study and background information. Next, an identification of the problem along with the research questions that this study seeks to answer at the conclusion of this project will be presented. The benefits and limitations of the research, the significance of this research, and the methodology will then be discussed. Finally, the chapter will conclude with a research overview and a short summary.

B. PURPOSE OF STUDY

Performance measurement in both private and public sector organizations has been the focus of attention in recent years. Since the introduction of continuous process improvement during the total quality management era (Crosby, 1979; Deming, 1986; Juran, 1988), private and public sector organizations have emphasized the measurement of performance as a method for improving quality, processes, and organizational competence. (Rendon, 2008a)

The primary purpose of this study is to analyze the Joint Munitions & Lethality Contracting Center's (JM&L) contracting processes across six sub-centers by applying the Contract Management Maturity Model (CMMM), and the associated Contract Management Maturity Assessment Tool (CMMAT). The maturity model concept was first applied to contract management by Dr. Rene G. Rendon (Rendon, 2003). The vision of Rendon's model is to help both buying and selling organizations concentrate on key areas of process improvement. Because the JM&L is a buying organization for the United States Army, this research will only focus on the buying portion of the CMMM.

The first goal of the study is to assess the maturity of the JM&L's contracting processes and identify process consistencies/inconsistencies and strengths/weaknesses within the organization. The second goal is to determine whether the resulting contracting process maturity level of the JM&L is supported

by the results of previous Procurement Management Reviews (PMR) conducted at the contracting center. The outcomes from the application of the CMMM will provide the JM&L senior leadership with recommendations in areas for improvement. The information provided from this study will identify the contract management process areas that need additional training or resources in order to achieve a higher standard. It will also identify for its leadership, opportunities to better position the organization's skills based on each of the JM&L's sub-centers outcomes in order to optimize best practices and knowledge sharing.

This study is not intended to change the contract management process at the JM&L, nor will it provide solutions or solve problems. Instead, its purpose is to exhibit a practical tool that can be used to assist senior leadership in initiating and implementing on-going process improvements and identify opportunities to gain a competitive edge. The CMMAT will provide data that can guide focused efforts within the JM&L Contracting Center to identify strengths, weaknesses and opportunities for improvements. The conclusion of this research will attempt to recognize challenges within the JM&L's contracting processes and suggest recommendations to overcome these weaknesses.

C. BACKGROUND INFORMATION

The JM&L is one of six major Contracting Centers under the newly formed Army Contracting Command (ACC), which was directed by the Secretary of the Army on 30 January 2008 in response to a recommendation by the "Commission on Army Acquisition and Program Management in Expeditionary Operations" (known as the Gansler Commission). The JM&L is located at Picatinny Arsenal in northern New Jersey. The JM&L is a full service contracting community of professional business advisors made up primarily of job series 1102, Contract Specialists, that are horizontally integrated with its customer base and provides an array of contracting support to its customers utilizing many different contracting instruments to ensure on-time and quality execution of programs. The JM&L's customer base is responsible for providing life-cycle program

management of armaments and munitions for peacetime and war. (JM&L Strategic Plan, 2007) The contracting professionals of the JM&L specialize in application of Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout in support of mission requirements. The center executes thousands of contract actions each year and obligated more than \$3 billion in contract awards for fiscal year 2008. The number of mission related contract actions and the dollar value of the requirements have steadily increased over the past decade.

D. PROBLEM IDENTIFICATION

The terrorist attacks on September 11, 2001 imposed a powerful sense of urgency to transforming the Department of Defense (DoD). In this era, characterized by uncertainty and surprise, where the focus has shifted from a peacetime tempo to a wartime sense of urgency, an understanding of an organization's contracting processes and maturity level will assist leaders in meeting the new strategic environment, as well as keep pace with the dynamic private sector. It is imperative that DoD organizations align their fixed resources in a way that creates maximum efficiency, as well as maximum war fighting benefits. By utilizing the CMMM, organizations can conduct an assessment of its contract management process capability. The DoD is conceivably the largest and most intricate organization in the world. It manages more than twice the budget of the world's largest corporations, and carries five hundred times the number of inventory items as the world's largest commercial retail operation (DoD Enterprise Transition Plan, 2005). With acquisition as one of the Army's primary business functions, contract management has become more complex, more diverse, and more difficult to manage. According to the United States Government Accountability Office (GAO), the lack of well-defined requirements, the use of ill-suited business planning, and the lack of an adequate number of trained acquisition and contract oversight personnel contribute to unmet expectations and continue to place the department at risk of potentially paying more than necessary for the goods and services they acquire. GAO originally

designated DoD contract management as a high-risk area in 1992; that designation is still persistent today (GAO, 2007b; GAO, 2009a).

Measuring and documenting contract management process capability has become increasingly important to ensure that organizations, such as the JM&L, have established contract management processes and procedures in place. Contract management performance measurement centers on process effectiveness, which can be described in terms of maturity levels reflecting the organization's contract management process capability (Garrett & Rendon, 2005b). In order for senior leadership at the JM&L to ensure their organization is functioning at a desired level of contract management capability, they must first determine the maturity level of their current contract processes. The fundamental nature of this research will document an analysis of the contract management processes at the JM&L. The term maturity is defined as a measure of effectiveness in any specific process. In terms of contract management, Rendon relates maturity as a measurement of organizational capabilities that can consistently produce successful business results for buyers and sellers of products, services, and integrated solutions (Garrett & Rendon, 2005b).

E. RESEARCH QUESTIONS

The research undertaken will determine the maturity levels of the contract management process at the JM&L Contracting Center using the CMMM. An analysis of the data will include an examination of the organization's key process areas. An analysis of the results of recent PMRs will be completed, as a parallel study, to determine whether the results of both measures are consistent or vastly different from each other. Additionally, the survey participants were queried to provide up to five strengths and five weaknesses within the JM&L and to also provide their perceived reasons for the strengths and weakness for assessment. These responses were evaluated to identify opportunities to leverage best practices and knowledge sharing at the JM&L Contracting Center and potentially within the other ACC centers. The following questions will be addressed as a result of this project:

1. Primary Research Questions

- a. What is the Contract Management Maturity level of the JM&L Contracting Center as an organization?
- b. Is the determined contracting process maturity level of the JM&L supported by the results of Procurement Management Reviews?

2. Supplementary Research Questions

- a. What are the strengths of this organization's contracting process?
- b. What are the primary reasons for perceived contracting process strengths identified by survey participants?
- c. What are the weaknesses of this organization's contracting process?
- d. What are the primary reasons for perceived contracting process weaknesses identified by survey participants?

F. BENEFITS & LIMITATIONS

The primary benefit of the CMMM is that after the successful application of the CMMAT, the participating organization is supplied with valuable data that illustrates the organization's contract management maturity levels in key process areas. The model can identify patterns and trends within the organization's sub-centers and identify areas that need to be improved. By identifying strengths and weaknesses, the CMMM can also identify opportunities that leadership can exploit and areas to focus resources for improvement. An example of an opportunity that can be exploited is that assessment results provide insight on adopting and transferring process capability activities from one area within the contracting center with higher level maturity, such as Integrated or Optimized, to another area within the contracting center with a lower level maturity such as Ad-hoc or Basic. In addition, the assessment results will provide the organization with the data necessary to establish a strategic plan to provide additional training

and resources to improve its contract management process capabilities. For example, a process area such as Contract Closeout, at either Ad-hoc or Basic maturity level, will be identified and the organization will know that it needs to provide additional training or policies and standards in the practices related to the key activities for that specific process area. In summary, the CMMM offers an organization a valuable tool that can be utilized for the continuous improvement of the organization's contract management processes. Its application provides a baseline for contract management process improvement by determining the level of process maturity for each of the six process steps and provides the capability to complete future assessments to determine process change progress. The benefiting organization will be afforded the opportunity to exchange best practices that may, in turn, provide overall organizational synergistic improvement (Kovack, 2008).

The primary limitation of the contract management process capability maturity model is that the model is designed for the purpose of identifying process maturity levels within an organization's contract management process. However, as mentioned earlier, the CMMM will not provide solutions or solve problems identified by the assessment. It is not intended to change the organizations contract management processes (Garrett & Rendon, 2005b). This CMMM study is limited to providing data based on the buyer's perspective. It is up to the contract management organization's senior leadership to initiate actions to work on improving the critical processes. Should the necessary initiatives not happen, opportunities to improve the process capabilities are jeopardized.

Another limitation of this research is that the CMMAT survey was administered to a specific group of warranted GS-12s contracting officers through YC-03 managers within the JM&L. The anonymous survey was voluntary and dependent on the sincerity and effort given to the surveys by the participants. The survey results are only as accurate as the responses provided. In order to minimize this limitation, the researchers obtained the assistance of the JM&L Principal Assistant Responsible for Contracting (PARC) to facilitate the request to

participate in the survey and to answer the survey questions as honestly as possible to the best of their knowledge. In addition, the researchers will conduct an analysis of the maturity levels based on the survey results with other procurement metrics, such as the results of recent PMRs, which reviews actual contract files, to see if the qualitative results of the survey are similar to the PMR findings.

G. SIGNIFICANCE OF STUDY

With the contract management function increasing in importance, the need for a systematic approach to assessing effectiveness and capability is now critical for an organization to maintain a competitive advantage (Garrett & Rendon, 2005a). Core organizational competencies must now include structuring, negotiating, and administering long-term contracts (Garrett & Rendon, 2005a). Under the newly formed ACC, the JM&L is responsible for making contracting an Army, high-quality, core-competency (Gansler, 2007). The CMMM will offer the JM&L a true measure of its contracting processes. This study can also be combined with other independent studies of the other major contracting commands within the Army, such as the Communication Electronics Command (CECOM), the Tank-Automotive Command (TACOM), the Research Development and Engineering Command (RDECOM), the Aviation and Missile Command (AMCOM), and the National Capital Region Contracting Center, which would offer all of the contracting centers within the ACC, the same benefits as previously discussed and allow for leveraged inter-agency knowledge exchanges and opportunities for contract management process improvement. One of the goals of the ACC is to regain the confidence of Congress and the American Public in the execution of its fiduciary responsibilities (ACC Top Stories, 2008). Identifying contract management process strengths and weaknesses within the ACC is a critical step in the right direction towards achieving this goal.

H. METHODOLOGY

The research conducted applies the CMMM utilizing the CMMAT to collect data to assess the contract management process capabilities and perceived organizational strengths and weaknesses of the JM&L. The CMMAT, consisting of an approximately 60-question standardized survey, was used to assess contract management process maturity. The assessment results do not use descriptive statistics to explain process maturity. Rather, qualitative data gathered through the CMMAT is analyzed to assess the organization's contract management maturity level in order to identify process consistencies and strengths and to recommend areas for improvement (Garrett & Rendon, 2005b).

I. RESEARCH OVERVIEW

This joint applied research project is organized into five chapters. Chapter I introduces the research project and provides the purpose of the study, a brief background of the organization, identification of the problem, the proposed research questions, the benefits and limitations of the research project and the significance of conducting the study. Chapter II consists of a literature review on organizational assessments, and how assessments are performed in the DoD. The literature review also covers maturity models and the associated assessment tool used for this research providing background information. Chapter III discusses the ACC and provides background on the JM&L and specific information regarding why the JM&L was chosen for this research and an in-depth discussion on its contract management process and the participants selected for the survey. Chapter IV provides the assessment results for each of the six sub-centers within the JM&L and improvement recommendations of the six key phases of the contract management process. Chapter V consists of the summary, conclusion and areas for further research.

J. SUMMARY

As the DoD evolves, its buying practices to restructure Army contracting efforts and assign responsibility to facilitate contracting in both expeditionary and

U.S. based operations, contract management has gained a greater importance and has come to the forefront as a core competency (Leipold, 2008). This study will measure the contract management process capability maturity level at the JM&L. The results of the analysis will provide a roadmap for the leadership to concentrate efforts and resources to obtain continuous improvement and achieve higher levels of contract management capabilities (Garrett & Rendon, 2005b).

This chapter began with a brief introduction to the chapter and followed with the purpose of this study. Next, the chapter discussed a brief background of the organization and then continued with the problem identification and the primary and secondary research questions that this research will address. The benefits and limitations of the research were presented next, followed by the significance of the study. The chapter concluded with an overview and methodology of the research project. The second chapter of this project will go into the literature review.

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II. LITERATURE REVIEW

A. CHAPTER INTRODUCTION

The purpose of this chapter is to present a literature review of the main elements which support this research project. Specifically, this chapter will provide the relevance of organizational assessments. The review will also go into an in depth discussion of DoD's organizational environment and will also provide a background of the origins of the uses of assessment models utilized to measure organizational performance and capabilities. The last section of the literature review will introduce the Contract Management Maturity Model (CMMM) and provide a synopsis of its application towards organizational assessment.

B. ORGANIZATIONAL ASSESSMENTS

Organizational assessment can be defined as “the process for obtaining systemic information about the performance of an organization and the factors that affect performance in order to diagnose areas of possible investments for change and/or to demonstrate competence” (Jones, 2006). Most organizations conduct performance management for their employees with actions such as, setting goals, monitoring the employee's achievement of those goals, sharing feedback with the employee, evaluating the employee's performance, rewarding performance or firing the employee. Performance management applies to organizations as well, and includes recurring activities to establish organizational goals, monitor progress toward the goals, and make adjustments to achieve those goals more effectively and efficiently. When the objective is to improve the performance of an organization, conducting regular assessments of the current performance is beneficial in that it ensures that processes and skills match the desired outcomes. While most often the best kind of assessment is planned, systematic and explicit, it may also be unplanned and implicit. Well-done assessments typically use models, although they are often used without recognizing or referring to them as models. These assessment tools take the

form of comprehensive questionnaires, SWOT analyses or diagnostic models and include a comparison of results to various best practices or industry standards (McNamara, 2008). These assessments will most often result in a prioritized improvement strategy targeted at leveraging existing strengths while identifying opportunities to combat weaknesses and address known threats to increase or gain a competitive advantage. Both private and public sectors have realized the importance and benefits of self assessments to their organizations. Leading organizations must continuously seek process improvement to gain and maintain their status of being successful.

C. DEPARTMENT OF DEFENSE—ORGANIZATIONAL ENVIRONMENT

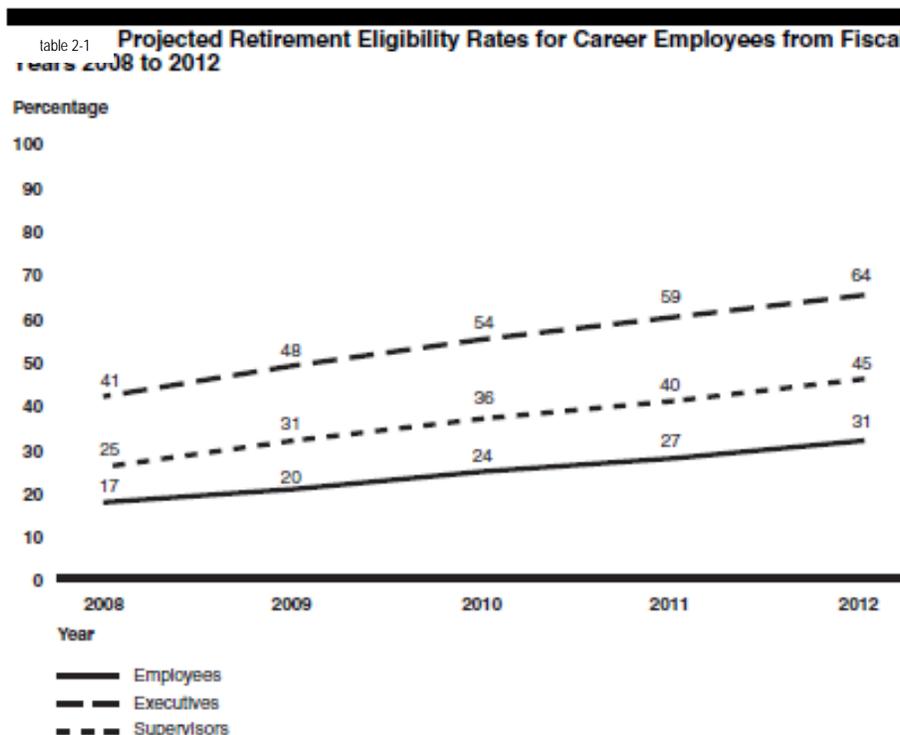
The Department of Defense (DoD) is perhaps the largest and most complex organization in the world. It manages more than twice the budget of the world's largest corporation, and employs more people than the population of a third of the world's countries (DoD Enterprise Transition Plan, 2005). The DoD has the largest budget of any other federal agency. Its annual appropriation for fiscal year 2009 is approximately \$512 billion with an additional \$807 billion in supplemental funding over the past several years to support the global war on terrorism (GAO, 2009b). However, like many other individuals and organizations such as GAO, President Obama has referred to DoD's contracting system as being "broken" and the contracting environment these days can best be described as in "turbulent times" (CNN Money, 2009; Garrett & Rendon, 2005a).

GAO has reported that, despite DoD efforts, changes in the acquisition environment, such as reductions in the acquisition workforce, and increasing reliance on contractor-provided services, have caused DOD's contract management to remain on GAO's high risk list (GAO, 2006). Other experts have also said that the decline in the acquisition workforce has been a primary factor of the federal procurement problems (Weigelt, 2007).

The decline in the acquisition workforce was caused by a cut in personnel and a subsequent hiring freeze. The DoD lost a great deal of corporate

knowledge during the hiring freeze of the 1990s, by downsizing its civilian acquisition workforce by almost 50 percent to about 124,000 between 1989 and 1999 (GAO, 2002). This corporate knowledge, along with best practices was not passed down to the future generation of contracting professionals. According to GAO, the hiring freeze created a human capital crisis wherein “the percentage of the workforce aged 30 and under—the pipeline of future agency talent and leadership—has dropped dramatically, while the percentage of the workforce aged 50 and above grows even larger” (GAO, 2000). Table 2–1 below illustrates that the percentage of federal workers 55 and older is growing faster than that of any other age group (GAO, 2008).

Table 2–1 Projected Retirement Eligibility Rates for Career Employees from Fiscal Years 2008 To 2012



Source: GAO analysis of CPDF data.

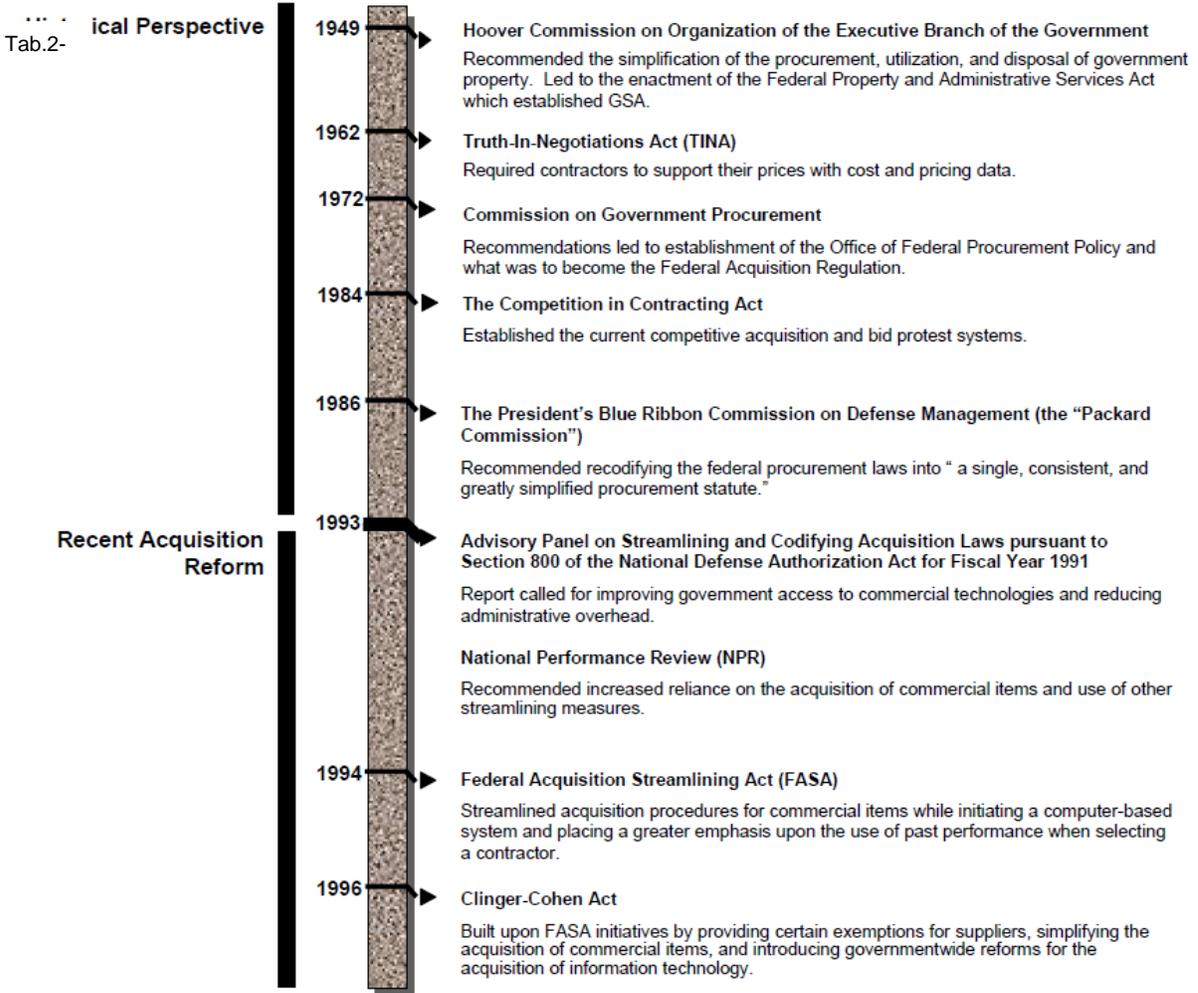
Note: The term “executives” as used in this testimony includes political appointees above GS-15, those in the Senior Executive Service, those in the Senior Level and Senior Technical and Professional pay plans, and equivalent positions. The term “supervisor” as used in this testimony includes those whose duties involve assigning, directing, and supervising the work of others on a regular basis, as well as management officials who are not executives, but whose duties involve formulating agencies’ policies.

(From GAO 08-630T

The combination of the increase in the acquisition workforce’s workload and the complexity of responsibilities along with the decrease in size, skills and knowledge of the workforce have led to inefficiency, mismanagement and susceptibility to fraud, waste and abuse (GAO, 2006). As a result, the federal government has been attempting to improve its acquisition processes for decades. Table 2–2 displays a timeline of these efforts (GAO, 2000).

Table 2–2 Timeline of Selected Acquisition Reform Initiatives

Figure I.1: Timeline of Selected Acquisition Reform Initiatives



Source: GAO Analysis of Selected Acquisition Reform Initiatives.

(From GAO/T-OGC-00-7)

In addition, as illustrated in Table 2–3, the GAO has also released numerous reports addressing acquisition workforce issues that must be improved upon in order to generate more favorable outcomes, such as, the looming human capital crisis, the impending knowledge gap facing the DoD’s acquisition workforce, the skills sets and competencies of the acquisition workforce, improvements to acquisition training and recruiting programs, contract management oversight and acquisition reform.

Table 2–3 Acquisition Workforce Issues, GAO Reports

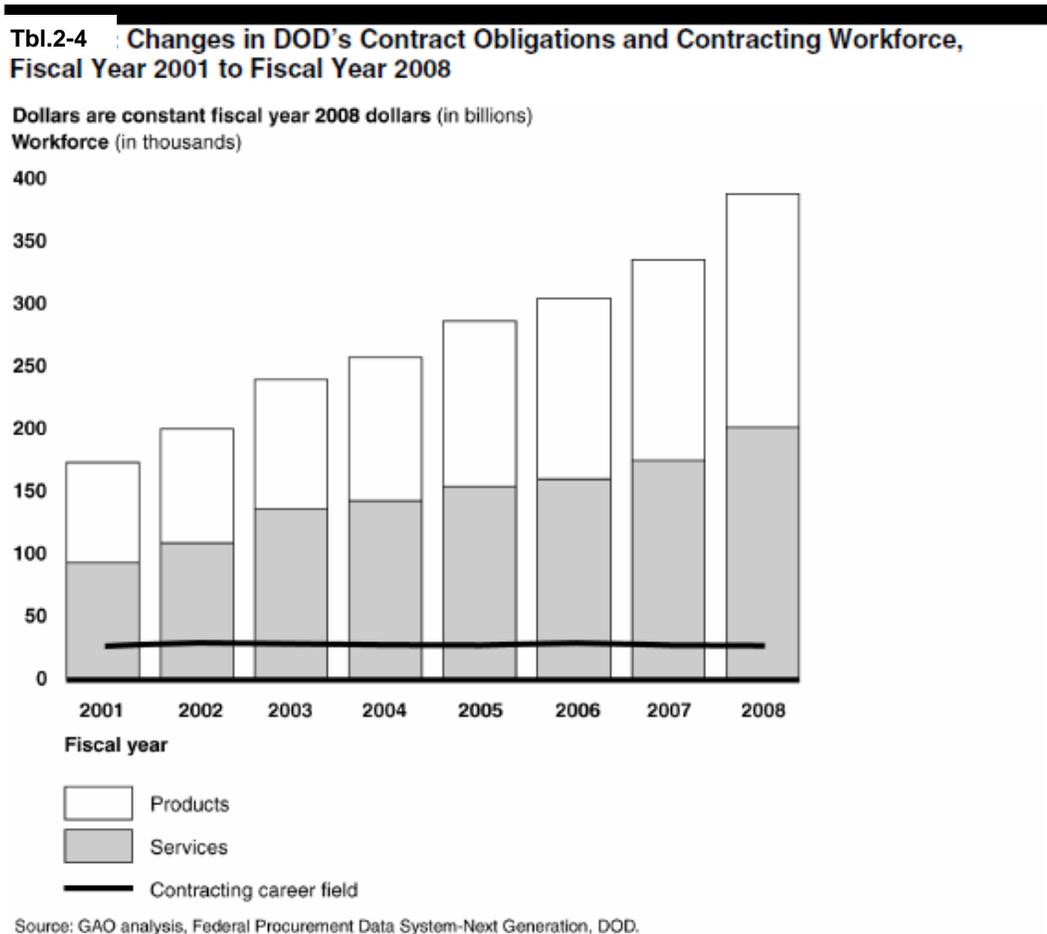
<u>ACQUISITION WORKFORCE ISSUES</u>	<u>GAO REPORT NUMBER</u>
Looming Human Capital Crisis	GAO/T-OGC-00-7; GAO-02-630; GAO-07-1098T; GAO-09-342; GAO-09-271
Impending Knowledge Gap	GAO/T-OGC-00-7; GAO-09-342
Skills Sets and Competencies	GAO/T-OGC-00-7; GAO-02-630; GAO-07-1098T; GAO-09-342
Training and Recruiting Programs	GAO-02-630; GAO-07-1098T
Contract Management Oversight	GAO-07-1098T; GAO-09-271, GAO-09-342; GAO-09-362T; GAO-09-460T; GAO-09-616T
Acquisition Reform	GAO/T-OGC-00-7

Although, the GAO added contract management to its High-Risk List in 1992 after identifying contract management as a high-risk and vulnerable area for the DoD and other federal agencies, these added challenges may explain why the risk remains seventeen years later (GAO, 2009a).

The DoD faces numerous challenges to improve efficiency and effectiveness in acquisition. In order to become efficient and responsive, a quality workforce is essential (GAO, 1995). As previously discussed, the current status of the army contracting system reveals that while there is a tremendous increase

in both the number of contracts and in total dollars on those contracts, there has been an actual reduction in the number of people who are performing the contract management functions (see Table. 2-4).

Table 2-4 Changes in DoD’s Contract Obligations and Contracting Workforce Fiscal Years 2001 To Fiscal Year 2008



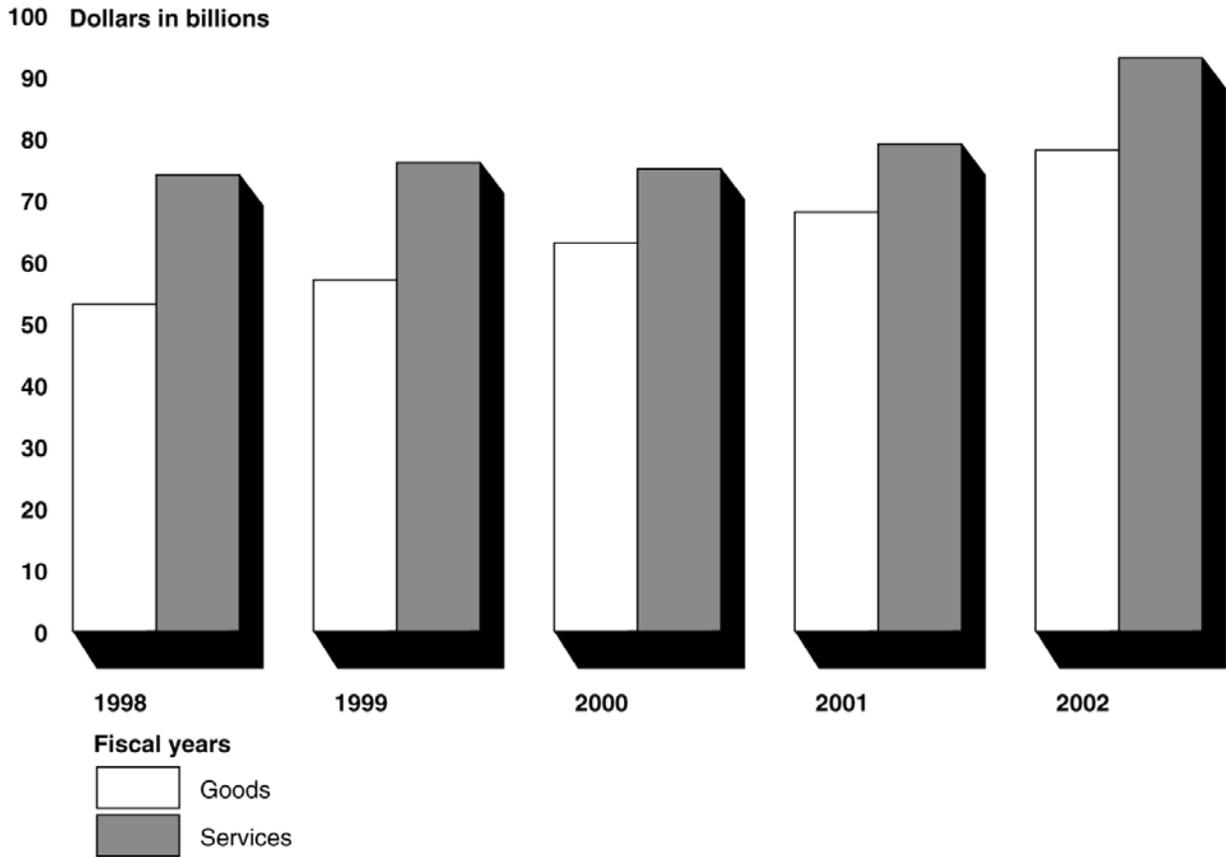
(From GAO-08-630T)

This situation initially developed when the defense budget placed an emphasis on downsizing the workforce and military operations after the Cold War. The problem was then magnified when the defense budget turned around and surged after 9/11 resulting in increased requirements. Despite these

increases, DoD did not react by increasing its contracting personnel accordingly. This situation was also documented by Dr. Jacques Gansler; Chairman of the Gansler Commission who investigated the Army's contracting programs and published findings in October of 2007. The Commission found that, "inexperienced personnel, increasing workloads and institutional neglect have produced an 'opportunity to create fraud' in Iraq, Afghanistan and Kuwait" (Gansler, 2007).

Another major reason that caused GAO to place DoD contract management on its high risk list in 1992 was issues concerning the acquisition of services. The DoD continues to face significant challenges in applying fundamental practices when contracting for and managing service contracts (GAO, 2009c). Service acquisition in the DoD has continued to increase in size and cost for over a decade (Apte, Apte, & Rendon, 2008). In fiscal year 2008, DoD obligated over \$200 billion on service contracts, accounting for more than half of its total contract obligations. As reflected in Table 2--5, the decade-old increase in service acquisition scope and dollars has surprisingly surpassed the acquisition of equipment and goods, including high value weapons systems and large military items (Camm, Blickstein & Venzor, 2004; Apte, et al., 2008). This trend reveals that the acquisition of services and the use of service contractors has become a significant aspect of the DoD mission. Given the fragile state of the economy and severe budget pressures currently facing the country, it is imperative that DoD obtain value when buying these services. Nevertheless, as GAO has discovered and reported, the DoD does not always utilize sound practices and processes when acquiring services (GAO, 2009c). As the DoD's services acquisitions continue to increase in scope and dollars, it is essential that greater attention to all facets from planning to oversight be given.

Table 2-5 THE SERVICES ACQUISITION ENVIRONMENT



Source: GAO analysis of DOD data.

(From GAO, 2002)

The findings in the Gansler Report led the federal government to discover what its commercial counterparts have also previously discovered, and that is, that the time for a transformation has come. In a recent address following the signing of his memo, President Obama stated "It's time for this waste and inefficiency to end. It's time for a government that only invests in what works." The President also noted that the Government Accountability Office last year looked into 95 major defense projects and found cost overruns that totaled \$295 billion. President Obama indicated that a reduction of services outsourced by the federal government that they could perform internally was necessary, and vowed to strengthen oversight, transparency and accountability. With the memorandum

that was signed on March 4, 2009, President Obama promised that this action was just the beginning of a new way of doing business in Washington, because the American people have every right to expect and to demand a government that is more efficient, more accountable, and more responsible in keeping the public's trust (White House Memo, 2009).

Proficient contract management is a key element in the DoD's role in supporting the U.S. military force's ability to deter war, provide homeland security and defend the Constitution. While the DoD faces several obstacles in achieving this mission, these challenges can be made more manageable with effective and efficient support from its contracting workforce in their roles as business advisors, policy creators, and acquisition managers. As such, the DoD is paying a great deal of attention to the transformation of business opportunities as well as making contract management a high priority (GAO, 2005).

D. ORIGINS AND VARIATIONS OF MATURITY MODELS

Research has shown that a variety of organizational models have been used for the development of the procurement function. The development of these models reflects the transition of procurement from a tactical to a strategic or integrative function (Rendon, 2008b). Model-based process improvement involves the use of a model to help direct the improvement progress of an organization's processes (Ahern et al., 2001). The purpose of process improvement is to maximize the ability to improve an organization's work processes by producing consistent and meaningful results. Process capability is defined as "the inherent ability of a process to produce planned results" (Ahern, et al, 2001). As the capability of a process increases, it becomes predictable and quantifiable, resulting in a boost in productivity and quality (Ahern et al., 2001). This process capability improvement is referred to as process "maturity." Maturity is a measure of effectiveness or capability in any specific process (Dinsmore, 1998). An organization's process maturity is developed along a passage of time rather than an immediate transformation from little or no ability to optimal

capability. A maturity model is an instrument used by an organization's leaders to establish where they are now, what to do next, and provides a guide to initiate new process capability improvements (Jackson, 2007). Through models, a general set of key process requirements and practice areas to direct priorities can be applied. The use of models by an organization also sets-forth a baseline for process improvement and a measurable position from which to assess progress (Kovack, 2008).

Continuous improvement is critical to the success of an organization. There are a variety of methods that provide for continuous improvement initiatives, including: 1) benchmarking systems, 2) process mapping, 3) process costing; 4) maturity models; 5) capability maturity model integration; 6) contract management maturity model; 7) process improvement metrics; 8) process improvement methods; and 9) supplier workshops (Matthews & Stanley, 2008). In recent years there has been an explosion of maturity models each with diverse features and characteristics used for a variety of purposes, including people, software management and project management. A maturity model is described as a structured collection of elements that describe certain aspects of maturity in an organization, and aids in the definition and understanding of an organization's processes. Capability maturity models can be defined as an evolutionary roadmap for applying the fundamental practices for a variety of organizational processes. This evolutionary roadmap reflects the organization's process improvement, from immature process maturity capability standards to a disciplined mature process that features improved quality and effectiveness (Matthews & Stanley, 2008, 2008; Curtis, Hefley and Miller, 2002). Table 2-6 lists a few of the more prominent maturity models:

Table 2–6 List of Maturity Models:

<ol style="list-style-type: none">1. Capability Maturity Model Integration (CMMI)2. Capability Maturity Model for Software (SW-CMM)3. People Capability Maturity Model (P-CMM)4. Software Acquisition Capability Maturity Model (SA-CMM)5. Software Engineering Capability Maturity Model (SE-CMM)6. Integrated Product Development Capability Maturity Model (IPD-CMM)7. IT Service Capability Maturity Model (IT Service CMM)8. Organizational Project Management Maturity Model (OPM3)9. Services Maturity Model10. Self-Assessment Maturity Model (SAMM)11. Testing Maturity Model (TMM)12. Web Services Maturity Model13. Security Maturity Model (SMM)14. Operations Maturity Model15. e-Learning Maturity Model16. eGovernment Maturity Model17. Earned Value Management Maturity Model (EVM3)18. Outsourcing Management Maturity Model19. Change Proficiency Maturity Model20. Performance Engineering Maturity Model21. IT Architecture Maturity Model22. Information Process Maturity Model23. Project Management Maturity Model (PMMM)24. Programme Management Maturity Model25. Learning Management Maturity Model (LM3)26. Automated Software Testing Maturity Model27. Website Maturity Model28. PM2 Maturity Model29. Internet Maturity Model30. Usability Maturity Model31. Software Reliability Engineering Maturity Model32. System Security Engineering Capability Maturity Model33. Configuration Management Maturity Model34. Maturity Maturity Model (M3)	
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From: A StickyMinds.com by Lee Copeland

The novel capability maturity model, Capability Maturity Model for Software (SW-CMM) was developed by the Software Engineering Institute (SEI), a federally funded research and development center sponsored by the DoD and operated by Carnegie Mellon University in the early 1990s for the purposes of information technology solutions and software solutions. It describes the critical elements of an organization's system engineering process that must exist to guarantee satisfactory systems engineering results and provides a point of

comparison with actual system engineering practices. This original model remains widely used as an assessment tool today. The recognition and usage of capability maturity models has increased tremendously over the past decade (Software Engineer Institute, 2007; Jackson, 2007).

The use of staged maturity levels in designated process areas is a common characteristic of all maturity models. Most models consist of a five stage maturity level with each level building on the previous level (Garrett & Rendon, 2005b). As an organization proceeds from one maturity level to the next, the array of benefits from its improvement activities and processes expands considerably, since improvement at each maturity level reduces process inefficiencies. Conversely, a different set of benefits also emerges at each level (Software Engineer Institute, 2007; Jackson, 2007).

A process area is defined as “a cluster of related practices that, when performed collectively, satisfy a set of goals that contribute to the capability gained by achieving a maturity level” (Curtis, et al., 2002). Each process area is depicted by goals. Achieving these goals establishes that process area’s ability to affect workforce capability. The capabilities that must be standardized to attain a maturity level along with the practices that an organization should implement to improve its workforce capability are identified by process areas. Table 2–7 illustrates the structure of the People CMMM and is a good representation of the structure of Capability Maturity Models in general (Curtis, et al., 2002).

Table 2–7 Structure of the People Capability Maturity Model



(From Curtis, Hefley & Miller, 2002)

Maturity assessment methods establish a baseline of process maturity, identify improvement targets, and continuously assess improvement progress (Software Engineer Institute, 2007). Continual process capability improvement is another universal characteristic of maturity models. Process strengths and best practices are identified through the use of maturity models. This information can be applied to other less mature areas of the organization for purposes of knowledge sharing and exploiting best practices (Garrett & Rendon, 2005b). Lastly, capability maturity models can be modified to fit the requirements of the organization and can be utilized to evaluate different sized divisions within an organization. Therefore, models can just as easily be applied to a single department as they can to an entire organization (Kovack, 2008).

E. CONTRACT MANAGEMENT MATURITY MODEL

The Contract Management Maturity Model (CMMM) applies the maturity model concept to the contract management process. This project applies the CMMM through the use of the Contract Management Maturity Assessment Tool (CMMAT) to evaluate the maturity of contracting processes. Contract management process maturity is the “measure of effectiveness of an organization’s contract management processes” (Garrett & Rendon, 2005b). The CMMM was selected as it is the only model that measures the maturity of contracting processes. The CMMM provides a visual tool to measure the effectiveness and maturity of an organization’s contract management processes. This is done using a “research-based systematic assessment tool” (Garrett & Rendon, 2005b) designed to evaluate an organization’s overall contract management process capability and to benchmark organizational policies, processes, and practices (Rendon, 2003).

Contract management, as used in the CMMM, is defined as “a process of planning, forming and administering agreements to buy or sell goods and services from or to another party, or in other words, the art and science of managing a contractual agreement throughout the contracting process” (Garrett, 2007). The term “maturity,” as it relates to the model, refers to organizational capabilities that produce successful business results time and again for buyers and sellers of products, services, and integrated solutions (Garrett & Rendon, 2005a). The effectiveness of a contract depends on the processes used to create those contracts. An organization should manage their fundamentals and manage them well. In contracting, that means developing strong processes. Therefore, in order to award and successfully manage effective contracts, organizations must have a disciplined, capable and mature contract management process in place. An organization’s maturity level refers to “the level of organizational capability created by the transformation of one or more domains of an organizations process” (Garrett & Rendon, 2005a).

Traditionally, the JM&L like the other major contracting centers within the ACC and the DoD evaluate their effectiveness as measured by compliance reviews. These reviews are known as Procurement Management Reviews (PMR) and focus on end product compliance which results from the processes. In these PMRs, contract actions are scrutinized for conformity with the Federal Acquisition Regulation (FAR) and other applicable statutory requirements, including the Competition in Contracting Act (CICA), Truth-in-Negotiations Act (TINA) and the Federal Acquisition Streamline Act (FASA). The reviews encompass evaluation of contracts for compliance with applicable laws, regulations, executive orders, GAO decisions, and sound business practices. PMRs also address other areas affecting procurement, such as support for procurement programs, achievement of established goals and management objectives, problem identification and proposed solutions, areas of excellence, organization, and personnel utilization and training. These PMRs are completed internally, at least annually, as well as externally by the ACC and the Department of the Army (DA) on a regular basis. Although the reviews can be extensive, these findings focus on compliance and end results with reports generally documenting what items are missing, incorrectly filed, or are poorly done. While these types of reviews are helpful to senior leaders in that they identify trends in areas of non-compliance or reoccurring errors or oversights, they do not uncover process deficiencies.

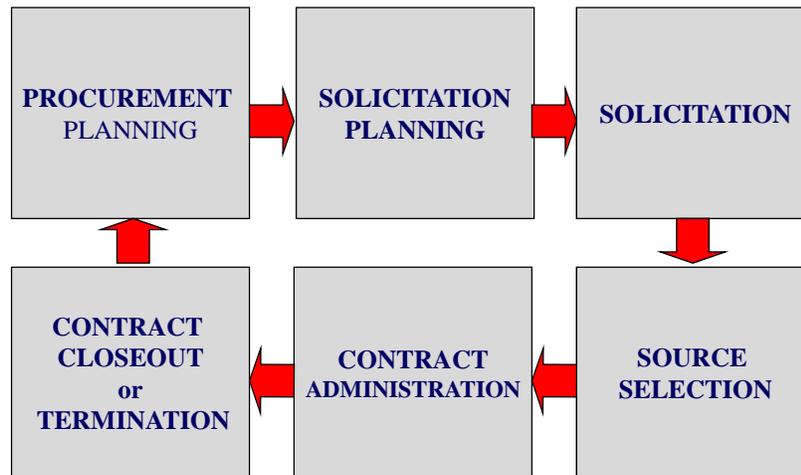
The Director of Defense Procurement and Acquisition Policy (DPAP) has also initiated their own review process. In 2008, in order to determine the distribution of key knowledge, skills, and abilities across the DoD, a comprehensive data gathering initiative known as the Contracting Competency Assessment was implemented. The purpose of the DPAP assessment was to evaluate the current workforce according to the recently developed Contracting Competency Model to determine competencies and identify gaps for current and future requirements. The results of the assessment are used to target training and development opportunities to improve the overall performance of the

contracting community to ensure that the contracting community continues to effectively deliver equipment and services that meet the needs of the Warfighter (DPAP, 2008).

While the PMRs focus on the end result or product, and the DoD-wide Contracting Competency Assessment focuses on identifying competencies and competency gaps, the CMMM exposes the process areas that are weak within the organization and identifies the possible areas of opportunities to exploit best practices, lessons learned or knowledge sharing amongst the organization to improve the process and produce a better output. The objectives of the Procurement Process is to acquire the supplies and services for the requiring activity in accordance with the technical, quality, schedule, cost, and other performance objectives (Garrett, 2007). The following table is a simple depiction of how this process functions.

Table 2–8 Procurement Process

The Procurement Process



(From Rendon & Snider 2008)

The purpose of the CMMM and associated CMMAT is to help buying and selling organizations evaluate their processes and identify principal areas for focusing improvement efforts. The six key process areas involved with the purchasing of services and supplies are:

- **Procurement Planning:** In this key process area, the procuring activity determines whether to procure, how to procure, what to procure and when to procure. Key activities include developing the statement of work, conducting market research, determining the commerciality of the requirement and acquisition planning (Garrett, 2007).
- **Solicitation Planning:** In this key process area, the procuring activity documents the product requirements and identifies potential sources. Key activities include; preparing the procurement package using standardized forms and protocols, developing the schedule and creation of the terms and conditions (Garrett, 2007).
- **Solicitation:** In this key process area, the procuring activity obtains quotations, bids, offers, or proposals as appropriate. Some of the crucial process activities include holding pre-proposal meetings, synopsising the requirement in accordance with the Federal Acquisition Regulation, and the issuance of any necessary amendments to the solicitation (Garrett, 2007).
- **Source Selection:** In this key process area, the procuring activity chooses from among all potential offerors and makes its selection for award. Key activities in this process area include the receipt and handling of the proposal, conducting the evaluation and analysis of the proposal, and preparing the selection documentation (Garrett, 2007).
- **Contract Administration:** In this key process area, activities such as contractor surveillance and management of contract changes, are essential (Garrett, 2007).

- **Contract Closeout:** Vital activities for the procuring activity in this key process area include ensuring that all efforts on the contract are complete and all deliverables accepted, ensuring that final payment has been made, and resolution of any open items has been completed (Garrett, 2007).

According to Garrett and Rendon, the framework of the CMMM consists of a multi-staged maturity-level structure. The maturity levels are not based on time but on acceptance and implementation of best practices. A level of maturity is determined for each of the six key process areas involved with a buying organization (Garrett & Rendon, 2005b).

These six areas encompass the entire contracting process of a requirement from receipt of contract requirement to contract closeout. Each individual area weighs in heavy in the overall output and outcomes of the acquisition. Low maturity levels in any of these areas will have a negative effect on the entire contract management process.

Obtaining and maintaining a high maturity level of the underlying contracting process is of the utmost importance for contracting organizations. With over 50% of the federal acquisition workforce eligible to retire by 2010, the risk of a significant loss of experience, knowledge and continuity is high. The maturity level of an organization's contract management process can help minimize the impact that this loss of experience will have.

The CMMM is a staged process that identifies maturity levels in five rating segments to measure organizational maturity. At every stage, it establishes a foundation of best practices. Each successive stage leverages the best practices laid out in earlier stages to implement increasing sophisticated practices (Curtis, et al., 2002). The maturity levels in Rendon's model begin with "Ad-Hoc" and progresses to "Optimized." The following is a detailed description of each maturity level as defined by Garrett and Rendon:

1. Level 1: Ad-Hoc

The lowest level of contract management process maturity is the “Ad-Hoc” level. At this level, the organization acknowledges that contract management processes exist, that the processes are accepted and practiced throughout a variety of industries, and that the organization’s management understands the benefit and value of using contract management processes. Organizations that exhibit an “Ad-Hoc” maturity capability do not have organizational wide established basic contract management processes. Although some established contract management process may exist within the organization, they are applied only on an ad-hoc and sporadic basis. The organization’s managers and contract management personnel are not held accountable for adhering to, or complying with, any contract management processes or standards (Garrett & Rendon, 2005b).

2. Level 2: Basic

The second maturity level in the CMMM is “Basic.” An organization at this level has some basic contract management processes and standards established within the organization, but are not required on all contracts. The standards are applied only to selected complex, critical, or high-visibility contracts. Organizations that exhibit a “Basic” process maturity level have developed some formal documentation for its established contract management processes and standards. The organization does not consider its contract management processes or established standards institutionalized throughout the entire organization. There is also no organizational policy requiring the consistent use of its contract management processes and standards other than on the required contract (Garrett & Rendon, 2005b).

3. Level 3: Structured

The third maturity level in the CMMM is “Structured.” An organization with a “Structured” maturity rating is one that has contract management processes

and standards fully established, institutionalized, and mandated throughout the entire organization. At this maturity level formal documentation has been developed for its contract management processes and standards, some of which may be automated. The organization will also allow tailoring of the mandated processes and documents, in consideration of the unique aspects of each contract. The organization's senior management is involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and contract management documents (Garrett & Rendon, 2005b).

4. Level 4: Integrated

The fourth maturity level in the CMMM is "Integrated." Organizations at this maturity level for its contract management processes utilize the procurement project's end-user as an integral member of the procurement team. It also has basic contract management processes integrated with other organizational core processes, such as cost control, schedule management, performance management, and systems engineering. Management understands its role in the procurement management process and uses efficiency and effectiveness metrics to make procurement-related decisions. The contract management process is executed well at this level of maturity (Garrett & Rendon, 2005b).

5. Level 5: Optimized

The highest level of contract management maturity that an organization can be rated using the CMMM is, "Optimized." An organization operating with a contract management process at the "Optimized" level evaluates the contract management processes periodically using efficiency and effectiveness metrics. The organization also implements continuous process improvement efforts to improve the contract management process. Lessons learned and best practice programs are implemented to improve the contract management processes, standards, and documentation. A procurement process streamlining initiative is also implemented at this level of maturity (Garrett & Rendon, 2005b).

The CMMM is most appropriately suited for organizations that have contracting departments that function as a whole, through smaller contracting divisions. The CMMM application to this type of organization easily establishes a baseline maturity level of contract management processes throughout the organization, as well as providing managers with results that identify which contracting process areas require improvement in each division. The model also encourages the transfer of best practices from high maturity level programs to programs with lower process maturity (Garrett & Rendon, 2005b). The CMMM has been successfully applied at Air Force commands, Naval commands, International Organizations and Commercial Industries, such as Hill Air Force Base, Naval Facilities Engineering Command, United Nations and Good Year Tire Corporation, respectively. (Kovack, 2008) This project is the first application of the CMMM to an Army installation and is part of a larger application of the CMMM to each of the major Contracting Centers within the ACC.

F. SUMMARY

In this chapter, organizational assessments were discussed, followed by a review of DoD's current organizational environment. This chapter also talked about many issues facing DoD's in regards to its contract management process and looming human capital crisis. This chapter shed light on the importance of using process assessment tools to initiate continuous process improvement and monitor current practices. A literature review of the origins of the various maturity models was presented, as well as a detailed description of the CMMM and its application mechanisms. Chapter III will concentrate on the specific site of this study.

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III. JOINT MUNITIONS & LETHALITY CONTRACTING CENTER

A. CHAPTER INTRODUCTION

This chapter will concentrate primarily on the contract management processes of this acquisition organization and why it is a good candidate for the Contract Management Maturity Model. The chapter will begin with an overview of the Army Contracting Command (ACC), a two-star level Major Subordinate Command in the United States Army Materiel Command. The Joint Munitions and Lethality Contracting Center (JM&L) is one of the major Contracting Centers under the ACC. The chapter will then provide a background of the JM&L to include its structure and mission and discuss why this organization was chosen for this research. Next, the current contract management process currently in place at the JM&L will then be discussed. Lastly, the chapter will conclude with a brief explanation of the selection of the questionnaire participants.

B. ARMY CONTRACTING COMMAND

The Department of Defense (DoD) is comprised of three military departments. The Army, the Navy and the Air Force make up these three departments. The Army's mission is to: "fight and win our Nation's wars by providing prompt, sustained land dominance across the full range of military operations and spectrum of conflict in support of combatant commanders." (U.S. Army, 2009) The Army's acquisition support of this mission, as identified by the GAO since 1992, has been inefficient. Despite the DoD efforts over the years to address the noted contracting deficiencies, contract management continues to remain on GAO's high risk list (GAO, 2006).

In 2007, the Secretary of the Army established a bipartisan commission of experienced, senior experts with the objective of reviewing the "lessons learned" in recent operations, and make recommendations to assist the Department of the Army (DA) in ensuring that future operations achieve greater effectiveness, efficiency and transparency (Gansler, 2007). This commission was headed by

the Honorable Jacques S. Gansler, Head of the Commission on Army Acquisition and Program Management in Expeditionary Operations. In October 31, 2007, Dr. Gansler published his report entitled: *Urgent Reform Required: Army Expeditionary Contracting*. This report revealed that the Army does not recognize the importance of contracting. Specifically, the Commission found that:

- The expeditionary environment requires more trained and experienced military officers and non-commissioned officers (NCOs). Yet, only 3 percent of Army contracting personnel are active duty military and there are no longer any Army contracting career General Officer (GO) positions.
- The Army's acquisition workforce is not adequately staffed, trained, structured, or empowered to meet the Army needs of the 21st Century deployed warfighters. Only 56 percent of the military officers and 53 percent of the civilians in the contracting career field are certified for their current positions.
- Notwithstanding a seven-fold workload increase and greater complexity of contracting, the Institutional Army is not supporting this key capability.
- Notwithstanding there being almost as many contractor personnel in the Kuwait/Iraq/Afghanistan Theater as there are U.S. military, the Operational Army does not yet recognize the impact of contracting and contractors in expeditionary operations and on mission success.
- What should be a core competence—contracting (from requirements definition, through contract management, to contract closeout)—is treated as an operational and institutional side issue (Gansler, 2007).

As a result of these findings, on March 14, 2008, under the direction of the Secretary of the Army, the ACC was provisionally stood up. On October 1, 2008, the newly appointed Executive Director of the ACC, Mr. Jeffery Parsons, formally established the ACC with the approval of DA. The ACC is recognized as a two-star level command, which includes a one-star level Expeditionary Contracting Command and a one-star level Mission and Installation Contracting Command,

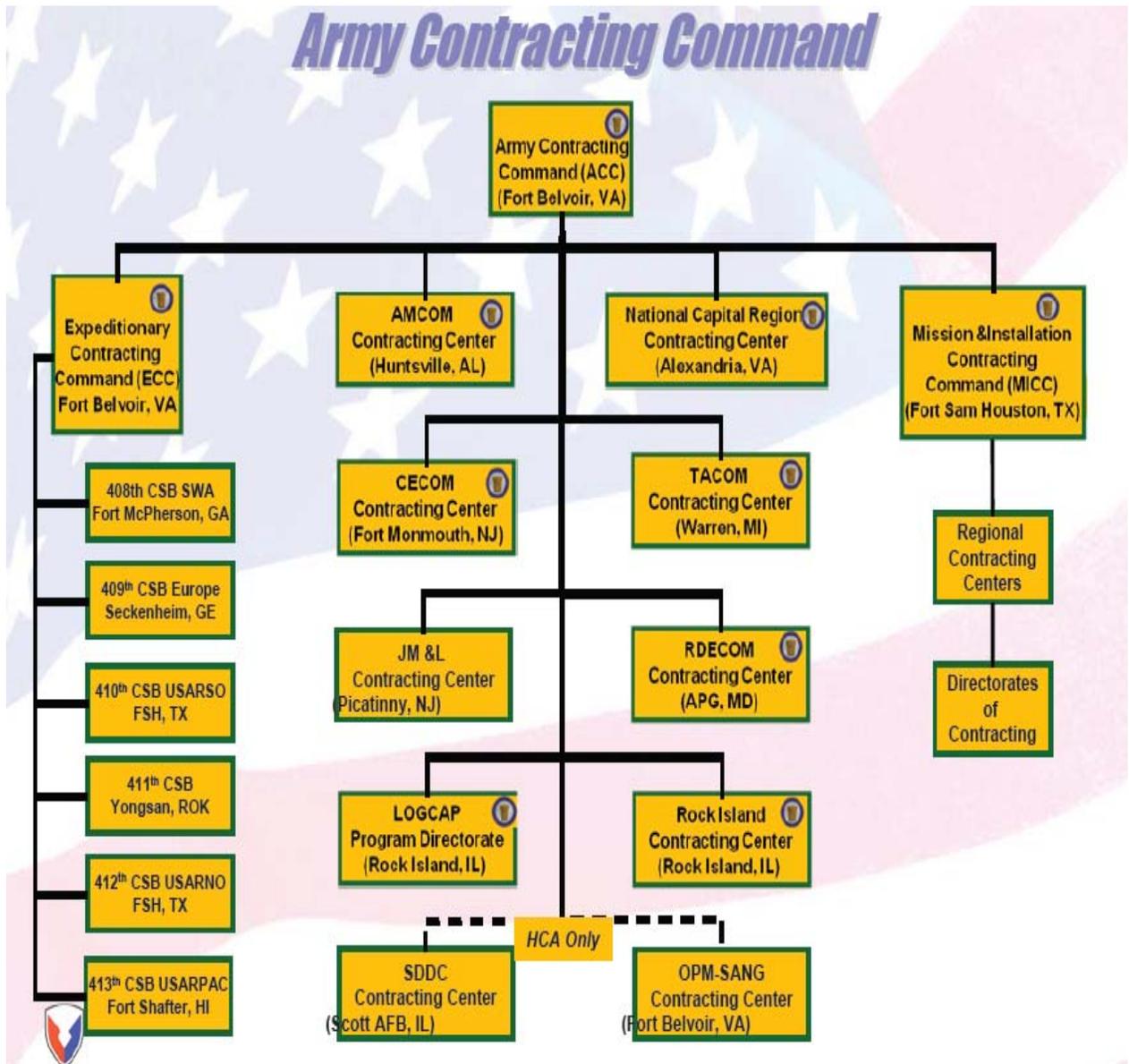
which are subordinate commands of the ACC. This realignment was a direct result of the Gansler Commission's recommendation to “restructure the organization and restore responsibility to facilitate contracting and contract management in expeditionary and CONUS operations” (Gansler, 2007). The realignment also places the majority of the Army’s contracting resources into one Army command, which will provide a full-range of contracting services. The mission of the ACC includes: “providing global contracting support to the Warfighter through the full spectrum of military operations” (Parsons, 2008) and “to continually improve contracting, acquisition, and program management in expeditionary operations” (Parsons, 2009).

The ACC has approximately 70 percent of the contracting personnel within the Army and is responsible for making contracting an Army, high-quality, core-competency (Parsons, 2009). The ACC oversees more than \$85 billion in contracts annually. Its focus is on maintaining and improving the Army's ability to respond globally in support of the warfighters' needs. One of the goals of the ACC is to grow its workforce to approximately 5,800 civilian and military personnel (Liepold, 2008). This goal also presents a challenge to the ACC to provide training and development in order to maintain and improve the Army’s contract management processes. However, Mr. Parsons also sees the benefits that will result from realigning the contracting resources of the Army. He has been quoted as stating:

One of the benefits of our new command is its breadth of contracting capability, whether it be installation level contracting, research and development, weapons systems production, or sustainment and maintenance. This breadth of capability will allow us to develop multi-skilled contracting professionals who can step up and support the contracting needs of any expeditionary operation, no matter how complex. (ACC Top Stories, 2008)

The following organizational chart, Table 3–1, illustrates the newly formed ACC and also shows where the JM&L fits into the equation.

Table 3–1 ACC Organizational Chart



(From Parsons 2008)

C. THE JM&L CONTRACTING CENTER

As a major contracting center under the ACC, the JM&L was chosen as the site to apply the Contract Management Maturity Model (CMMM) for several reasons. The JM&L, as a public entity, is a semi-autonomous community responsible for fulfilling public policy objectives and executing procedures

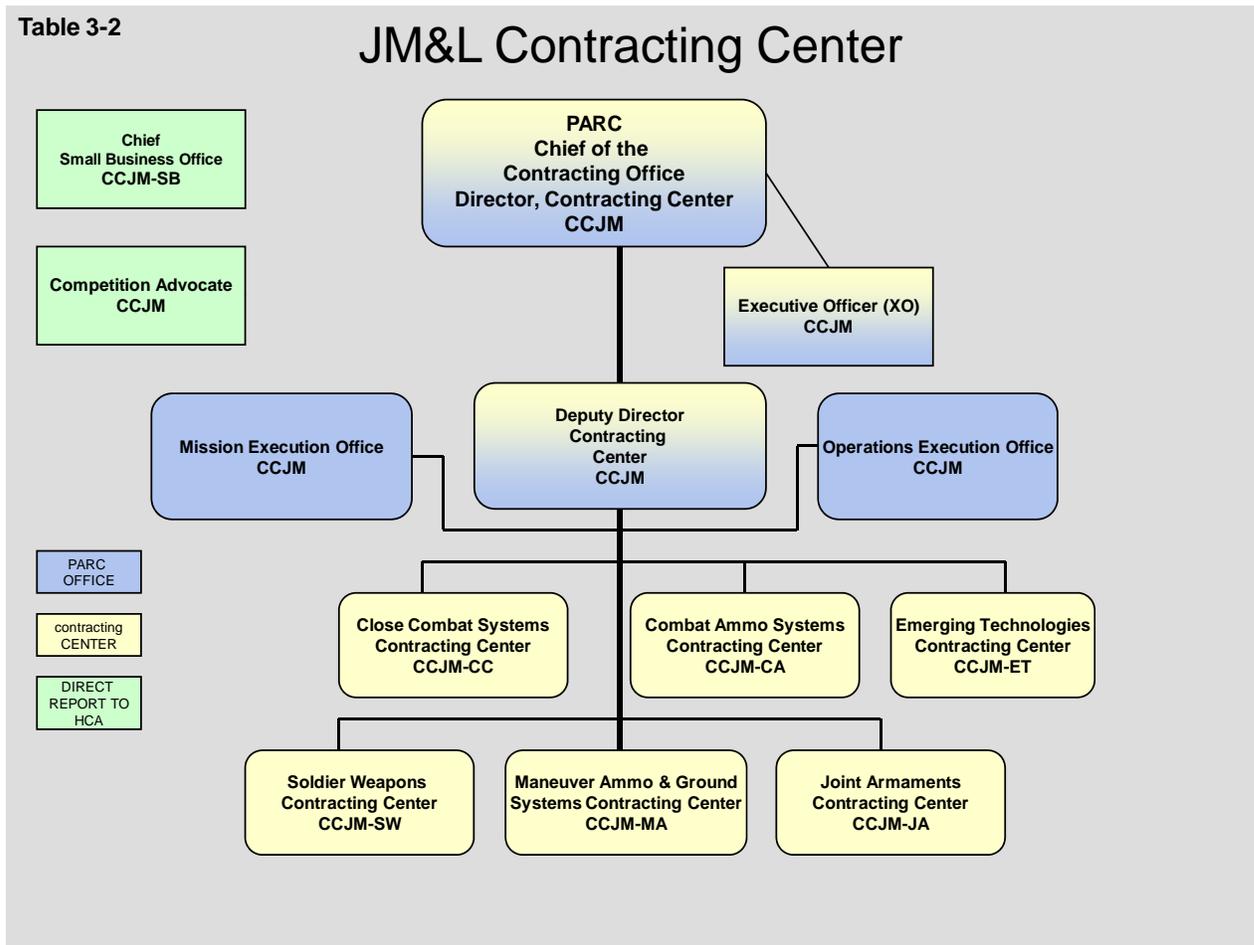
mandated by legislation or regulation. The reason it exists is to execute the Federal Acquisition System. As stated in FAR 1.102(a), "The vision for the Federal Acquisition System is to deliver on a timely basis the best value product or service to the customer, while maintaining the public's trust and fulfilling public policy objectives" (FAR, 2009). The JM&L is a full service contracting community of professional business advisors that are horizontally integrated with its customer base. The JM&L provides a full spectrum of acquisition tools and products to ensure the timely execution of programs with the highest quality. Its customer base is responsible for providing life cycle program management of armaments and munitions during times of peace and war. As a result, it is necessary for the workforce to specialize in the application of environmental, legal, security and safety issues unique to this commodity class. The JM&L's products include traditional Contracts, Grants, Cooperative Agreements and Other Transactions for all phases of the contract management process (JM&L Strategic Plan, 2007). In order to employ the CMMM properly, it is essential that the organization perform all phases of the contract management processes (Garrett & Rendon, 2005b).

According to FAR Part 7.5, contracts for federal procurement activities, including approving, awarding, administering and terminating contracts, shall not be used for the performance of inherently governmental functions. Inherently governmental as described in the FAR is "a matter of policy, a function that is so intimately related to the public interest as to mandate performance by government employees" (FAR, 2009). As such, the JM&L's business advisors are made up primarily of General Schedule 1102 (GS-1102) job series, civilian contract specialists. As previously discussed, the acquisition workforce profile throughout the DoD portrays a structure that features an overabundance of retirement eligible employees at the top and an abundance of recently hired inexperienced employees on the bottom. Similarly, like the other contracting centers within the ACC, the JM&L is also structured, top and bottom heavy in terms of personnel. At the top, approximately 40% of the current employees are

retirement eligible and on the bottom, 40% have five years or less contracting experience. Since the Contract Management Maturity Model (CMMM) survey participants for this study were limited to experienced, Defense Acquisition Workforce Improvement Act (DAWIA) Level III certified contracting officers, this type of situation makes it ideal to measure the current maturity levels to ensure that knowledge is transferred and best practices are incorporated. The JM&L has a significant number of warranted Contracting Officers with a considerable amount of contracting knowledge. Contracting Officers of the United States are government employees that have the authority to obligate the U.S. Federal Government in contractual agreements (Nash, Schooner, O'Brien-DeBakey, Edwards, 2007). The JM&L requires that all contracting officers be certified level III in Contracting under the DAWIA. In applying the CMMM, it was important to have an adequate number of contracting professionals that are knowledgeable regarding the JM&L's contract management processes to ensure the legitimacy of their responses. For this reason, 100 percent of the respondents to the Contract Management Maturity Assessment Tool (CMMAT) survey were Contracting Officers.

The next reason the JM&L was selected for this research is because of its organizational structure. Table 3–2 provides the organizational make-up of the JM&L. The organizational structure stems from the Principal Assistant Responsible for Contracting (PARC) office. The Mission Execution Office and the Operations Execution are supporting offices to the PARC. The JM&L is subdivided in to six sub-centers that are customer focused and provide the core contracting practices. They are: the Close Combat Systems Contracting Center (CCJM-CC), the Combat Ammo Systems Contracting Center (CCJM-CA), the Emerging Technologies Contracting Center (CCJM-ET), the Soldier Weapons Contracting Center (CCJM-SW), the Maneuver Ammo & Ground Systems Contracting Center (CCJM-MA), and the Joint Armaments Contracting Center (CCJM-JA).

Table 3–2 JM&L Contracting Center

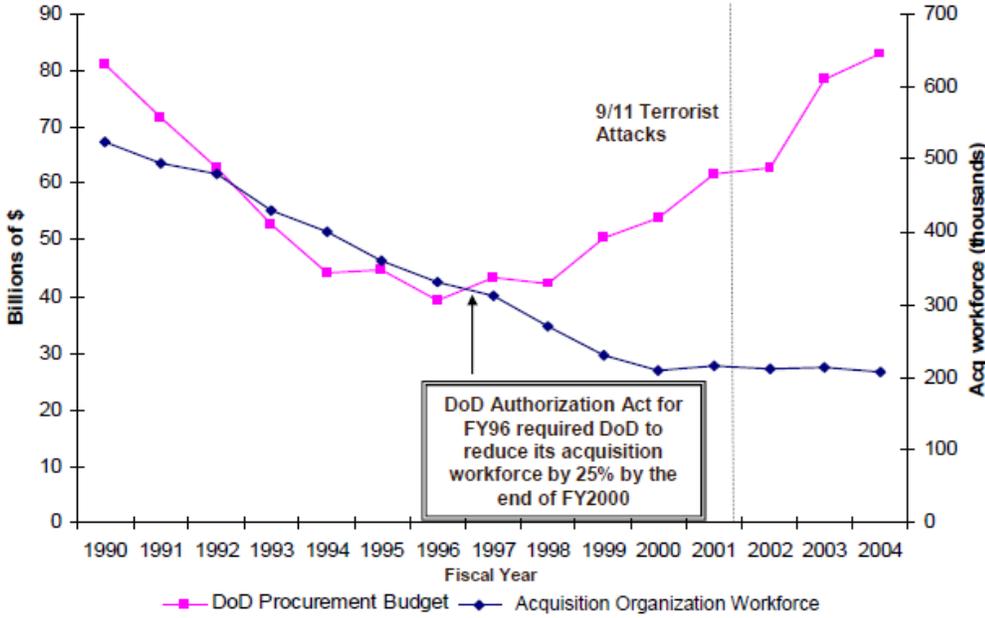


The JM&L’s execution authority emanates through the Head of the Contracting Activity (HCA) and the PARC. The organizations six customer aligned sub-centers were established to foster a strategy of “customer intimacy” and eliminate the appearance of a hierarchy structure (JM&L Strategic Plan, 2007). This special arrangement sets itself up perfectly for the application of the CMMM assessment. The assessment result will not only provide a view of the contract maturity level of the JM&L’s contract management processes but will also be able to pinpoint areas within the sub-centers that can be focused on for process improvement, as well as opportunities to deploy knowledge sharing and best practices across the sub-centers. This is an extremely important element

because the outcomes of the CMMM show that an organization is only as mature as its least mature sub-center or team. In this case, if five of the sub-centers are at the “Structured” level of maturity in a specific process area and the other sub-center is at a “Basic” level for the same process area, the organization as a whole would be recorded as at a “Basic” maturity level in that specific process area. The organization’s senior leadership would then know exactly where to focus resources or additional training to improve the overall maturity level in the most efficient manner.

The final reason the JM&L was selected, is because the CMMM has never been applied to an Army installation. While the CMMM has been successfully applied at Air Force and Naval commands, international organizations and commercial industries, this is the first Army application of the CMMM. The JM&L is a good candidate for the CMMM as it is postured for process improvement assessments in that it is plagued with the same workforce problems that persist throughout the DoD. Table 3–3 illustrates how the total number of the DoD acquisition workforce has declined even though procurement budgets have increased (Gansler, 2007). As reflected in this chart, the Defense Authorization Act of Fiscal Year 1996 required the DoD to reduce its acquisition workforce by 25% by the end of fiscal year 2000. Since that time, the DoD procurement budget has increased from approximately \$45 billion in fiscal year 1996 to approximately \$85 billion in fiscal year 2004. Meanwhile, the acquisition workforce has declined from just over 300,000 employees in fiscal year 1996 to approximately 200,000 employees in fiscal year 2004.

Table 3–3 Overall DoD Acquisition Workforce Declined Even as Procurement Budgets Increased



Source of workforce data: DoD IG Report D-2000-088, Feb 29, 2000 & DoD IG Report D-2006-073, April 17, 2006.
 Source of Budget data: Annual Defense Reports, available at http://www.dod.mil/execute/adr_intro.html.

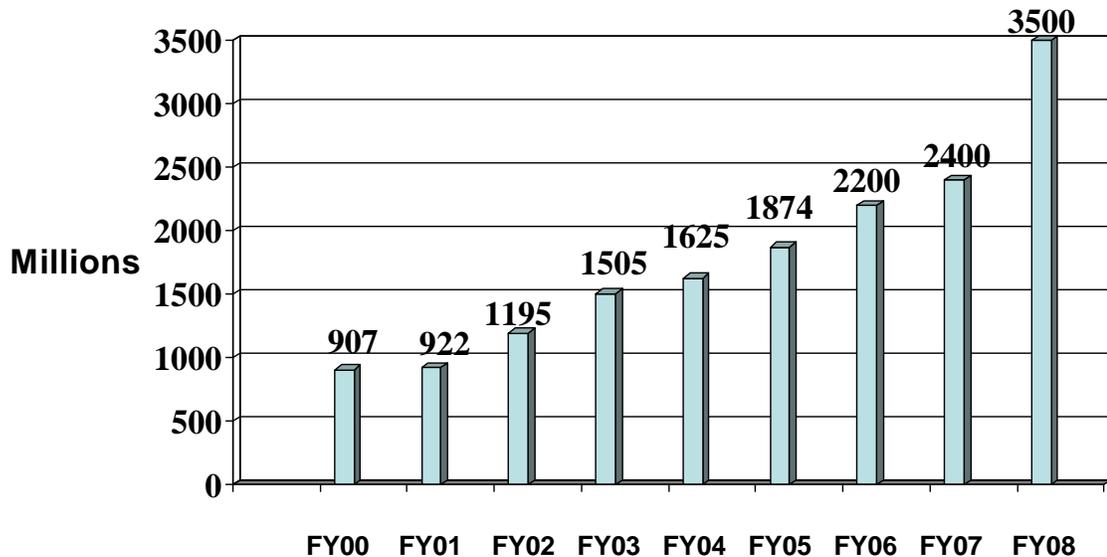
(From Gansler, 2007)

In that same time frame, the JM&L saw a dramatic increase in workload level in relation to dollars obligated. As shown in Table 3–4, total dollars obligated in fiscal year 2000 was \$907 million and has exponentially increased to \$3.5 billion in fiscal year 2008. Considering these developments, a contract management maturity assessment has the ability to pinpoint areas for process improvement and to provide direction for utilization of limited resources.

Table 3-4 JM&L Historical Workload Levels



JM&L Historical Workload Levels



D. THE JM&L CONTRACT MANAGEMENT PROCESS

According to the JM&L Strategic Business Plan, their mission is “to provide the highest quality contracting, acquisition support and business advisory services in a timely and effective manner” (JM&L Strategic Plan, 2007). The JM&L executes an array of procurements utilizing the gamut of contracting types, specializing in research and development prototypes to major weapon systems, such as the Army’s 155mm Precision Guided Extended Range Artillery Projectile known as Excalibur, XM982. This organization is responsible for all phases of the procurement process. The contracting directorate provides contract management guidance through its Mission Execution Office, designed to coordinate and disseminate instruction and policy to the contracting center’s workforce. In

addition to establishing a contracting policy office, the JM&L has also established a pricing core group to provide pricing support, a data management services function to provide real-time ability to track each customer's procurement request, an internal financial tracking system, and a career development area to assist in career enhancement through training and rotational, developmental assignments for contracting personnel. The JM&L relies heavily on both Federal and the DoD educational and developmental programs including the Army Tuition Assistance Program, the Competitive Development Group and Defense Acquisition University for government contracting education, training and experience. The JM&L has also instituted a peer review process in which the contracting file is reviewed by another contracting officer for completeness, accuracy, and quality. This process can be either formal, conducted by a board of members made up of management, pricing, and contracting officers from the JM&L sub-centers, or informal, conducted by another contracting officer within the same sub-center. The specific process is determined by the dollar value and complexity of the action. This process has been established to maintain a high quality product, promulgate "Best Practices" across sub-centers and increase management focus on the contracting process (JM&L Strategic Plan, 2007). Lastly, the JM&L has set organization metrics of 23.6% for their Small Business Office and 37% of dollars obligated for their Competition Advocate to help measure their performance.

As another measurement of contract management process performance, the JM&L is also subjected to Procurement Management Reviews (PMR). These PMRs can be either conducted internally by the organization itself or externally by another organization such as the ACC or the Department of the Army (DA). The PMR reviews are also tailored in such a manner to fit the need at that point in time. For example, on some occasions they may conduct a review of a specific contracting function, such as contract administration or source selection, and in other instances they may conduct a full contract document file review, where the entire contracting process and related documents are reviewed. The recent, and

most common, internal and external PMRs conducted at the JM&L have been full file compliance reviews. By applying the CMMM, the JM&L will be able to do a cross comparison to see if the organization's contract management process maturity levels are consistent with recent internal and external PMR findings.

E. SELECTION OF QUESTIONNAIRE PARTICIPANTS

The CMMM focuses on an organization's critical contract management process areas and activities by using of a procedure focused survey given to a "small purposive sample" resulting in a baseline level of process maturity (Garrett & Rendon, 2005b). The selection of the survey participants is a key component to the validity of the survey results. The survey findings are designed in a manner in which the maturity of an organization's contract management processes can be defined. A small survey sample of specifically designated participants that meet strict selection criteria was chosen. To lessen the impact of potential bias, the selected respondents were required to meet strict selection criteria because a small sample size increases the chance of responses and results being affected by partiality. The selection criteria requirement allows for the compilation of data of the highest quality.

The two main criteria for the JM&L participants were that they must be fully qualified, warranted Contracting Officers, and they must have attained a DAWIA Level III certification in Contracting. These strict requirements act as both a filter to eliminate the potential for bias responses, as well as, an indicator of professional experience, knowledge and competence.

Contracting Officers are warranted to act as the U.S. Government's authorized agents for soliciting offers. They are also authorized to negotiate, award, modify, and terminate contracts. They are selected individuals with the authority to execute contracts on the government's behalf, represent the government in contractual issues, and obligate government funds. The authority of these contracting officers is limited by their warrant and the requirements of law, executive orders, and regulations. Statutory qualification requirements to

serve in a position as a warranted contracting officer is set by FAR Part 1.603-2, DFARS 201.603, and local regulations or policies (Kovack, 2008).

Specifically, in order to serve in the capacity of a contracting officer with the authority to award or administer contracts above the simplified acquisition threshold, a person must meet minimum educational requirements including a baccalaureate degree from an accredited educational institution with at least twenty-four credit hours in a business concentration and completion of all mandatory Defense Acquisition University (DAU) contracting courses leading to the attainment of a DAWIA Level III certification in contracting (DFARS, 2009). According to JM&L PARC policy, these educational requirements must be combined with a minimum of two years experience in a contracting position and applicants must hold a position of at least a GS-12 or above. Requests for warrants must be supported by a resume delineating acquisition experience, completed training, knowledge and other significant qualifications. Additionally, applications must be supported by an endorsement from their Center Director. This endorsement must include details outlining future plans for development that will broaden the individual's skills and depth of experience including anticipated training, mentoring opportunities, and future on-the-job work assignments intended to expand the individual's knowledge.

The necessity of a warrant, along with the requirements to obtain one, and DAWIA level III certification requires CMMAT survey participants to maintain a level of proficiency and competency that ensures respondents have considerable familiarity of all key contracting processes. The combination of these requirements makes warranted contracting officers the ideal participants for this study (Garrett & Rendon, 2005b).

In the spring of 2009, the CMMAT was administered to contracting officers within the JM&L in the form of an online survey. Since the goal was to obtain high quality responses rather than high quantity responses, the participants were encouraged, but not forced, to complete the survey. The sample size of forty-six JM&L employees was concentrated on the most knowledgeable and experienced

members of the workforce. This experience level ensures the legitimacy of the participants' responses. The selected survey-takers represented about a third of the organization which provided an adequate pool of participants for this research. To help ensure the respondents accurately answered the questions, the authors emphasized the importance of honesty from the contracting workforce. Additionally, the JM&L Principal Assistant Responsible for Contracting sent e-mail notifications to the participants to enforce the importance of the assessment to the respondents and to enforce leadership's support of the study.

F. SUMMARY

This chapter began by providing an understanding of the newly formed ACC. It then branched out to present an overview of the JM&L and its contract management processes, including why it is a good candidate for the CMMM. Finally, the chapter concluded with a brief discussion on the selection of the questionnaire participants. Chapter IV will present the findings and results obtained from both the CMMAT and PMRs and then provide an analysis of the data as it relates to contract management processes at the JM&L Contracting Center.

IV. ASSESSMENT RESULTS AND RECOMMENDATIONS

A. CHAPTER INTRODUCTION

This chapter will present the findings, results and recommendations that stemmed from the research completed at the Joint Munitions and Lethality Contracting Center (JM&L). It will begin with a discussion on the Contract Management Maturity Assessment Tool (CMMAT), and its administration to the survey participants. A breakout of the assessment results will then follow as well as an analysis of the JM&L results. The results will be broken out by process area for each sub-center and then followed by an organization-wide assessment of the contract management maturity level for each area. Next, the chapter will compare the determined maturity level against recent internal and external Procurement Management Review (PMR) results, as well as the responses to the open-ended survey questions included in the CMMAT, to determine if the findings are consistent. The chapter then concludes with recommendations on how the JM&L can improve its contract management processes in order to achieve the next higher level of maturity.

B. CONTRACT MANAGEMENT MATURITY ASSESSMENT TOOL

As discussed in Chapter II and illustrated in Table 2–2, the six key contract management process areas, on the buying side, are: Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration and Contract Closeout. These six processes are part of every contract and are fundamental to the general success of the contracting organization (Garrett & Rendon, 2005b). The key contract management process areas make up the primary elements of the Contract Management Maturity Model's (CMMM) assessment tool. This tool is known as the Contract Management Maturity Assessment Tool (CMMAT) and is the assessment instrument used for gathering information from the organization as part of the CMMM maturity assessment process. It is also designed to collect data that will

provide organizations with information from which they can conduct an analysis of their contract management process competencies and capabilities in the six identified contract management process areas (Rendon, 2008a).

The CMMAT used for this research pertained to a buying organization and contained sixty-two purposively developed questions related to each contract management process area and related practice activities. The results of this assessment will indicate the contract management process maturity levels for the six sub-centers within the JM&L in each of the key process areas. It will also enable the researchers to designate overall maturity levels for the contract management process areas for the organization. The questions contained in the survey were developed to gather information on the extent to which the JM&L performed and applied the various key practice activities. The sixty-two questions that made up the CMMAT contained a total of ten questions in the Procurement Planning, Solicitation Planning, Solicitation and Contract Closeout process areas, and eleven questions in the Source Selection and Contract Administration process area.

The CMMAT utilizes a five-point Likert Scale to reflect the respondent's answers and associated scores. A Likert Scale is "an ordered, one-dimensional scale from which respondents choose one option that best aligns with their view" (Changingminds.org, 2009). The survey asked the participants to select a response from a range of: "Don't know" (0), "Never" (1), "Seldom" (2), "Sometimes" (3), "Usually" (4), and "Always" (5). The numbers after the responses represent the numerical weight assigned to that selection. It should be noted that the numerical weights assigned to each response do not appear on the survey instrument. The values associated to the responses for each question within the process area is averaged and then totaled by sub-center to determine the total average score per process area. Those scores are then applied to a conversion table as shown in Table 4-1, to determine the maturity level of the

sub-center. The overall organization maturity level for each of its process areas is determined by the lowest rated level of maturity achieved by one of its sub-centers.

Table 4–1 Conversion Table

10 Question Conversion Table (50 points)			
0-24	Ad-Hoc		
25-36	Basic		
37-42	Structured		
43-46	Integrated		
47-50	Optimized		
11 Question Conversion Table (55 points)			
0-27	Ad-Hoc		
28-40	Basic		
41-46	Structured		
47-51	Integrated		
52-55	Optimized		

The next section will discuss the administration of the research project in which the CMMM was applied to the JM&L to obtain the data necessary to conduct the assessment.

C. DEPLOYMENT OF THE CMMAT

The researchers deployed the CMMAT to the selected participants within the sub-centers of the JM&L Contracting Center with the assistance of Dr. Rendon. The survey was opened on April 9, 2009 and remained open until April 30, 2009. The survey, which is controlled and monitored by Dr. Rendon, was made available online through the services of SurveyMonkey.com website. Once the survey was closed, a tally of forty-six CMMAT surveys were attempted and submitted from the six different sub-centers within the JM&L for this research.

As discussed in Chapter II, the researchers only selected warranted contracting professionals that were at least Defense Acquisition Workforce Improvement Act (DAWIA) Level III certified to participate in the study. The

intention of the researchers was to capture the general response from the individuals of each of the JM&L's sub-centers that possessed the most experience and knowledge with the contract management processes of the organization. Meeting the criteria necessary to obtain their warrant and certification provides evidence that the survey participants have demonstrated a level of experience, education, and competency in contract management, hereby reducing data outliers and undesirable bias, while optimizing the small amount of data collected. This criterion is essential in a small, purposive survey. The forty-six responding JM&L contracting professionals, who met the above criteria, was a sufficient number to provide a meaningful sample to conduct a significant study that will measure the organization's contract management maturity level. The response rate to this research was forty-six out of a population of fifty-two, which equates to an 88% response rate.

The responses to the CMMAT survey questions provided by these individuals reflect the perception of organizational contract management processes, activities, and best practices, as well as, the respondents' opinion of these processes and activities. The significance of the survey was to measure the organization's contract management process maturity through individual responses. This measure differs from the Contracting Competency Assessment issued by the Defense Procurement and Acquisition Policy (DPAP) in 2008, and previously discussed in Chapter II. The purpose of the DPAP assessment was to provide a snapshot of an individual's competency level, not the organization's process capability. The data collected in the DPAP assessment, is being used on an individual basis for personal and professional growth. Conversely, the purpose of the CMMAT is to collect and analyze data about contract management processes from the JM&L activities.

The following section will discuss the results of this research project in which the CMMM was applied to the JM&L across its six sub-centers to assess the maturity levels of its contract management processes.

D. ANALYSIS OF THE CMMAT AND RESEARCH QUESTIONS

The assessment compiled data that was used to examine each of the six sub-centers which make up the JM&L to conduct the analysis. The survey participants of each sub-center were identified by their organizational symbol. The sub-center and their corresponding symbols are as follows:

Close Combat Systems Contracting Center	CCJM-CC
Combat Ammo Systems Contracting Center	CCJM-CA
Emerging Technologies Contracting Center	CCJM-ET
Soldier Weapons Contracting Center	CCJM-SW
Maneuver Ammo & Ground Systems Contracting Center	CCJM-MA
Joint Armaments Contracting Center	CCJM-JA

Table 4–2 lists the mean scores that were established for each sub-center in each key process area as a result of the survey responses. In order to determine the maturity level, the scores from each sub-center were applied to the corresponding conversion table shown in Table 4–1 depending on if the survey questions for that particular process area contained either 10 or 11 questions.

Table 4–2 Contract Management Process Areas

JM&L Sub-Center	Contract Management Process Areas					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection*	Contract Administration*	Contract Closeout
CCJM-CA	44	44	44	49	45	31
CCJM-CC	41	42	40	48	47	41
CCJM-ET	44	44	43	50	46	38
CCJM-JA	41	40	38	48	41	33
CCJM-MA	41	44	42	48	42	29
CCJM-SW	42	45	44	51	48	42

* This process area consists of 11 questions

Table 4–3 is a detailed graphic of the JM&L sub-center’s survey results. This table illustrates the maturity levels for each key process area. The sub-centers are depicted on the graph by using the last two letters of their office symbol. These results from the Contract Management Maturity Assessment, as applied to the CMMM, provides an executive summary or “quick-look” into the contract management process capability for each specific key process area across the sub-centers. This table also illustrates an analysis of the JM&L’s contracting maturity levels by determining the lowest level of maturity that any of its sub-centers achieved for each key process area. A further discussion and analysis is also provided for each of the process areas. The six key contract management process areas from the buyer’s perspective have been described by Garrett and Rendon (Garrett & Rendon, 2005b).

Table 4–3 ACC, Joint Munitions & Lethality Contracting Center

Table 4-3 ACC, Joint Munitions & Lethality Contracting Center						
CONTRACT MANAGEMENT MATURITY MODEL©						
MATURITY LEVEL	PROCUREMENT PLANNING	SOLICITATION PLANNING	SOLICITATION	SOURCE SELECTION	CONTRACT ADMIN	CONTRACT CLOSEOUT
5 OPTIMIZED						
4 INTEGRATED						
3 STRUCTURED						
2 BASIC						
1 AD HOC						
JM&L Analysis Results (From Garrett & Rendon, 2005)						

The first process area is Procurement Planning. In this phase, organizations identify which business needs can be best met by procuring products or services outside the organization. This process involves determining whether to procure, what to procure, how much to procure, and when to procure (Garrett & Rendon, 2005b). This phase of the contracting process includes determining and defining the procurement requirement, conducting market research, developing the statement of work, developing the cost estimate and the budget. Preliminary consideration is also given to the contract type and assessment of risk (Rendon, 2007).

Although, two of the JM&L’s sub-centers, CCJM-CA and CCJM-ET, achieved slightly higher outcomes achieving an “Integrated” level of maturity, the CMMAT results indicate a JM&L organization wide maturity level for this process area of “Structured” since this is the lowest level achieved in this area by any of the sub-centers. The scores attributed to the survey responses were consistent across each sub-center in the Procurement Planning process area. Table 4–4 shows that each of the weighted scores recorded from the sub-center’s are in a tight range from 41 to 44 with three of the sub-centers being on the low end and two of the sub-centers at the high end.

Table 4–4 Contract Management Process Area: Procurement Planning

Contract Management Process Areas	Joint Munitions & Lethality Contracting Center					
	Enterprise rating = STRUCTURED					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
Procurement Planning	44 Integrated	41 Structured	44 Integrated	41 Structured	41 Structured	42 Structured

A “Structured” rating indicates that the JM&L Contracting Center’s Procurement Planning processes and standards at this level are fully established and mandated throughout the entire organization. Formal documentation has been developed for these Procurement Planning processes and standards, and

some processes may even be automated. Furthermore, since these Procurement Planning processes are mandated, the organization allows the tailoring of processes and documents in consideration for the unique aspects of each contract, such as contracting strategy, contract type, terms and conditions, dollar value, and type of requirement. Finally, senior organizational 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, 2005b; Rendon, 2008b).

The second process area is Solicitation Planning. Solicitation Planning involves the process of preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources (Garrett & Rendon, 2005b). This contracting phase involves selecting the contract type, determining the procurement method, developing the solicitation document, determining proposal evaluation criteria and contract award strategy, structuring the contract terms and conditions and finalizing the statement of work (Rendon, 2007). Although four out of the six sub-centers were measured at the “Integrated” level, the JM&L maturity level reflects the lowest maturity level achieved by one of its sub-centers. As a result, the JM&L’s organization wide rating for this process area is at the “Structured” maturity level. The range of average scores was also consistent across sub-centers for this process area. As shown in Table 4–5, the weighted scored from each of the JM&L’s sub-centers ranged from 42 to 45 with CCJM-CC scoring the lowest and CCJM-SW the highest.

Table 4–5 Contract Management Process Area: Solicitation Planning

Contract Management Process Areas	Joint Munitions & Lethality Contracting Center					
	Enterprise rating = STRUCTURED					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
Solicitation Planning	44 Integrated	42 Structured	44 Integrated	40 Structured	44 Integrated	45 Integrated

A “Structured” rating indicates that the JM&L Contracting Center’s Solicitation Planning processes and standards at this level are fully established and mandated throughout the entire organization. Formal documentation has been developed for these Solicitation Planning processes and standards, and some processes may even be automated. Furthermore, since these Solicitation Planning processes are mandated, the organization allows the tailoring of processes and documents in consideration for the unique aspects of each contract, such as contracting strategy, contract type, terms and conditions, dollar value, and type of requirement. Finally, senior organizational 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, 2005b; Rendon, 2008b).

Solicitation is the third process area. This is the process of obtaining information, including bids and proposals, from the prospective sellers on how project needs can be met (Garrett & Rendon, 2005b). This phase of the contracting process includes advertising the procurement opportunity or providing notice to interested suppliers, and developing and maintaining a qualified bidder’s list (Rendon, 2007). As a result of the survey outcomes, the JM&L’s organization-wide rating for this process area is at a “Structured” maturity level, consistent with the first two key process areas. Pictured below in Table 4–6 are the weighted scores from each of the JM&L’s sub-centers for the key process area Solicitation. The scores range from 38 to 44 with CCM-JA recording the lowest range and CCJM-CA and CCJM-SW the highest. The JM&L’s sub-centers were evenly split between the “Structured” and “Integrated” levels of maturity. The responses analyzed from each sub-center had a greater degree of variance than the previous two process areas.

Table 4–6 Contract Management Process Area: Solicitation

Contract Management Process Areas	Joint Munitions & Lethality Contracting Center Enterprise rating = STRUCTURED					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
	44	40	43	38	42	44
Solicitation	Integrated	Structured	Integrated	Structured	Structured	Integrated

A “Structured” rating indicates that the JM&L Contracting Center’s Solicitation processes and standards at this level are fully established and mandated throughout the entire organization. Formal documentation has been developed for these Solicitation processes and standards, and some processes may even be automated. Furthermore, since these Solicitation processes are mandated, the organization allows the tailoring of processes and documents in consideration for the unique aspects of each contract, such as contracting strategy, contract type, terms and conditions, dollar value, and type of requirement. Finally, senior organizational 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, 2005b; Rendon, 2008b).

The fourth key process area is Source Selection. Source Selection is the process of receiving bids or proposals and applying the proposal evaluation criteria to select a supplier (Garrett & Rendon, 2005b). The Source Selection process includes the contract negotiations between the buyer and the seller in attempting to come to agreement on all aspects of the contract, to include cost, schedule, performance, terms and conditions, and anything else related to the contracted effort. The Source Selection process includes applying evaluation criteria to the seller’s proposals, negotiating with the seller and executing the contract award strategy (Garrett & Rendon, 2007b). As a result of the survey outcomes, the JM&L’s organization-wide rating for this process area is at an

“Integrated” maturity level. All of the JM&L’s sub-centers achieved an “Integrated” level of maturity. This process area was the most consistent in terms of average scoring out of all the process areas and was also the highest level of maturity achieved for any of the key process areas. CCJM-CC, CCJM-JA, and CCJM-MA each scored 48 and CCJM-SW recorded a 51, which was the highest score for this process area.

Table 4–7 Contract Management Process Area: Source Selection

Contract Management Process Areas	Joint Munitions & Lethality Contracting Center Enterprise rating = INTEGRATED					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
Source Selection	49 Integrated	48 Integrated	50 Integrated	48 Integrated	48 Integrated	51 Integrated

An “Integrated” rating indicates that the JM&L Contracting Center’s Source Selection processes and standards at this level are fully integrated with other organizational core processes such as financial management, schedule management, performance management, and systems engineering. In addition to representatives from other organizational functional offices, the contract’s end-user customer is also an integral member of the buying or selling contracts team. Finally, the organization’s management periodically uses metrics to measure various aspects of the Source Selection process and to make contracts-related decisions (Garrett & Rendon, 2005b; Rendon, 2008b).

The fifth key process area is Contract Administration. The process area of Contract Administration ensures that each party’s performance meets the contractual requirements (Garrett & Rendon, 2005b). The contract administration process includes conducting a kick-off meeting, performing contractor surveillance, measuring contractor performance, managing the contract change control process, and conducting project milestone reviews (Rendon, 2007). As a

result of the survey outcomes, the JM&L’s organization-wide maturity level for this process area is “Structured” since this is the lowest level achieved in this area by any of the sub-centers. The scores attributed to the survey responses were also consistent across each sub-center in this process area and were similar to the outcomes the JM&L achieved in the Procurement Planning process area although the range between scores was greater. CCJM-JA scored the lowest in this process area with a score of 41 and CCJM-SW was the highest at with a score of 48. CCJM-ET was recorded at the” Structured” level of maturity, however it’s mean score was closer to CCJM-SW and CCJM-CC, which were at the “Integrated” maturity level.

Table 4–8 Contract Management Process Area: Contract Administration

Contract Management Process Areas	Joint Munitions & Lethality Contracting Center					
	Enterprise rating = STRUCTURED					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
Contract Administration	45 Structured	47 Integrated	46 Structured	41 Structured	42 Structured	48 Integrated

A “Structured” rating indicates that the JM&L Contracting Center’s Contract Administration processes and standards at this level are fully established and mandated throughout the entire organization. Formal documentation has been developed for these Contract Administration processes and standards, and some processes may even be automated. Furthermore, since these Contract Administration processes are mandated, the organization allows the tailoring of processes and documents in consideration for the unique aspects of each contract, such as contracting strategy, contract type, terms and conditions, dollar value, and type of requirement. Finally, senior organizational 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, 2005b; Rendon, 2008b).

The final key process area is the Contract Closeout phase. This phase is the process of verifying that all administrative matters are concluded on a contract that is otherwise physically complete (Garrett & Rendon, 2005b). The Contract Closeout process includes, processing property dispositions, conducting final acceptance of products or services, processing final contractor payments, documenting contractor’s performance and conducting post project audits (Rendon, 2007). As a result of the survey outcomes, the JM&L organization wide maturity level for this process area is rated as “Basic,” since this is the lowest level achieved in this area by any of the sub-centers. The JM&L sub-centers received the lowest overall average scores in this process area. As illustrated in Table 4–9, the centers were equally split between the “Structure” and “Basic” levels of maturity. This process area also showed the widest range of total average scores received by each of the sub-centers. CCJM-MA recorded a weighted score of 29, whereas CCJM-SW was recorded at 42. CCJM-CA, CCJM-JA, CCJM-MA were all similar in scores of 31, 33, and 29, respectively and CCJM-CC, CCJM-ET, and CCJM-SW were also comparable with scores of 41, 38, and 42, respectively.

Table 4-9 Contract Management Process Area: Contract Closeout

Contract Management Process Area	Joint Munitions & Lethality Contracting Center					
	Enterprise rating = BASIC					
	CCJM-CA	CCJM-CC	CCJM-ET	CCJM-JA	CCJM-MA	CCJM-SW
Contract Closeout	31 Basic	41 Structured	38 Structured	33 Basic	29 Basic	42 Structured

A “Basic” rating indicates that the JM&L Contracting Center’s Contract Closeout processes and standards at this level have established some basic Contract Closeout processes and standards within the organization, but these processes 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 Closeout processes and standards. Furthermore, the organization does not consider these Contract Closeout processes or standards established or institutionalized throughout the entire organization. Finally, at this maturity level, there is no organizational policy requiring the consistent use of these contract management processes and standards on other than the required contracts (Garrett & Rendon, 2005b; Rendon, 2008b).

The principal purpose and significance of the CMMM is the goal of continuous improvement of the organization's contract management processes (Garrett & Rendon, 2005b). The JM&L's leadership is now equipped with valuable information as a result of the CMMM assessment which can be used to focus resources and efforts to improve the maturity level of each of the key process areas to the next higher maturity level by implementing best practices and knowledge sharing across its organization.

E. PROCUREMENT MANAGEMENT REVIEW METRICS

In accordance with Appendix CC of the Army Federal Acquisition Regulation Supplement (AFARS), all levels of management are responsible to review, assess, analyze and improve procurement operations and management for effectiveness and efficiency (AFARS, 2009). A traditional metric used for assessing the overall health of the JM&L Contracting Center has been Procurement Management Reviews (PMR). These internal and external reviews are used to identify contracting excellence, best practices, areas requiring improvement, and areas requiring corrective action. PMRs essentially provide for compliance reviews, while the CMMM provides an analysis of the maturity levels of that organization's contract management processes. At the JM&L, internal reviews are conducted annually and external PMRs are generally conducted every two years.

The procedures for the external reviews are established by the Department of the Army (DA) and require the Contracting Office to conduct a self-assessment prior to the review team's arrival utilizing the same tool-kit that will be utilized by the DA team. The toolkit is a standardized checklist that includes questions in the areas of: Leadership, Strategic Planning, Customer and Market Focus, Measurement, Analysis and Knowledge Management, Human Resources, and Process Management. Upon completion of the self-assessment, the DA sends a team of volunteers from other contracting activities to conduct an on-site review. Like the CMMM survey participants, the DA team volunteers are made up of DAWIA Level III contracting professionals that are highly experienced GS-13 grade level or higher, to complete an external PMR (DA Memo, 2006).

The DA team's one-week detailed review entails an examination of the organization's completed internal self-assessment, their own review of a randomly selected sampling of contract actions, and a review of additional key contracting processes that are of special interest. Areas of recent special interest include: Source Selection Processes; Quality of Requests for Proposals; Career Management; Small Business; Contingency Contracting; Contract Administration; and Acquisition Strategies. At the conclusion of the review, the team provides senior leaders with an out-brief breaking out the results of all reviewed areas. This briefing also includes Commendations, which are specific actions or trends that provide evidence of a job well done, over and above what is required. It also discusses Observations, which provide evidence of positive/negative actions or trends that may be accompanied by actionable recommendations and are specific actions that contradict regulatory, statutory, higher headquarters instructions or policies. These Observations also indicate a trend of actions that poses an unnecessary risk to efficient and effective operations and includes an actionable recommendation based on established metrics and measures of risks. The review concludes with an overall evaluation and risk assessment rating (DA Memo, 2006).

In February of 2009, the JM&L completed its Fiscal Year 2008 internal PMR. This PMR was a full file review of a random sampling of the entire population of contract awards, including basic contracts, delivery/task order contracts, purchase orders, GSA Orders and Blanket Purchase Agreements. The JM&L PMR toolkit utilized for the review comprised of thirty-five overarching topic areas, mandatory topic areas from the DA, and the Defense Procurement and Acquisition Policy (DPAP) areas of vulnerability. The results from each of the six centers were tallied, analyzed and assigned risk assessment ratings. A risk assessment rating of “Low” means the organization is within normal operations and is at risk of receiving only minor criticism or experiencing only slight adverse impact to contracting operations or customer mission requirements. A risk assessment rating of “Medium” means the organization is at risk of receiving moderate negative criticism or experiencing moderate adverse impact to contracting operations or customer mission requirements. A risk assessment rating of “High” means the organization is at risk of receiving severe criticism or may suffer serious adverse impact to contracting operations or customer mission requirements (DA Memo, 2006).

Consistent with the findings of the CMMM as illustrated in Table 4–3, the internal review concluded that the areas that received high to medium risk were areas that comprised the contract management process areas of Procurement Planning, Solicitation Planning, Solicitation, Contract Administration and Contract Closeout. According to the CMMM results, these areas also received an organization-wide maturity level of “Structured” with the exception of Contract Closeout, which received a rating of “Basic.” These levels were the lowest rated levels for the JM&L. Conversely, the area that received a PMR risk assessment of “Low” was Source Selection. In the CMMM, this area received a unanimous organization-wide maturity level ranking of “Integrated.” This was the highest rating received by the JM&L in any of the process areas.

In April of 2008, the JM&L underwent an external PMR conducted by the Army Contracting Command. As in previous reviews, the purpose of that

examination was to identify specific and potential problem areas; disseminate information; share good ideas and procedures including best practices and lessons learned; assess the health of ACC Contracting Centers; and to make recommendations, identify hot spots and provide follow-up assistance. The team conducted an extensive review of randomly selected contract files using the DA toolkit. They also assessed the JM&L's processes and procedures, including an evaluation of management programs and current and draft operational procedures. They conducted interviews with senior leadership, employees, customers, legal counsel, the JM&L Competition Advocate and the JM&L Small Business Specialist. The ACC review team concluded that the JM&L Contracting Center is performing more than adequately with limited resources with no illegalities or improprieties, and with personnel dedicated in the support of the mission. While the overall risk assessment was "Low," they did observe the "perfect storm" environment brewing with a continuing influx of additional workload and new mission with a less experienced, limited workforce. Additionally, they observed that both customers and employees noted that Integrated Product Teams (IPT) were in name only and not as effective as they could be. Lastly, another key observation was that approval processes were taking too long.

In June of 2008, the Department of the Army performed a similar external review with similar objectives. Specifically, its intent was to ascertain whether procurement laws, regulations, policies and best practices are being followed in fiscal year 2007 contract actions, as well as to identify business processes and documentation trends. Lastly, its goal was to provide the Deputy Assistant Secretary of the Army (Policy and Procurement) and the JM&L PARC with an independent assessment of the contract operations within the organization, utilizing a review pattern and criteria identical to the ACC review. The review results were similar to the April 2008 review. Areas such as Competitive Pre-award and Noncompetitive Contracting received risk assessments of "Low' and

Contract Administration received an assessment of "Medium." The DA PMR team also observed that the JM&L workforce is executing a large and complex mission in support of wartime requirements.

As indicated above, the PMR results, when compared to the CMMM results, confirm a direct correlation between the Contracting Center's resulting end product and the maturity level of the contract management processes.

F. SUPPLEMENTARY SURVEY QUESTIONS

Another area that reinforces and confirms the CMMM results are the supplemental survey questions. In addition to the standard CMMM questions previously discussed, the researchers added the following four supplementary questions to the survey:

- a. What are the strengths of this organization's contracting process?
- b. What are the primary reasons for perceived contracting process strengths identified by survey participants?
- c. What are the weaknesses of this organization's contracting process?
- d. What are the primary reasons for perceived contracting process weaknesses identified by survey participants?

The four questions were recorded separately and did not factor into the maturity ratings for the key process areas. The survey participants were asked to provide up to five strengths and five weaknesses within the JM&L and to also provide their perceived reasons for the strengths and weakness for assessment. The purpose of the supplementary questions was to provide analysis that could lead to opportunities to leverage best practices and knowledge sharing at both the JM&L Contracting Center and the other centers within the ACC.

The results of the responses to the supplementary survey questions offered a variety of perceptions and opinions of the survey participants. The

researchers conducted an analysis of the responses and were able to group the data into five general categories: Processes, Workforce, Resource Management/Customers, Policies, and Leadership / Management.

1. Process Strengths

The analysis indicated that 29% of the survey responses identified key contract management processes as strengths of the JM&L. Many of the responses were related to the Solicitation and Source Selection phase and the quality of the documents that are generated, such as the post negotiation memorandum, the source selection decision document and the actual solicitation and contract documents. The maturity levels of these particular areas were “Structured” and “Integrated,” respectively, and were among the highest and most consistent process areas within the JM&L sub-centers.

The analysis also indicated that 22% of the survey responses identified Resource Management/Customers as a strength that contributes to the organization’s contracting process. Examples of responses in this category include: Training; Flexibility; Problem Solving; and Knowledge Sharing.

The results of the analysis showed that 20% of the survey responses considered the Workforce to be a key strength to the JM&L’s contracting process. Responses in this category included: Teamwork; Integrity; Focus on the Soldier; and Professional Commitment.

The results of the analysis also revealed that 16% and 8% of the survey responses considered the Policies of the JM&L and Leadership/Management respectively, as strengths to their contracting process.

Conversely, when queried about the primary reasons for perceived contracting process strengths identified by survey participants, many identified the Workforce as the primary reason for the strengths, citing: Dedication; Commitment; Adaptability; Pride; Qualifications; and Teamwork as the key attributes.

2. Process Weaknesses

The third supplemental question asked the participants to identify weaknesses of the JM&L's contracting process. The data collected was then categorized by Processes, Workforce, Resource Management/Customers, Policies, and Leadership/Management.

The survey results to this question identified Resource Management/Customers as being the leading contributor the weakness of the JM&L's contracting process. 27% of the survey responses were related to this category. Responses in this area included: Poor facilities; the software program used to generate contracting documents; lack of respect from the customers along with poor procurement packages; and increases in overall workload.

The category receiving the second highest percentage of 26% was Policy with responses that included: guidance not being clear and concise; policies and guidance sent through e-mail and not kept up to date in a central repository; too many reviews required; and best practices are not endorsed; as examples of the responses in this category.

The category of Processes was next with 21% of the response falling into this category. Survey respondents cited: contract closeout; contract surveillance; and time to get a quality document through the process. The responses in this category correlate with the CMMM results and CMMM's ratings in that the JM&L results indicated that the Contract Closeout key process area scored the lowest with a rating at the "Basic" maturity level.

The Workforce category received 19% of survey responses. Lack of experience was the overwhelming response given in this area. However, other examples of this category's responses include: employee retention at the journeyman level; and internal friction.

Leadership/Management being the last category received 8% of the response. In this category, responses such as: fear of management; reactive verses proactive; and more priority is paid to dollars obligated than contract administration, were given.

The outcome of the second part of the analysis looks at the primary reasons for the perceived contracting process weaknesses. The analysis showed that the primary perceived cause for the weakness stems from a shortage of experienced contracting personnel caused by the hiring freeze of the 1990s. Also, found in the responses was that the complexity, volume, and distribution of policies and regulations contribute to the overall weakness of the organization's contract management processes.

There was a great deal of similarity and consistencies among the results of the CMMM, the supplementary questions, and the PMR findings. The results and findings from the application of the CMMM however provide a roadmap for process improvement and presents opportunities to leverage best practices and knowledge sharing within the JM&L Contracting Center and even potentially with the other centers within the ACC. These improvement recommendations will be discussed in the next section.

G. IMPROVEMENT RECOMMENDATION

The discussion of this section focuses on the individual key contract management process areas for the enterprise and offers process improvement recommendations for the JM&L to be considered in order to reach the next level of maturity.

1. Procurement Planning

The JM&L's enterprise-wide maturity level for Procurement Planning was determined to be "Structured." This was the lowest maturity level indicated by the survey assessment results of the sub-centers. In order to take steps towards the next higher level of maturity and achieve a rating of "Integrated," the JM&L

should use the assessment results and focus efforts to make certain that the procurement project's end-user customer is an integral member of the procurement team. Basic Procurement Planning activities such as developing the statement of work, conducting market research, determining the commerciality of the requirement and acquisition planning should be integrated with other departmental core processes such as cost control, schedule management, performance management, and systems engineering. The JM&L management must also use efficiency and effectiveness metrics to make Procurement Planning related decisions. In addition, management will need to understand its role in the Procurement Planning process and execute the process well (Garrett & Rendon, 2005b).

Provided this information, the JM&L should make use of best practices and knowledge sharing of its more mature sub-centers by applying their use throughout the organization. The JM&L should commit resources to provide several focused and specific Procurement Planning activities into its training program. The JM&L should also provide integrated training on subjects such as the Procurement Planning process with other organizational processes, such as program management and risk management, development of the Statement of Work, determining preliminary cost and schedule estimates, assessing and managing risk, conducting assessments of market conditions, selecting the appropriate contract type, developing contract incentives, and developing standard and unique contract terms and conditions (Garrett & Rendon, 2005b; Kovack, 2008).

2. Solicitation Planning

The JM&L's enterprise-wide maturity level for Solicitation Planning was determined to be "Structured" based on this was the lowest level of maturity indicated by the survey assessment results of the Solicitation Planning process capability for its sub-centers. In order to take steps towards the next higher level of maturity, and achieve a rating of "Integrated," the JM&L should use the

assessment results and focus efforts to make certain that the procurement project's end-user customer is an integral member of the procurement team. Basic Solicitation Planning activities such as preparing the procurement package using standardized forms and protocols, developing the schedule and creation of the terms and conditions should be integrated with other departmental core processes such as cost control, schedule management, performance management, and systems engineering. The JM&L leadership must also use metrics to measure competence and value added procedures to make Solicitation Planning related decisions that will further the maturity levels of its enterprise. In addition, management will need to understand its role in the Solicitation Planning process and execute the process well (Garrett & Rendon, 2005b).

Provided this information, the JM&L should again draw on best practices and knowledge sharing of CCJM-CA, CCJM-ET, CCJM-MA and CCJM-SW, it's more mature sub-centers, to help bring the other centers up to the next higher level. The JM&L should also commit resources to provide several focused and specific Solicitation Planning activities into its training program. The JM&L training should provide integrated training on subjects such as developing solicitations, creating solicitation documents, and developing appropriate criteria for proposal evaluation consistent with the acquisition strategy of the program (Garrett & Rendon, 2005b).

3. Solicitation

The JM&L's enterprise-wide maturity level for Solicitation was determined to be "Structured" as this was the lowest level of maturity indicated by the survey assessment results of the Solicitation process capability for its sub-centers. In order to take steps towards the next higher level of maturity, and achieve a rating of "Integrated," the JM&L should use the assessment results and focus efforts to make certain that the procurement project's end-user customer is an integral member of the procurement team. Basic Solicitation activities, such as holding

pre-proposal meetings, synopsising the requirement in accordance with the Federal Acquisition Regulation, and issuance of any necessary amendments to the solicitation should be integrated with other departmental core processes, such as cost control, schedule management, performance management, and systems engineering. The JM&L management must also practice the use efficiency and effectiveness metrics to make Solicitation related decisions. In addition, management will need to understand its role in the Solicitation process and execute the process well (Garrett & Rendon, 2005b).

Provided this information, the JM&L should utilize best practices and knowledge sharing of it's more mature sub-centers, CCJM-CA, CCJM-ET, and CCJM-SW to bring CCJM-CC, CCJN-JA and CCJM-MA up to the next highest level. The JM&L should commit resources to provide numerous focused and specific solicitation activities into its training program. The training should center on topics such as developing an integrated approach to establishing qualified bidders lists, conducting market research, advertising procurement opportunities, and conducting pre-proposal conferences (Garrett & Rendon, 2005b).

4. Source Selection

The JM&L's enterprise-wide maturity level for Source Selection was determined to be "Integrated." The survey assessment results of the Source Selection process capability for all of the JM&L's sub-centers were measured in the "Integrated" level of maturity in this key process area. In order to take steps towards the next higher level of maturity, "Optimized," the JM&L should use the assessment results and focus efforts to make certain that Source Selection activities such as receiving and handling the proposal, evaluation procedures, and selection processes are evaluated periodically using effectiveness and efficiency metrics. Continuous process improvement, such as process streamlining initiatives, should be implemented to further develop the Source Selection process. The JM&L management should also ensure that lessons

learned and best practices programs are implemented to improve the Source Selection process, standards, and documentation (Garrett & Rendon, 2005b).

Provided this information, the JM&L should commit additional resources, to provide specific Source Selection process activities, into its training program. The training should focus on topic areas such as implementing a more disciplined and systematic approach to using performance metrics to measure the quality and evaluate the efficiency and effectiveness of the Source Selection process, as well as continuous improvement training in areas, such as developing evaluation criteria, proposal evaluation, and estimating and negotiation techniques (Garrett & Rendon, 2005b).

5. Contract Administration

The JM&L's enterprise-wide maturity level for Contract Administration was determined to be "Structured" as this was the lowest level of maturity indicated by the survey assessment results of the Contract Administration process capability for its sub-centers. In order to move towards the next higher level of maturity, and achieve a rating of "Integrated," the JM&L should use the assessment results and focus efforts to make certain that the procurement project's end-user customer is an integral member of the procurement team. Basic Contract Administration activities such as contract surveillance and management of contract change orders should be integrated with other departmental core processes such as cost control, schedule management, performance management, and systems engineering. The JM&L management must also practice the use efficiency and effectiveness metrics to make Contract Administration related decisions. In addition, management will need to understand its role in the Contract Administration process and execute the process well (Garrett & Rendon, 2005b).

Provided this information, the JM&L should exploit best practices and knowledge sharing of it's more mature sub-centers, CCJM-CC and CCJM-CA to bring the other centers up to the next highest level of maturity. The JM&L should commit resources to provide numerous focused and specific Contract

Administration activities into its training program. Conducting integrated assessments of contractor performance such as assessments of cost, schedule and performance should be the focus of this training. The training should also focus on an effective use of an integrated team approach to managing contracts. This would include the management of post-award contract activities—such as contracts changes, processing contractor invoices and payments, managing contractor incentives and award fees, resolving disputes, and monitoring contractor performance including sub-contractors (Garrett & Rendon, 2005b).

6. Contract Closeout

The JM&L's enterprise-wide maturity level for Contract Closeout was determined to be "Basic" as this was the lowest level of maturity indicated by the survey assessment results of the Contract Closeout process capability for its sub-centers. In order to take steps towards the next higher level of maturity, and achieve a rating of "Structured," the JM&L should ensure that Contract Closeout activities such as confirming through regulatory compliance and documentation that all efforts on the contract are complete and all deliverables accepted, ensuring that final payment has been made, and dispensation of contract termination procedures and processes are fully established, institutionalized, and mandated throughout the organization. The organization should establish formal documentation and standards and some process may be automated. Tailoring of processes and documents should be encouraged, allowing consideration for the unique aspects of each contract. Lastly, senior management should be involved in providing Contract Closeout guidance and direction (Garrett & Rendon, 2005b).

Provided this information, the JM&L should make use of best practices and knowledge sharing of its more mature sub-centers by applying them throughout the organization. The JM&L management should commit resources to provide focused and specific Contract Closeout activities into its training program to ensure that formal documented closeout processes are standardized,

institutionalized, and mandated throughout all of the JM&L's sub-centers. The training should key on subjects such closeout planning and considerations, verifying and documenting contract completion, making final payment, and contract termination procedures (Garrett & Rendon, 2005b)

In addition to the recommendations of the six specific process areas above, the JM&L Contracting Center must strive for constant and continual process improvement by developing and outlining a process improvement plan and implementing process improvement opportunities. Although the majority of the JM&L contract management process areas ranked at either "Structured" or "Integrated," the overall enterprise level cannot exceed its weakest rating. For the JM&L, the lowest rating was "Basic" in the Contract Closeout process area. According to the findings of previous applications of the CMMM, a lower maturity level in Contract Closeout is typical (Jackson, 2007; Kovack, 2008; Sheehan, 2007; Garrett & Rendon, 2005b). Since this area is the JM&L's weakest process area, management must focus improvement on this area in order to increase the maturity level for this process area. Best practices for improving this area include reinforcing PARC Policy on closeout procedures, providing training on closeout requirements, and dedicating a team responsible for ensuring contract compliance, final payment and administrative closeout. Additionally, involvement in the process by the JM&L leadership is also a critical requirement.

Although the Contract Closeout process area is critical, all contract management process areas are important. One way to achieve this is through a contract management process-improvement team which would provide training and oversight to sub-centers that were found to be slightly weaker. The goal of this specialized team is to focus on areas that are weak and to integrate contract management process improvement efforts with other JM&L-wide continuous process-improvement initiatives such as PARC Guidance Memorandums. The specialized team would also be empowered and encouraged to solicit additional ideas for process improvement from members of the JM&L workforce.

Additionally, if this research becomes a subset of an Army Contracting Command (ACC) wide application of the CMMM, the JM&L management will be able to review the results of this research and process maturity with the Army's other major contracting commands. Doing so would provide an opportunity for the JM&L to not only compare their maturity level to other ACC organizations, but more importantly, provide an even greater opportunity to share best practices, lessons learned and knowledge sharing not just within the JM&L but throughout the ACC. The resulting improvements should provide a higher maturity for all contracting centers but, most importantly, will also help the JM&L accomplish their mission of providing high quality contracting in a timely and effective manner.

By implementing best practices through training and knowledge sharing in each contract management phase, the JM&L management will be able to provide the necessary tools to enable their contracting personnel to become skilled in each phase of the contract management process. This uniformity not only enables the JM&L to accomplish its mission but also addresses the numerous concerns the GAO has portrayed as outlined in Table 2–3 in Chapter II regarding the critical acquisition failures in a resource-deficient workforce environment (Kovack, 2008).

H. SUMMARY

This chapter provided a discussion of the CMMM and its application to the JM&L. The resulting scores and an assessment of the CMMAT results were discussed in detail to for each of JM&L's sub-centers and in aggregate for the JM&L Enterprise. The chapter also provided an additional assessment of the PMR metrics currently used at JM&L and additional supplementary questions that were added to the end of the survey to form correlations and confirmations or differences to that of the CMMM findings. Lastly, the chapter looked at each of the key process areas and provided improvement recommendations that the

JM&L can strive to achieve in conjunction with process improvement efforts. The next chapter will summarize the research conducted for this joint applied project, provide overall conclusions, and discuss areas for further research.

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V. SUMMARY, CONCLUSION AND FURTHER RESEARCH

A. CHAPTER INTRODUCTION

The previous chapters discussed the purpose and background of this study, assessed the DoD and the JM&L contracting organizational environments, introduced and then applied the Contract Management Maturity Model (CMMM), and related Contract Management Maturity Assessment Tool (CMMAT) to the JM&L. The results were analyzed, then followed by recommendations for improvement, and lastly compared with the PMR findings and the responses to the supplementary survey questions that were included with the CMMAT. The purpose of this final chapter is to summarize the CMMM research, present a conclusion, and provide recommendations for further research.

B. SUMMARY

This joint applied project used the CMMM to assess the maturity of the contracting processes at the JM&L Contracting Center by surveying knowledgeable, experienced, senior members of its contracting workforce to measure process capabilities in each of the six key process areas. The study also analyzed the findings of recent internal and external PMRs conducted at the JM&L Contracting Center, along with responses to the survey's supplemental questions to determine if the findings were consistent.

As a result of this study, the findings provided the following answers to the primary and supplementary research questions:

Primary Research Questions:

- 1. What is the Contract Management Maturity Level of the JM&L Contracting Center as an Organization?**

The results of the assessment, as shown in Table 4–3 of the previous chapter, indicate that, with the exception of Contract Closeout, all of the JM&L sub-centers are operating at the “Integrated” or “Structured” maturity level. In the

Contract Closeout area, half of the sub-centers are functioning at the “Basic” level. Since an organization is only as strong as its weakest link for that specific contract management key process area, an organization’s process capability is only as capable and mature as its weakest sub-center. The JM&L, therefore, should focus resources on Contract Closeout in order to bring its maturity up to the next highest level.

2. Is the Determined Contracting Process Maturity Level of the JM&L Supported by the Results of Procurement Management Reviews?

The PMR results, when compared to the CMMM results, confirm a direct correlation between the Contracting Center's resulting end product and the maturity level of the process. The JM&L’s Fiscal Year 2008 internal PMR, is consistent with the findings of the CMMM, as illustrated in Table 4–3. The internal review concluded that the areas that involved high to medium risk were areas that comprised the contract management process areas of Procurement Planning, Solicitation Planning, Solicitation, Contract Administration and Contract Closeout. Similarly, according to the CMMM results, these areas also received an organization-wide maturity level of “Structured” with the exception of Contract Closeout which received a rating of “Basic.” These levels were the lowest rated levels for the JM&L in both the CMMM results and the PMR findings. Conversely, the area that received the lowest PMR risk assessment was Source Selection. In comparison, in the CMMM, this area received a unanimous organization-wide maturity level ranking of “Integrated,” which was the highest rating received by the JM&L in any of the process areas. The JM&L Fiscal Year 2008 external PMRs concluded that the contracting office is performing more than adequately with limited resources with no illegalities or improprieties, and with personnel dedicated in the support of the mission with an overall risk assessment of “Low” in most elements and “Medium in Contract Administration. These findings were once again consistent with the CMMM results.

Supplementary Research Questions:

3. What are the Strengths of this Organization's Contracting Process?

The analysis of the answers to the supplementary questions indicated that 29% of the survey responses identified key contract management processes as a reason for the strengths in the JM&L contracting processes. Many of the responses were related to the Solicitation and Source Selection phase and the quality of the documents that are generated, such as the Post Negotiation Memorandum, the Source Selection Decision Document, and the actual Solicitation and Contract Award documents. Similarly, the maturity levels of these particular areas were "Structured" and "Integrated," respectively, and were among the highest and most consistent process areas within the JM&L sub-centers. The analysis also indicated that 22% of the survey responses identified Resource Management/Customers as a strength that contributes to the organization's contracting process. Examples of responses in this category included: Training; Flexibility; Problem Solving; and Knowledge Sharing. The results of the analysis showed that 20% of the survey responses considered the workforce to be a key strength to the JM&L's contracting process. Responses in this category included: Teamwork; Integrity; Focus on the Soldier; and Professional Commitment. The results of the analysis also revealed that 16% and 8% of the survey responses considered the policies of the JM&L and Leadership/Management respectively, as strengths to their contracting process.

4. What are the Primary Reasons for Perceived Contracting Process Strengths Identified by Survey Participants?

The primary reasons for the perceived contracting process strengths identified by survey participants were the Dedication, Commitment, Adaptability, Pride, Qualifications, and Teamwork attributed to the workforce.

5. What are the Weaknesses of this Organization's Contracting Process?

The survey results of this question identified Resource Management/ Customers as being the leading contributor the weakness of the JM&L's contracting process. 27% of the survey responses were related to this category. Responses in this area included: poor facilities; the software program used to generate contracting documents; lack of respect from the customers along with poor procurement packages; and increases in overall workload.

The category receiving the second highest percentage of 26% was Policy with responses that included: guidance not being clear and concise; policies and guidance sent through e-mail and not kept up to date in a central repository; too many reviews required; and best practices are not endorsed.

The category of Processes was next with 21% of the response falling into this category. Survey respondents cited: contract closeout; contract surveillance; and time to get a quality document through the process as examples that fell into this category. The responses in this category correlate with the CMMM results and CMMM's ratings in that the JM&L results indicated that the Contract Closeout key process area scored the lowest with a rating at the "Basic" maturity level.

The Workforce category received 19% of survey responses. Lack of experience was the overwhelming response given in this area. However, other examples of this category's responses include: employee retention at the journeyman level; and Internal friction.

Leadership/Management being the last category received 8% of the response. In this category, responses such as: fear of management; reactive verses proactive; and higher priority is paid to dollars obligated than contract administration were given.

6. What are the Primary Reasons for Perceived Contracting Process Weaknesses Identified by Survey Participants?

The analysis showed that the primary perceived cause for the weakness was a shortage of experienced contracting personnel which stemmed from the hiring freeze of the 1990s. Also identified in the responses was that the complexity, volume, and distribution of policies and regulations contribute to the overall weakness of the organization's contract management processes.

C. RESEARCH CONCLUSION

This study was conducted for the purpose of demonstrating how a capability model using a mature assessment tool can be applied to the JM&L's contracting processes and how the assessment results can be used by the organization as a guide for improving contract management competency and process capability. Assessing the JM&L's Contract Management Maturity level through the use of the Contract Management Maturity Assessment Tool provides a tremendous opportunity for senior leadership to grow its contract management processes by addressing the identified key process improvement needs. In order to do so however, it will be necessary for senior leadership to use the assessment results as an implementation roadmap for improving the contract management process capability. Additionally, in order to continually improve, it will also be necessary to continuously monitor the improvement efforts by reassessing its process capability at appropriate intervals in the future. These actions will translate into even higher contract process maturity ratings in the future and a greater opportunity to provide the highest quality contracting support and business advisory services in an efficient and effective manner.

D. AREAS FOR FURTHER RESEARCH

The recommendations for additional research that result from this study include the following:

1. The proposed analysis to assess the maturity of the contracting processes at the other ACC contracting centers

should be commenced at the earliest opportunity. Applying the CMMM at all of the centers would provide a top level assessment of the entire ACC and allow senior leadership the same benefits as previously discussed in recent chapters and identify opportunities to overcome process deficiencies by injecting needed resources.

2. Compare and evaluate research results from other ACC Commands CMMM results to develop a plan for sharing best practices and knowledge sharing. Creating a process sharing environment would be extremely valuable to the JM&L as well as the ACC as a whole and would provide a mechanism to address some of the issues in acquisition and contract management raised by the GAO.
3. Perform follow-up reassessments using the CMMM, at regular intervals, to re-assess and track progress within the JM&L. This re-assessment would also provide the ability to observe patterns and developments and determine whether the desired process maturation has occurred.
4. Lastly, a comparison and evaluation of the results from the DPAP competency assessments to CMMM results will provide a more in-depth evaluation and analysis since the DPAP assessment focused on individual compliance, whereas the CMMM looks at organizational capability.

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