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**AN ANALYSIS OF AIR FORCE CONTRACT
MANAGEMENT PERSONNEL COMPETENCY AND
INTERNAL PROCESSES USING THE NATIONAL
CONTRACT MANAGEMENT ASSOCIATION'S
THIRD-PARTY ACCREDITED COMPETENCY
STANDARD**

June 2020

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COMPETENCY STANDARD**

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requirements for the degree of

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ABSTRACT

For the last two decades, the Government Accountability Office (GAO) has listed the Department of Defense’s (DoD) contract management practices as a high-risk area. Additionally, in 2019, contract management oversight appeared as one of the DoD Inspector General’s (IG) top management challenges. DoD continues to review processes, training, and organizational assessments for effectiveness. However, the contracting workforce needs competency in both the buyer and seller roles from the contract management life cycle to be truly effective. The National Contract Management Association (NCMA) Contract Management Body of Knowledge (CMBOK) Contract Management Standard (CMS) was chosen as the competency framework for our research, as it fulfills this need. The purpose of this research is to conduct an analysis of DoD IG–reported contract management deficiencies from DoD IG inspections for the Air Force and align these deficiencies with the third-party accredited NCMA CMS competency framework. Additionally, since the Air Force contracting organizations use self-inspections as part of internal controls to prepare for DoD IG inspections, this research provides a comparative analysis between the CMS and the Air Force Contracting Self-Inspection Checklist. Finally, the research provides recommendations for training opportunities and improving the checklist, which clearly align with two of the three parts of the auditability theory.

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LIST OF ACRONYMS AND ABBREVIATIONS

1102	Contracting Job Series
ACC	Air Combat Command
AF	Air Force
AFB	Air Force Base
AFFARS	Air Force Federal Acquisition Regulation Supplement
AFGSC	Air Force Global Strike Command
AFMC	Air Force Materiel Command
AFNWC	Air Force Nuclear Weapons Center
AFOSR	Air Force Office of Scientific Research
AFRL	Air Force Research Laboratory
AMIC	Acquisition Management and Integration Center
ANS	American National Standards
ANSI	American National Standards Institute
AQC	Air Force Contracting
AWF	Acquisition Workforce
CMBOK	Contract Management Body of Knowledge
CMMM	Contract Management Maturity Model
CMS	Contract Management Standard
DAF	Department of the Air Force
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DoD	Department of Defense
DoD IG	Department of Defense Inspector General
DPAP	Defense Procurement and Acquisition Policy
FAI	Federal Acquisition Institute
FAQs	Frequently Asked Questions
FAR	Federal Acquisition Regulation
FY	Fiscal Year
GAO	Government Accountability Office
HCI	Human Capital Initiative

HQ	Headquarters
ICBM	Intercontinental Ballistic Missile
ISO	International Standards Organization
MAJCOM	Major Command
Maj Gen	Major General
MP	Mandatory Procedure
MOSAIC	Multipurpose Occupational Systems Analysis Inventory – Close-Ended
NCMA	National Contract Management Association
NIGP	National Institute for Government Purchasing
NDAA	National Defense Authorization Act
OFPP	Office of Federal Procurement Policy
OPM	Office of Personnel Management
OUSD	Office of the Under Secretary of Defense
PPEP	Public-Private Exchange Programs
SAF	Secretary of the Air Force
SCO	Senior Contracting Official
SDO	Standards Developing Organization
SPE	Senior Procurement Executives
TCE	The Contracting Experience
TD	Technical Directorate
USAF	United States Air Force
USAFCENT	United States Air Force Central Command
USAFRICOM	United States Africa Command
USCENTCOM	United States Central Command
USEUCOM	United States European Command
USNORTHCOM	United States Northern Command
USPACOM	United States Pacific Command
USSOUTHCOM	United States Southern Command
USC	United States Code
USD AT&L	Under Secretary of Defense, Acquisition, Technology, and Logistics

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I. INTRODUCTION

A. BACKGROUND

For many years, the Government Accountability Office (GAO) has been watching the Department of Defense (DoD) as it has been implementing GAO-recommended reforms to weapon-system acquisition and contract management. In its biennial high-risk overview, Mihm’s report for the GAO identified several areas of concern in DoD business practices. Weapons-system acquisition and contract management were listed in the top seven high-risk areas identified for reform (Mihm, 2019). In fact, reform of business practices within the DoD is a common thread addressed in the overview of 2019 defense budget as well (Defense Budget Overview, 2018). In the 2019 budget overview, the Secretary of Defense clearly charged the services to conduct a thorough overview of their business practices and identify areas where each military department could gain efficiency in acquisition and contract management (Defense Budget Overview, 2018). The 2019 budget report overview states, “a Defense Acquisition System that facilitates speed and agility in support of the aforementioned objective is key. As threat capabilities have continued to rapidly evolve, it is essential that the system supports out-pacing of the Nation’s near-peer adversaries’ capabilities” (Defense Budget Overview, 2018, p. 7.2). Further, former Secretary of Defense Mattis stated in the report:

If you don't get the resources—my closing words—then your strategy is nothing more than a hallucination, because, without the resources, there's just so much brave young men and women can do. (Defense Budget Overview, 2018, p 2.9)

From this charge in 2019, Air Force Acquisition leaders began developing lines of effort to meet the Secretary’s guidance. The first step was to change the Air Force mindset that contracting professionals are simply business advisors. As the Air Force’s Deputy Assistant Secretary for Contracting, Major General Cameron Holt charged the Air Force contracting workforce to become mission-focused business leaders. Air Force contracting professionals must be able to think strategically, execute efficiently, and manage

acquisitions like corporate business leaders (AF Flight Plan, 2019). In doing this, we could bring about true acquisition reform and meet the Secretary's call for change.

However, developing mission-focused business leaders may also require a new way to train the workforce and assess contracting competencies. It could mean a new competency framework for the Air Force contracting workforce that should consider both the buyer and the seller activities. For example, when a solicitation is issued by the buyer (government), there are several tasks or competencies on the buyer's side to getting a solicitation ready for industry. A solicitation is how the government (buyer) notifies industry (seller) of requirements for contract and it is also commonly referred to as a request for proposal. However, many Air Force buyers are unfamiliar with the competencies and tasks associated with the seller's activities when responding to a solicitation. We believe that in order to be a valuable mission-focused business leader, the Air Force contracting workforce must understand both sides of the buyer-seller relationship. There are several frameworks available to train the workforce and accomplish these goals, including the current DoD Contracting Competency Model and the National Contract Management Association's (NCMA) Contract Management Body of Knowledge (CMBOK) Contract Management Standard (CMS). Either of these models could help the Air Force develop competent personnel and the goal of becoming stronger mission-focused business leaders. It is the CMS, however, that focuses on both buyer and seller tasks.

An avenue to gauge the Air Force contracting workforce's competency in these buyer-seller tasks is through training, formal and informal, as well as through inspections. As the DoD contracting workforce progresses in the career field, three levels of training are required under the DoD's currently approved training courses to meet the goals of a competent workforce. Another avenue is evaluation of DoD contracting organizations by the DoD Inspector General's office. These evaluations result in reports that identify deficiencies and actionable recommendations to ensure compliance. Finally, individual organizations maintain self-inspection programs that provide an additional mode to assess compliance with regulations and statutes on a regular basis. The Air Force assesses itself through a self-inspection program, which not only prepares the contracting organization

for the DoD Inspector General's inspection, but it also identifies trends to provide training opportunities at the organizational level, thus creating internal controls.

B. PURPOSE OF RESEARCH

The purpose of this research is to conduct an analysis of DoD Inspector General reported contract management deficiencies and align these deficiencies with the third-party accredited National Contract Management Association (NCMA) Contract Management Standard (CMS) competency framework. Our research will focus specifically on the analysis of the Air Force contract management deficiencies to determine how the reported deficiencies are aligned under the CMS competency framework. The analysis of the alignment of the reported deficiencies with the CMS competency framework may identify knowledge gaps in the contracting workforce and provide opportunities for additional training, thus improving workforce competency. The CMS was chosen as the competency framework for our research since it fulfills with the direction given to the Secretary of Defense in the Fiscal Year 2020 National Defense Authorization Act to adopt or establish a third-party accredited competency standard for the acquisition workforce (NDAA, 2020).

Additionally, since the Air Force contracting organizations use self-inspection checklists as part of internal controls to prepare for these DoD Inspector General inspections, this research will also include an analysis of the contracting self-inspection checklist and its alignment with the CMS competency model. This analysis will determine the extent that the Air Force contracting self-inspection checklist items are aligned with the CMS contract management life cycle. The analysis of the alignment of the self-inspection checklist items with the CMS competency model may identify gaps in the Air Force contracting self-inspection program and provide opportunities for revising the self-inspection checklists to better align with the CMS competency model, thus improving internal controls for Air Force contracting organizations.

Improving contracting workforce competency and organizational internal controls will assist in creating an Air Force contracting workforce that meets the Air Force Acquisition leadership's call for the development of effective mission-focused business leaders.

C. RESEARCH QUESTIONS

The objectives of our research are captured by answering the following questions:

1. How do Air Force contracting deficiencies reported by the DoD IG align with the NCMA CMS competency model?
2. How does the Air Force Contracting Self-Inspection Checklist align with the NCMA CMS competency model?
3. Based on the analysis of the DoD IG reported Air Force contracting deficiencies and the Air Force Contracting Self-Inspection Checklist, what opportunities for additional training for the contracting workforce and opportunities for revisions to the self-inspection checklists were identified?

D. BENEFITS AND LIMITATIONS OF RESEARCH

An analysis of inspection reports and self-inspection checklists provide valuable data to identify gaps in proficiency and knowledge. The information gathered from such an analysis can be utilized to develop training curricula that prepare contracting professionals to perform complex functions effectively, thus improving workforce competency. This effective use of capabilities to meet schedule, cost and performance while meeting the needs of the warfighter aligns with being good stewards of taxpayer money. Also, since the Air Force uses self-inspection checklists as an internal control within contracting activities, the information gathered may be utilized to reassess or revise this tool to ensure effective control of the contract management process.

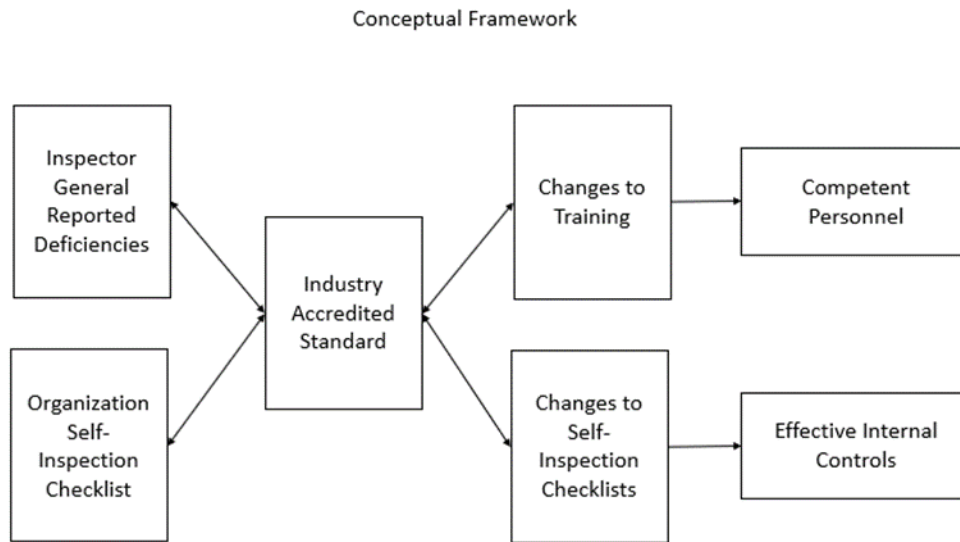
A benefit to the research is encompassed in the direction given to the Secretary of Defense in the most recent National Defense Authorization Act (NDAA). In the fiscal year (FY) 2020 NDAA, Congress directed the Secretary of Defense to define competency standards and adopt a third-party accredited certification program for the acquisition workforce. If a third-party accredited national or international standards certification program does not already exist for an acquisition career field, the Secretary of Defense is

required to establish a certification requirement that aligns with national or international accrediting organization practices (NDAA, 2020).

A limitation of this research is the age of the data, DoD IG reports from 2003 to 2010 were utilized. While the data is over a decade old, this historical information is still relevant and provides an opportunity to identify patterns and consistencies, while assisting in identifying areas for focused training, formal and informal, in the contract management life cycle.

E. METHODOLOGY

Figure 1 depicts the conceptual framework for this research. The methodology is based on auditability theory. Auditability theory and its concepts are fully explained in Chapter II. On the left side of the diagram (Figure 1), are the reported DoD IG deficiencies and the organizational self-inspection checklist, which are the two key components of this research. In the middle, is the industry accredited standard, the CMS. Both the organizational self-inspection checklist and the reported DoD IG deficiencies are aligned against the CMS. The next step identifies opportunities for training, as well as opportunities for improvements to the Air Force Contracting Self-Inspection Checklist. Finally, the right side of the diagram reflects the results of the research. The identified gaps in training will support the competent personnel side of the auditability triangle, while the identified gaps in the self-inspection checklist will support the effective internal control side of the auditability triangle. Therefore, this research supports enhanced auditability to both competent personnel and effective internal controls.



Source: R. Rendon, email to author, June 4, 2020.

Figure 1. Conceptual Framework for this Research.

The methodology of this research is multi-faceted, it begins with a literature review, followed by alignment of the Air Force DoD IG deficiencies and the Air Force Contracting Self-Inspection Checklist within the task areas of the NCMA CMBOK CMS competency framework. The alignment will aid in identifying gaps and patterns that then can be used to ascertain focused training areas for the Air Force contracting workforce. Our research will also identify gaps in the Air Force Contracting Self-Inspection Checklist.

The literature review will begin with a discussion of auditability theory and provide an overview of the development of current standards and competencies. It will also cover the source of the congressional mandate to the Secretary of Defense in the FY2020 NDAA to adopt a third-party accredited standard. The literature review includes a synopsis of selected contract competencies currently utilized by both Government and industry and a description of the CMBOK CMS competency framework.

The final element of this research consists of analyzing the DoD IG deficiencies and the Air Force Contracting Self-Inspection Checklist compared to the CMBOK CMS. The analysis may expose patterns in the DoD IG deficiencies that can be traced to the three phases of the contract management life cycle as well as provide opportunities to revise the

self-inspection checklist to better align with the CMBOK CMS. Overall, a connection should be revealed between contracting workforce competency, internal controls, and utilization of the CMBOK CMS as a training tool and an inspection guideline.

F. ORGANIZATION OF REPORT

This research is organized into five chapters. Chapter I provides an introduction of the research to the reader on the background, purpose of the research, research questions to be addressed in this report, the benefits and limitations of the research, the methodology used to gather the information for the report, and finally, the report's organization.

Chapter II captures the literature review conducted during the process of writing this report. The literature review covers auditability theory, the Advisory Panel on Streamlining and Codifying Acquisition Regulation, commonly referred to as the Section 809 Panel, the FY2020 NDAA, standard-setting and accreditation, and selected contracting competency standards. Chapter III provides background information on the Air Force Contracting mission, organization and structure. It also discusses the Air Force contracting activities to which the authors are assigned providing a good cross-section of different Air Force missions and contract management activities. Each of these organizations utilizes the Air Force Contracting Self-Inspection Checklist in a manner directed by the Air Force Federal Acquisition Regulation Supplement (AFFARS) Mandatory Procedure (MP) at MP5301.601-91, Air Force Contracting Self-Inspection Program. Chapter IV presents the research results and recommended areas in the contract management life cycle for training opportunities and improvement in the self-inspection program. Chapter V concludes the study with a summary and suggested areas for future research.

G. SUMMARY

This chapter introduced the background for conducting this research. It also described the purpose and identified three key questions to be answered as a result of this research. We discussed the benefits and limitations of the study, as well as the methodology used in our analysis. Lastly, this chapter provided information on how the report is organized. The next chapter provides a discussion of the literature reviewed for auditability theory, the advisory panel for streamlining and codifying acquisition regulations (Section

809), the FY2020 NDAA, third-party accreditation, as well as contract management competency frameworks.

II. LITERATURE REVIEW

A. INTRODUCTION

This literature review discusses articles, books and government documents relating to contract management and competencies. This chapter begins with a theoretical discussion of the basis of our research, specifically auditability theory. Auditability theory offers organizations assurances that their processes are operating within ethical and acceptable guidelines (Power, 1996). The chapter further discusses the Advisory Panel on streamlining acquisitions, the National Defense Authorization Act and its implications for this research. The chapter concludes with a discussion of the DoD Contracting Competency and the NCMA Contract Body of Knowledge Contract Management Standard.

B. AUDITABILITY THEORY

According to Rendon (2019), “auditability theory is concerned with those aspects of governance needed by organizations to ensure successful achievement of mission goals and objectives” (p. 88). Power (1996) explains that auditability is less about conducting an audit or an inspection as it is about “making things auditable” (p. 289). Peters et al. (2019) explain, “in order to ‘make things auditable’ organizations must establish an institutionally acceptable knowledge base and a system of processes and practices that supports auditability” (Power, 1996, p.7).

Three main components form the foundation for auditability theory. Past literature reviews have been done on auditability and this paper utilizes a similar structure as was covered in Peters et al (2019). Rendon and Rendon describe these components as the “auditability triangle.” The auditability triangle, as shown in Figure 2, is created by reflecting the three components, competent personnel, capable processes, and effective internal controls (Rendon & Rendon, 2016). According to Rendon and Rendon (2016), “organizations need a competent workforce, capable processes, and effective internal controls to ensure mission success” (p. 1). Each component of the auditability triangle will be discussed in further detail below.

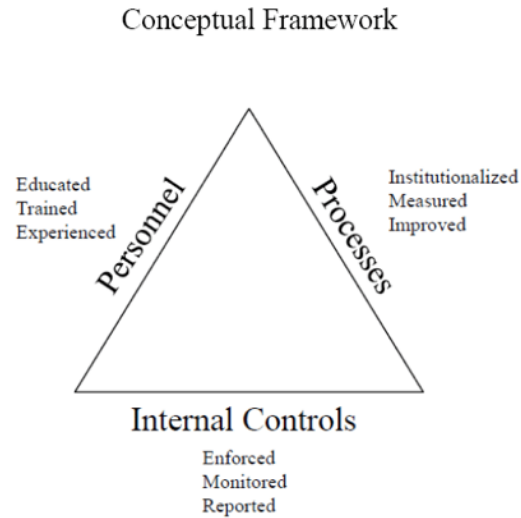


Figure 2. Auditability Triangle. Source: Rendon and Rendon (2015).

1. Competent Personnel

Rendon and Rendon (2015) define the competent personnel component of the triangle as personnel with the “necessary education, training, and experience requirements for each functional area” (p. 716). The DoD acquisition workforce of 1102 Occupational Code Series Contracting employees currently use the Defense Acquisition Workforce Improvement Act (DAWIA) requirements to establish a competent workforce. DAWIA was put in place to mandate that the DoD Acquisition personnel meet proficiency requirements for professional certification. Within 24 months of obtaining an 1102 position, the employee must obtain the required level of functional training, and meet experience requirements (DAWIA, 1990).

DAWIA was established in an attempt to develop and reform the acquisition workforce. In the Packard Commission Report entitled: *A Formula for Action: A Report to the President on Defense Acquisition (1986)*, the commissioner explained that the acquisition workforce was inexperienced and undertrained compared to their industry counterparts (Peters et al., 2019). The commissioner stated that

among acquisition personnel, contract specialists have an especially critical role. Contract specialists must master the extensive, complex body of knowledge encompassing material and operations management, contract law, cost analysis, negotiation techniques, and industrial marketing. Yet the Office

of Personnel Management designates the Contract Specialist personnel series as administrative and not professional series. (1986, p. 29)

Following this report, the DAWIA requirements were established and made into public law on 5 November 1990. Following the commissioner's suggestion, these requirements created a minimum education and training expectations to develop the acquisition workforce.

2. Capable Processes

The capable process component of auditability theory is defined by Rendon and Rendon as processes that are “fully-established, institutionalized, mandated, and integrated with other organizational processes, periodically measured, and continuously improved” (2015, p. 716).

In relation to the DoD procurement workforce, these activities include the phases of the contract management life cycle. These phases include procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout (Rendon & Rendon, 2015, p. 716). It is important for the DoD procurement workforce to be proficient and knowledgeable in these phases of the contract management life cycle since the result of these processes accounts for at least two-thirds of the federal government's spending (Stalcup, 2009). The GAO has given DoD contract management a high-risk rating, which confirms the importance of making sure there are clear and effective capable processes in place to assure effective use of government spending (Peters et al, 2019). Garrett and Rendon (2015) explain that, “effective contracts depend, to a great extent on the processes used to create those contracts, [and], in order to award and successfully manage effective contracts, organizations must have mature contract management processes in place” (p. 80). Not only do organizations need to have “mature contract management processes in place,” but according to Rendon, they need to take measures to integrate with other organizational processes, and be improved continuously (2016, p.754).

The DoD uses the DAWIA requirements in an attempt to build up a competent workforce, however, successful award and management of contracts may rely more heavily

on organizations capable processes rather than their individual workers' competencies. In Rendon's research, referenced work from Deming (1986) explains process capability is "85% of quality problems are related to processes, while only 15% of problems are controlled by individual workers" (p. 24). This research emphasizes the importance of the DoD having capable processes in place in order to successfully execute and manage contracts.

An example of assessing capable processes within the Air Force is the use of the Contract Management Maturity Model (CMMM). This model focuses on the key practice areas to measure the capabilities within each of the six key process areas. Rendon explains "the CMMM provides the organization with a detailed roadmap for improving the capability of its contract management processes" (2008, p. 207). He goes on to say, "The six key process areas and related practice activities allow the organization to focus specific areas and activities involved in the procurement" (Rendon, 2008, p. 205). The following are the six process areas with an explanation of the key activities within each area:

1. Procurement Planning: involves determining whether to procure, how to procure, what to procure, how much to procure, and when to procure.
2. Solicitation Planning: involves documenting program requirements and identifying potential sources.
3. Solicitation: process of obtaining bids or proposals from prospective sellers on how organizational needs can be met.
4. Source Selection: process of obtaining bids or proposals and applying evaluation criteria to select a provider.
5. Contract Administration: process of ensuring that each party's performance meets contractual requirements
6. Contract Closeouts: involves completing and settling the contract, including resolving any open items. (Rendon, 2008, p. 208)

In addition to the six key process areas, the CMMM also has five levels of maturity. The five levels of maturity in order from least mature to most mature are Level 1- Ad hoc, Level 2-Basic, Level 3-Structured, Level 4- Integrated, and Level 5- Optimized (Rendon). Rendon clarifies, "the five maturity levels reflected in the model allow an organization to assess its level of capability for each of the six key process areas of the procurement process" (Rendon, 2008, p. 207).

Past research on assessing Air Force contract management process capability using the CMMM has shown that the procurement planning, solicitation planning, solicitation, and source selection processes are generally assessed at CMMM Level 3 or higher. Additionally, the contract administration and contract closeout processes are generally assessed at CMMM Level 2 or lower (Jackson, 2007; Peters et al., 2019; Chang et al., 2012; Burton & Nordin, 2007; Sheehan et al., 2007).

3. Effective Internal Controls

The effective internal controls component of the auditability triangle is described by Rendon and Rendon as “referring to the objectives of enforcing internal control policies to ensure compliance with laws and regulations, monitoring procedures to assess enforcement and reporting any material weaknesses” (Rendon and Rendon, 2016, p.754). According to The GAO’s *Standards for Internal Control in the Federal Government*, also known as the *Green Book*.

Internal control comprises the plans, methods, policies, and procedures used to fulfill the mission, strategic plan, goals, and objectives of the entity. Internal control serves as the first line of defense in safeguarding assets. In short, internal control helps managers achieve desired results through effective stewardship of public resources. (Green Book, 2014, p. 6)

The *Green Book* also explains that “internal control is not one event, but a series of actions that occur throughout an entity’s operations” (Green Book, 2014, p.6).

The GAO’s *Green Book* describes a hierarchy that includes requirements for internal control in the federal government. It is a structure of five components and 17 principles. This structure was adapted from The Committee on Sponsoring Organizations (COSO) of the Treadway Commission, for a government environment (Green Book, 2014). The five components are as follows:

- Control Environment - The foundation for an internal control system. It provides the discipline and structure to help an entity achieve its objectives.
- Risk Assessment - Assesses the risks facing the entity as it seeks to achieve its objectives. This assessment provides the basis for developing appropriate risk responses.

- Control Activities - The actions management establishes through policies and procedures to achieve objectives and respond to risks in the internal control system, which includes the entity's information system.
- Information and Communication - The quality information management and personnel communicate and use to support the internal control system.
- Monitoring - Activities management establishes and operates to assess the quality of performance over time and promptly resolve the findings of audits and other reviews. (Green Book, 2014, pp. 7-8)

The *Green Book* defends that “the five components of integrated control must be effectively designed, implemented and operating, and operating together in an integrated manner, for an internal control system to be effective” (Green Book, 2014, p. 7). However, it should be noted that although having effective internal controls in place assure organizations will have a higher success rate in meeting their objectives. The GAO warns that organizations are not immune from failure and is largely to do with the organization's personnel (Green Book, 2014).

Through auditability theory, we see the importance of a competent workforce. In the next few sections, we will discuss the various levels of legislation that call the department to enable a competent workforce. The next section will discuss the implications of the Section 809 Panel on the contracting workforce.

C. ADVISORY PANEL ON STREAMLINING AND CODIFYING ACQUISITION REGULATION

The Advisory Panel on Streamlining and Codifying Acquisition Regulation was established by Congress in the FY2016 NDAA and amended in the FY2017 NDAA. This panel's mission was to address a central problem of using antiquated and cumbersome processes to attain the needs of the warfighter in today's global environment. This advisory panel is commonly referred to as the Section 809 Panel in Air Force contracting. This is in reference to the section in the 2016 NDAA which mandated the advisory panel. All instances of 809 Panel, or simply the Panel, in this paper refer to the formal Advisory Panel for Streamlining and Codifying Acquisition Regulation. By statute, the Section 809 Panel, “was formed to review the acquisition regulations applicable to the Department of Defense (DoD) with a view toward streamlining and improving the efficiency and effectiveness of

the Defense acquisition process and maintain defense technology advantage” (DTIC, Section 809 Panel *Interim Report*, 2017, p. 5). The Panel was also charged with recommending regulations and statutes that could be repealed or amended to remove unnecessary processes while improving the acquisition timeline and still continue to abide by financial regulations and maintain integrity and ethics in the acquisition process to protect the interests of the DoD (DTIC, 2017).

The 809 Panel’s *Interim Report* stated that over the last five decades, numerous reports and analyses have been completed that are focused on DoD’s acquisition processes. While small reform changes have been instituted over time, these incremental changes have not been effective in solving ongoing problems in an ever-evolving playing field. In fact, according to the Panel Report, “incremental approaches have exacerbated problems with the acquisition system by adding more layers of sign off, mountains of paperwork, and hundreds of additional regulations. DoD must implement bold approaches and bold solutions to produce true reform” (p. 2).

According to the Section 809 Panel’s 2019 roadmap report, it

was charged with reviewing the acquisition regulations and statutes applicable to DoD with a view toward streamlining and improving the efficiency and effectiveness of the defense acquisition process. In the course of this review, Congress expected the Panel to make recommendations for the amendment or repeal of regulations and statutes. (p. 1)

Recommendations for amending or repealing rules that are not adding value to the acquisition process will remove hindrances to the process and add time to the overall acquisition timeline. Not only did the Panel outline a road map but it also “provided draft regulatory and statutory changes to assist DoD and Congress with implementing those recommendations” (DTIC, 809 Panel Roadmap, 2019, p. 1). A series of five reports were published, with the road map aligning all 98 of its recommendations into four distinct routes as depicted in Figure 3. The graphic illustrates that making impactful changes in the four identified founding principles will converge and enable the acquisition workforce to quickly adapt to a changing global environment.

THE SECTION 809 PANEL'S ROADMAP TO SUCCESS
Recommendations to Revolutionize How DoD Conducts Business

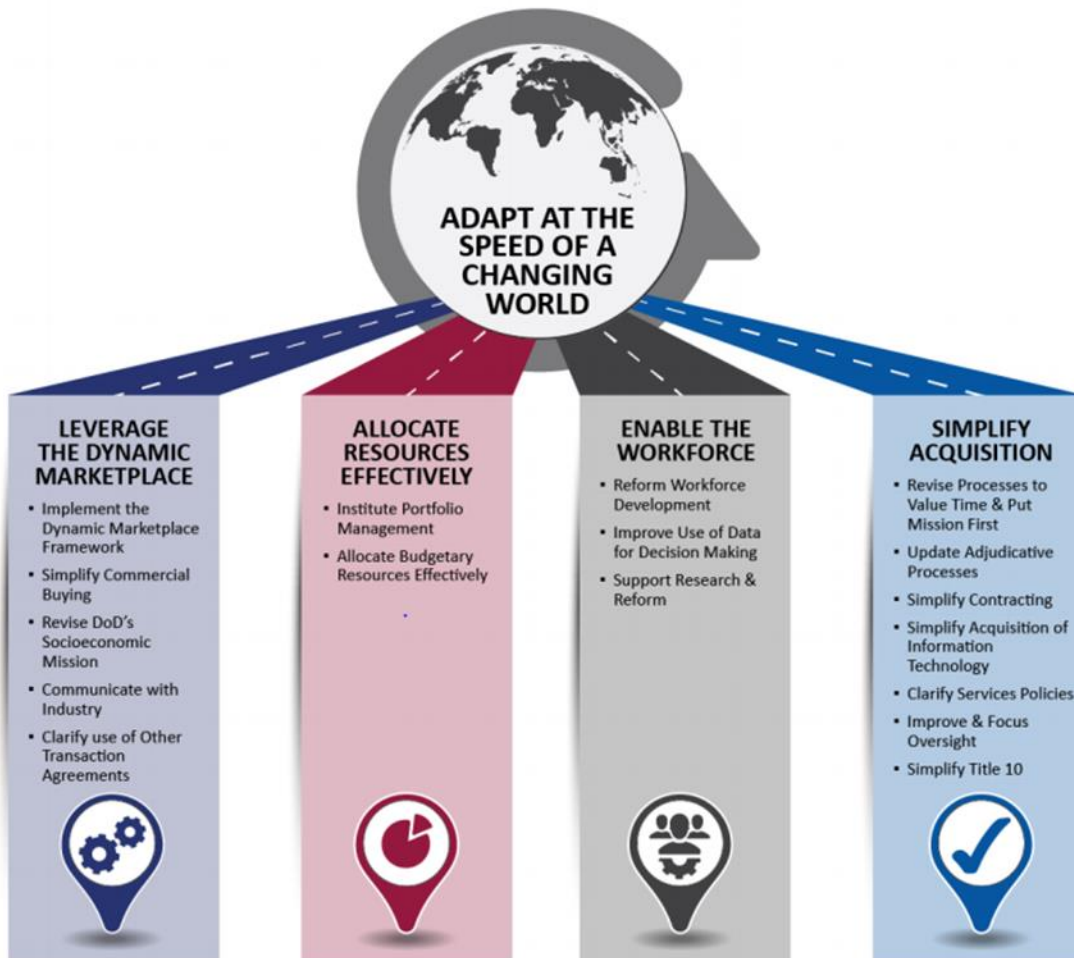


Figure 3. Section 809 Panel's Roadmap to Success. Source: DTIC (n.d.).

1. 809 Panel Recommendations

Part 1, Section 5 of Volume 3 of 3 of the Section 809 Panel report outlined three acquisition workforce recommendations made by the Panel which centers on the creation of mission-focused business leaders as the whole person concept of professional accreditation and career progression, competency standards for the acquisition workforce and a public-private exchange program (PPEP). A PPEP will help the DoD acquisition workforce better understand the private sector (seller) acquisition processes (DTIC, n.d.). Below is a summarization of the three acquisition workforce recommendations as stated in the Panel's report:

- Recommendation 59: Revise the Defense Acquisition Workforce Improvement Act to focus more on building professional qualifications - DoD's implementation of DAWIA needs to be overhauled to introduce professional qualifications (demonstrated occupational competencies and proficiencies) in addition to certifications (an Acquisition Workforce (AWF) member's education, training and experiences). Developing a highly qualified AWF requires a career development model that continuously deepens and broadens DoD AWF members' experience throughout their careers.
- Recommendation 60: Implement acquisition career paths that are integrated with an institutionalized competency model tailored to mission needs - DoD should implement career paths that cultivate and develop key work experience. These paths should be integrated with a competency model that features technical and nontechnical skills along with associated proficiency standards for every acquisition career field. A robust and dynamic career development model would provide clarity on the competencies and qualifications AWF members require to reach their full potential and contribute to optimal mission outcomes.
- Recommendation 61: Create a comprehensive public-private exchange program for DoD's acquisition workforce - PPEPs enjoy widespread support by DoD and Congress. Efforts to implement a comprehensive, two-way exchange program have failed due to structural and cultural factors that have created disincentives for DoD employing offices, DoD employees, and private-sector companies. Eliminating these disincentives would provide a foundation for a comprehensive exchange program. (DTIC, 809 Panel Roadmap, 2019, p. 16)

As demand increases for faster and more efficient acquisition processes, the acquisition workforce will need to respond and be prepared to be flexible and open to reform and transformation. This mission-focused workforce needs to be prepared and have the competencies, skills and experience required to succeed in keeping the warfighter relevant in the global environment.

2. Implementation

The focus of this analysis concerns itself with the Enabling the Workforce, the third lane of the Panel's roadmap depicted in Figure 3, specifically reforming workforce development. Workforce development reform is outlined in Recommendation 59 of the Panel's report. It recommends DoD overhaul DAWIA to include competencies and proficiencies in the training process as well as workforce education-levels and gained skills and knowledge (DTIC, 2019a). Further expanding on the intricacies of Recommendation

59, the Panel addressed the problem the Panel was trying to solve concerning qualification of acquisition professionals. The Panel's report stated:

Provisions in DAWIA are intended to professionalize the DoD AWF by establishing specific requirements for education, training, and experience. After nearly 30 years, DoD is still attempting to use a certification structure that includes a greater emphasis on experience and ensuring AWF members attain necessary qualifications to fulfill their responsibilities. A current problem is that DoD's certification programs create a sense among the AWF that professional development occurs in a finite period at the beginning of members' careers rather than being a continuing process. Congress and DoD should revise DAWIA to focus on building a professional AWF qualified to tackle the challenges of the 21st century and beyond. Such a refocus would comprise substantiating qualifications and a modernization of the certification process. (DTIC, 809 Panel Vol 3 of 3, 2019, p. 493)

To address this problem statement, the Panel interviewed subject matter experts in a variety of acquisition positions in both the public and private sector. Not only did the Panel conduct interviews, it also reviewed current certification standards, available formal training, GAO reports, and published guidance on workforce development to formulate its recommendations. (DTIC, 2019a). As stated in the 2019 809 Panel Report,

The DoD Acquisition Workforce Strategic Plan sets a goal of prioritizing experiential learning through and relied on certification training completion as a measure of success with regard to DAWIA. DoD lacks metrics to measure improving workforce proficiency and capability. DoD senior leaders indicated that certification means nothing without an understanding of true capabilities. (p. 499)

The Panel pointed out that

Under the current construct, interns and new AWF employees are fully certified and considered experts in their field by merely remaining employed in a DoD acquisition organization for 4 years, along with the education and training for certification without having to demonstrate that they have mastered the proficiencies of an expert acquisition professional. Certification Level III should indicate AWF members have achieved initial readiness, not certified expertise. (p. 499)

Once DAWIA certification is received there is no further requirement to recertify even though a change of statutes and regulations and best practices may have evolved with the change in acquisition environment, However, DoD does require the acquisition

workforce to earn 80 continuous learning points every two years to retain certification. The Panel pointed out that “both the government AWF and industry recognize the DAWIA construct as a well-developed certification program. It serves as a model for federal civilian agencies’ acquisition workforce and industry. However, there are no universal certification standards” (DTIC, 809 Panel Vol 3 of 3, 2019, p. 500).

3. 809 Panel Recommendations to Congress

As a result of the Panel’s gained insight, it recommended Congress amend 10 U.S.C. § 1701a, Management for Acquisition Workforce Excellence, to:

- Require DoD to implement an AWF professional certification program based on third-party accredited, nationally or internationally recognized standards for each DoD acquisition career field.
- If a third-party accredited, nationally or internationally recognized certification program does not exist for a DoD acquisition career field, require DoD to establish a certification program using the best approach determined by the Secretary of Defense for meeting the requirement including implementation through entities outside DoD. (DTIC, 809 Panel Vol 3 of 3, 2019, p. 284)

The Section 809 Panel recommendations are the origins of implementing a third-party accredited acquisition professional standard. In the next section, we’ll discuss how this recommendation is codified into law through the National Defense Authorization Act.

D. NATIONAL DEFENSE AUTHORIZATION ACT

According to the 2020 Congressional Research Service Report on the NDAA process “the FY2020 NDAA is the 59th consecutive year for which an annual defense authorization was enacted” (p. 1). The reports states, “The NDAA does not provide budget authority for government activities” (p. 1). Instead, the NDAA “establishes defense policies and restrictions, and addresses organizational administrative matters related to the DOD” (Williams, 2020, p. 1).

The FY 2020 NDAA included language that emanated from the 809 Panel recommended amendment to 10 U.S.C. § 1701a, Management for Acquisition Workforce Excellence. Paragraph C under 10 USC § 1701a. was added (NDAA, 2020).

(c) PROFESSIONAL CERTIFICATION. – (1) IN GENERAL. – The Secretary of Defense shall implement a certification program to provide for a professional certification requirement for all members of the acquisition workforce. Except as provided in paragraph (2), the certification requirement for any acquisition workforce career field shall be based on standards developed by a third-party accredited program based on nationally or internationally recognized standards. (2) REQUIREMENTS FOR SECRETARY—If the Secretary determines that, for a particular acquisition workforce career field, a third-party accredited program based on nationally or internationally recognized standards does not exist, the Secretary shall establish the certification requirement for that career field that conforms with the practices of national or international accrediting organizations. The Secretary shall determine the best approach for meeting the certification requirement for any such career field, including by implementing such certification requirement through entities outside the Department of Defense, and may design and implement such certification requirement without regard to section 1746 of this title. (pp. 319-320)

NDAA FY20 added a Section 1765 to Title 10 USC Subtitle A, Part II, Chapter 87, Subchapter V. This added section outlines mandate to the Secretary of Defense relating to acquisition workforce competency development –

§ 1765. Competency development for each acquisition workforce career field, the Secretary of Defense shall – (1) establish, for the civilian personnel in that career field, defined proficiency standards and technical and nontechnical competencies which shall be used in personnel qualification assessments; and (2) assign resources to accomplish such technical and nontechnical competencies. The table of sections at the beginning of such subchapter II is amended by adding at the end the following new item: 1765. Competency development; (3) DEADLINE FOR IMPLEMENTATION. – Not later than the end of the two-year period beginning on the date of the enactment of this Act, the Secretary of Defense shall carry out the requirements of section 1765 of title 10, United States Code (as added by paragraph (1)). (j). (NDAA, 2020, p. 323)

This mandate directs the Secretary of Defense to implement a national or international third-party accredited proficiency competency development program for all acquisition workforce members no later than 19 December 2021, which is two years from the 19 December 2019 enactment of this NDAA.

In the next section, we'll discuss further research which supports the implementation of a third-party accredited contract management competency.

E. CONTRACT MANAGEMENT COMPETENCY

In Rendon's 2010 paper titled *Professionalization of the U.S. Defense Acquisition Workforce: Progress, Problems and Future Directions*, he stated that Under Secretary of Defense Acquisition, Technology, and Logistics (USD AT&L) implemented a Contracting Competency Assessment to establish a DoD contracting workforce capability baseline. According to Rendon, this baseline current competencies of the acquisition workforce as well as identify gaps in skills and knowledge. This information could then be used to identify areas for increased workforce skill progression (Rendon, 2010). Acquisition workforce competency has been a GAO focal point for over a decade and several reports have been issued on the subject. The next section will review a 2015 GAO report, which discussed the need to improve workforce capability. This is followed by a review of the FY 2010 NDAA, highlighting the ongoing issue of competency assessment and how it can be effectively addressed.

1. GAO Report 16-80

In December 2015, the GAO released report GAO-16-80 – *Defense Acquisition Workforce: Actions Needed to Guide Planning Efforts and Improve Workforce Capability*. In the background section of this GAO report DiNapoli states, “since 2001, GAO has included strategic human capital management as a government high-risk area” (DiNapoli, 2015, p. 4). Earlier in 2015, the GAO released its *High-Risk Series: An Update*, by Mihm, (GAO-15-290), that reported “DOD has demonstrated sustained leadership commitment to address its acquisition workforce challenges, underscored by the department’s emphasis on growing and training the acquisition workforce through its Better Buying Power initiatives” (Mihm, 2015, p. 4).

GAO-16-80 also reported that the GAO and Office of Personnel Management identified six strategic areas where organizations should incorporate into workforce development.

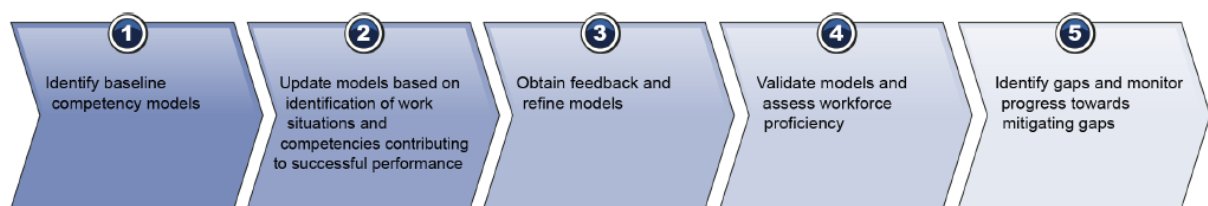
According to the 16-80 GAO report DiNapoli ventures into addressing the limited data pertaining to workforce proficiency and skill gaps. It states:

Increasing the number of people performing acquisition work is only part of DOD's strategy to improve the capability of its workforce; another part is ensuring that the workforce has the requisite skills and tools to perform their tasks. DOD developed a five-phased process that included surveys of its employees to assess the skills of its workforce and to identify and close skill gaps. Efforts to complete the process were hindered by low survey response rates and the absence of proficiency standards. Further, DOD has not established time frames for when career fields should conduct another round of competency assessments to assess progress towards addressing previously identified gaps and to identify emerging needs. (p. 16)

2. NDAA 2010

Included in the 16-80 GAO report from the Fiscal Year 2010 NDAA, Section 1108 required DoD to report on its plan for the acquisition workforce addressing critical skills and competencies needed by future acquisition workforce members, this plan is to cover a seven-year period. The DoD is also to include in this report any acquisition workforce skill and proficiency gaps to ensure they are prepared to meet the needs of the DoD (DiNapoli, 2015).

Encompassed in the 16-80 GAO report was the five-step model from the 2010 Defense Acquisition Workforce Improvement Strategy to assess acquisition workforce skills and identify skill gaps and monitor progress for closing those skill gaps as identified in Figure 4.



Source: GAO presentation of process described in April 2010 Defense Acquisition Workforce Improvement Strategy. | GAO-16-80

Figure 4. Five-Step Defense Acquisition Workforce Improvement Strategy.
Source: DiNapoli (2015).

Figure 4 captures GAO's view on the need for competencies for the acquisition workforce and highlights the length of time its focus has been on the acquisition workforce's knowledge and skills. The next section provides an overview of the Office of

Personnel Management’s competency definition and tools to identify competencies and critical tasks for federal occupational series.

F. COMPETENCIES AND THE OFFICE OF PERSONNEL MANAGEMENT

The Assessment and Selection section of the Office of Personnel Management (OPM) website defines competency as “a measurable pattern of knowledge, skills, abilities, behaviors, and other characteristics that an individual needs to perform work roles or occupational functions successfully. Competencies specify the ‘how’ of performing job tasks, or what the person needs to do the job successfully” (OPM, n.d). According to OPM, when conducting an analysis of competency gaps, it “involves two primary components: (1) the selection of competencies to assess, and (2) the identification of current proficiency gaps in incumbents’ ability to apply these competencies during job performance” (OPM, n.d). Competency gaps are “presented in a survey to job incumbents and supervisors for ratings of current and required proficiency levels” (OPM, n.d).

For more than 20 years, OPM has utilized the Multipurpose Occupational Systems Analysis Inventory - Close-Ended (MOSAIC) method. According to OPM, MOSAIC is a “survey-based occupational analysis approach, used to collect information from incumbents and supervisors on many occupations for a wide range of human resource management functions” (OPM, n.d.). According to OPM, it has used MOSAIC to identify competencies and critical tasks for nearly 200 federal occupational series. As described on the OPM website, the MOSAIC competency definition for Contracting/Procurement is: “Knowledge of various types of contracts, techniques, or requirements (for example, Federal Acquisitions Regulations) for contracting or procurement, and contract negotiation and administration” (OPM, n.d.).

The next section discusses the DoD competency-based model developed during then Director of Defense Procurement and Acquisition Policy Dr. Shay Assad’s tenure at the Office of the Under Secretary of Defense (Acquisition, Technology and Logistics). The DoD Contracting Competency-Based Model is the current model used by the Air Force to assess and certify contracting workforce competencies.

G. DOD CONTRACTING COMPETENCY-BASED MODEL

A DoD competency model was developed in 2007 to conduct a contracting competency assessment to baseline the knowledge, skills and abilities of the entirety of the DoD contracting workforce (DPAP, 2020a). Assessment results were to provide the DoD an inventory of current workforce competencies. According to the DoD-Wide Contracting Competency Assessment Fact Sheet, the assessment results will be used to “provide a complete inventory of competencies which exist in the DoD-wide Contracting workforce; identify current and projected competency gaps; and support workforce development in ways to best fit the strengths and weaknesses of the workforce and the needs of the contracting mission” (DPAP Contracting Competency Assessment, 2020b). The assessment was comprised of eleven units: ten technical units and one professional unit that included ten sub-units. A respondent’s proficiency score was then tallied based on the level of knowledge and competence in the rated areas. Figure 5 depicts the eleven competency units, identified in the Competency-based Management for the DoD-wide Contracting Community overview brief, dated March 2008.

- 10 Technical Units of Competence
 - Pre-Award and Award
 - Develop and/or Negotiate Positions
 - Advanced Cost and/or Price Analysis
 - Contract Administration
 - Small Business/Socio-Economic Programs
 - Contract Termination
 - Negotiate Forward Pricing Rates Agreements & Administer Cost Accounting Standards
 - Procurement Policy
 - Contracting in a Contingent and/or Combat Environment
 - Other (includes Construction/ Architect & Engineering)
- 1 Professional Unit of Competence (includes 10 Professional Competencies)
 - Problem Solving
 - Customer Service
 - Oral Communication
 - Written Communication
 - Interpersonal Skills
 - Decisiveness
 - Technical Credibility
 - Flexibility
 - Resilience
 - Accountability

Figure 5. DoD Contracting Competency Units. Source: DPAP (2020b).

Figure 6 depicts information from this same presentation that outlined the assessment methodology for capturing the frequency, proficiency and criticality for each of the assessed competencies.

- Employee and supervisor/equivalent will assess **frequency, proficiency and criticality** for each of the technical and professional competencies:
 - **Frequency:** Please rate how often you do this activity in your job.
 - ***Ratings should apply to your current position.***
 - Ratings: 1 - Almost Never, 2 – Rarely, 3 - Occasionally, 4 – Frequently, 5 - Very Frequently, NA - Not Applicable/Not needed in My Job
 - **Criticality:** Please rate how critical the competency element behaviors are to your job.
 - ***Ratings should apply to your current position.***
 - Ratings: 1 – Not Critical, 2 – Somewhat Critical, 3 – Fairly Critical, 4 – Very Critical, 5 – Extremely Critical, NA – Not Applicable / Not needed in My Job
 - **Proficiency-** Please rate how proficient you are at the competency element behaviors.
 - ***Proficiency applies to/considers your entire career***
 - Behavioral statements are provided for each proficiency level (0 - No exposure to, or awareness of, this element, 1 – Awareness, 2 - Basic, 3 – Intermediate, 4 – Advanced, 5 – expert.

Figure 6. DoD Acquisition Competency Assessment. Source: DPAP (2020b).

As stated on DPAP website, these proficiency scores were then “compared to one of six mission area proficiency standards to determine competency gaps across the DoD-wide Contracting Workforce” (DPAP, 2020a). The six mission areas are identified on Slide 10: Major Systems, Logistics and Sustainment, Base Operations, Defense Agencies and Research Labs, Construction/Architecture and Engineering and Contracting in a Contingency and/or Combat Environment. Each of the mission areas proficiency standards will be “compared at the entry, journey, or senior level to determine competency gaps across the DoD-wide Contracting Workforce: Frequency and criticality data will be used to analyze/prioritize competency gaps such that workforce development efforts may focus

on needs of the contracting mission” (DPAP, 2020a). The assessment was launched as a four-phase approach starting in June 2007 and ended in May 2008. According to the 2014 Office of the Under Secretary of the of Defense, competency assessment kickoff memo the past assessment experienced a 90% participation rate (DPAP, 2020a).

In April 2014, a second contracting workforce competency assessment was launched utilizing the same model and methodology used in the past inventory. No public information on the results was found on either inventory assessment.

Today, the DoD bases its training for the contracting workforce on the DoD Competency framework discussed in this section. However, the DoD framework is not currently a third-party accredited competency framework. In light of the recent legislation previously discussed in this chapter, moving toward a third-party accredited framework is necessary.

In response to NDAA 2020, Section 861, a recently published memorandum signed by the acting Principal Director of Defense Pricing and Contracting, calls for the Department to begin using the NCMA CMBOK CMS as the competency framework for DoD (B. Schwartz, email to author, May 8, 2020). This was based on recommendations from the Office of the Under Secretary of Defense Human Capital Initiatives (HCI) taskforce, which recommended the CMS to the Senior Procurement Executives (SPEs) on April 03, 2020. The memo states, “the approved recommendations are a new Contracting Competency Model and a redesigned contracting talent development structure, comprised of a single level of certification and a comprehensive examination on the contracting common competencies” (B. Schwartz, email to author, May 8, 2020). The SPEs approved the recommendation recognizing the CMS model complies with section 861 of the FY2020 NDAA, requiring professional certification of the workforce be developed from a third-party accredited program.

As discussed above, the FY2020 NDAA mandated any DoD acquisition workforce competency framework adopted or created must be accredited by a third-party. While there are many methods for accreditation of business and proficiency standards, the American National Standards Institute (ANSI) is recognized both nationally and internationally as a

standards accreditation body. The next section reviews this nationally recognized third-party accreditation body.

H. AMERICAN NATIONAL STANDARDS INSTITUTE

As the United States' participant in the International Standards Organization (ISO), the American National Standards Institute (ANSI) operates as an independent third-party national and international standards accreditation body. ANSI's website states its mission is to "enhance both the global competitiveness of U.S. business and the U.S. quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity" (ANSI, n.d.). As listed on the ANSI website, since ANSI's inception in 1918 the organization has been "dedicated to supporting the U.S. voluntary standards and conformity assessment system and strengthening its impact, both domestically and internationally" (ANSI, n.d.). According to the ANSI literature, these standards encompass "practically every industry, the Institute represents the diverse interests of more than 270,000 companies and organizations, and 30 million professionals worldwide" (ANSI, n.d.).

Also stated on the ANSI website, in the National Standards Overview section, "ANSI facilitates the development of American National Standards (ANS) by accrediting the procedures of standards developing organizations. These groups work cooperatively to develop voluntary national consensus standards" (ANSI, n.d.). The overview goes on to describe that "accreditation by ANSI signifies that the procedures used by the standards body in connection with the development of American National Standards meet the Institute's essential requirements for openness, balance, consensus and due process" (ANSI, n.d.).

ANSI works as a facilitator for "the development of ANS by accrediting the procedures of standards developing organizations (SDOs). These groups work cooperatively to develop voluntary national consensus standards" (ANSI, n.d.). For a standard to maintain "ANSI accreditation, standards developers are required to consistently adhere to a set of requirements or procedures known as the 'ANSI Essential Requirements', that govern the consensus development process" (ANSI, n.d.). The ANSI process includes:

- consensus on a proposed standard by a group or "consensus body" that includes representatives from materially affected and interested parties;
- broad-based public review and comment on draft standards;
- consideration of and response to comments submitted by voting members of the relevant consensus body and by public review commenters;
- incorporation of approved changes into a draft standard; and
- right to appeal by any participant that believes that due process principles were not sufficiently respected during the standards development in accordance with the ANSI-accredited procedures of the standards developer. (ANSI, n.d.)

An ANSI standard is defined as “[a] document, established by consensus, that provides rules, guidelines, or characteristics for activities or their results” (ANSI, n.d.). According to the NCMA website, “ANSI contends that the common and repeated use of a standard will improve productivity, increase efficiency, and reduce costs” (CMS, 2019).

As previously stated, the CMBOK CMS is accredited by ANSI. In the next section, we will review the contract management process and the CMBOK CMS.

I. THE CONTRACT MANAGEMENT STANDARD (CMS)

The NCMA created a framework known as the Contract Management Body of Knowledge (CMBOK) in September 2002. The CMBOK is a professional standard created for the contract management workforce. The NCMA was founded in 1959 to promote contract management through education and professional certifications. Today, NCMA’s three professional certifications are rooted in the CMS. The CMS is an ANSI-accredited standard that defines the contract management process by job tasks and skills. As stated on the NCMA website,

The CMS has five purposes: 1) to define and standardize the term contract management; 2) to present and define the processes in the contract life cycle; 3) to develop and perfect contract management practices, policies and procedures; 4) to inspire critical thinking and learning to bring efficiency to the contract management profession and; 5) to be a constantly-evolving or “living” document with a formal change process. (CMS, 2019)

The CMS is a creditable framework for all contract management processes. According to the CMS website, in April 2019, ANSI completed the accreditation of

NCMA's CMS (CMS, 2019). The purpose of this standard and the key to the accreditation is stability and a repeatable, standardized process (NCMA, n.d.). The terminology, processes and policies will vary greatly from organization to organization as discussed later in Chapter IV. However as described on the NCMA website, by providing one framework of common job tasks and competencies, the CMBOK CMS is a valuable tool for contract management, written without bias for internal policies, presented in processes that are "intuitive and predictable" for all (NCMA, n.d.). Additionally, when all contract managers are speaking one language consistently, there is a higher probability of reaching an understanding on contract intent and interpretation. This is a win-win for DoD and all sellers that do business with the DoD.

The CMS competencies are presented using the contract management life cycle (i.e., pre-award, award, and post-award) from the CMBOK (CMS, 2019). The CMBOK CMS can be accessed from the NCMA website under the Standards and Certification tab (NCMA, n.d.). CMBOK provides a complete overview of the profession and includes not only the competencies in the CMS, but also leadership, management and learning (NCMA, n.d.). The phases are divided by domains and subdomains along the pre-award, award, and post-award life cycles as shown in Figure 7. A discussion of the life cycle phases, as well explanation of the domains and competencies, follows Figure 7.

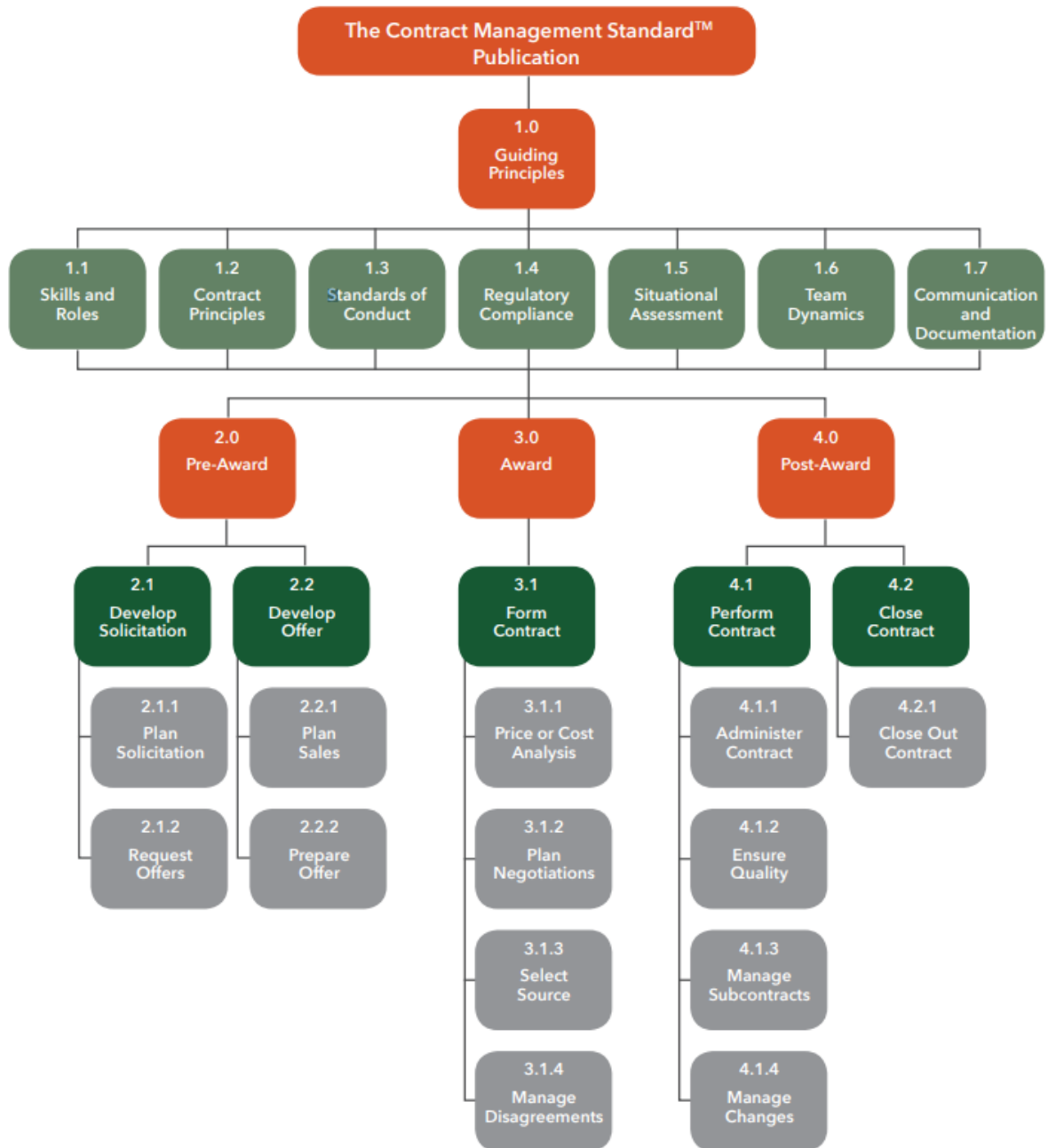


Figure 7. The Contract Management Standard Publication.
Source: NCMA (n.d.).

1. Pre-Award Phase

According to the CMS shown in Figure 7, the pre-award phase consists of activities for the buyer of developing the requirement, determining a suitable acquisition strategy,

and developing a plan for evaluation of the seller's offer (CMS, 2019). For the seller, pre-award activities are similar including, market research, response to requests for information from the buyer, and developing a strategy to obtain an award. For both buyers and sellers, this phase relies heavily on market research. The two domains under Pre-Award are developing the solicitation and developing the offer. Developing the solicitation is a pre-award activity for the buyers. The key competencies are developing a requirement, performing a meaningful risk analysis, market research, and formulating the acquisition strategy. After these steps are completed the buyer requests offers. They execute the acquisition or solicitation plan, respond to sellers' questions and amend solicitations if necessary (CMS, 2019).

The CMS also points out that developing an offer is in the domain of the seller. (CMS, 2019). This is a value-added process for the seller as it is based on the offeror's business strategy which increases the seller's competitive position in the market. When developing an offer, the key competencies for sellers are to assess competition, scan the market for opportunities and threats, and develop customer relations and sales strategies. This is called planning sales. Finally, the seller will prepare an offer to the solicitation with the intent on winning the business for their company (CMS, 2019).

2. Award Phase

As shown in the CMS (Figure 7), the second phase in the contract management life cycle is the award phase (CMS, 2019). This phase encompasses all the work buyers and sellers perform to award or win a contract depending on their roles. Buyers award contracts to sellers and sellers win or receive contracts from buyers. There is only one domain in this phase; to form the contract. In the award phase, the buyer competencies are evaluating offers, conducting negotiations, selecting the source, awarding a contract, debriefings and addressing any mistakes or misunderstandings in the selection process the seller may have. For sellers the competencies in this phase will include, clarifying the offer, participating in the negotiations and preparing the final offer. In order to develop or form a contract, the buyer must also determine price and costs are reasonable, select the source and manage any disagreements (CMS, 2019).

3. Post-Award Phase

According to the CMS as shown in Figure 7, when the award has been made and the debriefings have been completed, the post-award life cycle phase begins (CMS, 2019). Contract performance begins in the post-award phase. Again, buyers and sellers both have key roles in the contract management post-award phase. The competencies under this phase for the buyer are addressing performance issues and identifying performance risk, executing contract changes or modifications, monitoring compliance with contract terms and conditions, processing invoices for payment, and closing out the contract once performance has ended. The seller competencies are contract performance, subcontracting activities, managing contract changes, invoicing, and bringing the contract to a successful conclusion. The two domains under post-award phase are Perform Contract and Close Contract. Managing risk and maintaining open lines of communication for both the buyer and seller are critical to a successful post-award phase. Once the contract is complete, the buyer and seller will verify all the requirements of the contract have been met, settle any unresolved issues, reconcile and make the final payment (CMS, 2019).

The CMS is not the only model the DoD can use to assess competency, but using it to identify contract management issues is an effective internal control as well. It will allow the Air Force to meet the objective of developing mission-focused business leaders because it addresses both the buyer and seller objectives.

In recent research comparing the NCMA CMBOK/CMS with the contracting competency models used by the DoD, Federal Acquisition Institute (FAI), and the National Institute for Government Purchasing (NIGP), Rendon found that the NCMA CMBOK/CMS competency model provides a better approach for developing the DoD contracting workforce. He further suggests that expanding the DoD contracting workforce's knowledge to include the seller's competencies will help in developing contract management skills that transfer across government and industry, as well as improve communication and collaboration between government and industry (Rendon, 2019).

J. SUMMARY

In this chapter, we reviewed the literature associated with contracting workforce competencies. We began with an overview of auditability theory and its three key aspects. Next, we reviewed how both the Section 809 Panel and the FY 2020 NDAA played an integral role in reforming regulations and statutes to enhance the effectiveness of the contracting workforce. Specifically, the FY2020 NDAA calls for use of a third-party accredited competency model. We also reviewed the current DoD competency model, which is the current baseline for the knowledge, skills, and abilities for the entirety of the DoD contracting workforce. Next, we reviewed ANSI as a qualified third-party accreditation source. We provided an overview of the NCMA CMBOK Contract Management Standard Publication, which has been accredited by ANSI; thus, linking a third-party accredited standard to meet the intent of the NDAA language.

In Chapter III, we discuss how Air Force contracting leadership is looking to improve the contracting workforce as mission-focused business leaders. We will also provide a summary of each of the Air Force organizations aligned to this research; Air Force Acquisition and Management and Integration Center (AMIC), Air Force Nuclear Weapons Center (AFNWC) and the Air Force Research Laboratory (AFRL).

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III. AIR FORCE ORGANIZATIONS REPRESENTED IN THE RESEARCH

A. INTRODUCTION

Our research analyzes deficiencies from previous DoD IG reports and provides an assessment of the Air Force Contracting Self-Inspection Checklist, found in AFFARS MP 5301.601-91 in comparison to the NCMA CMBOK CMS. This chapter first discusses how Air Force Contracting leadership is developing lines of effort to grow the Air Force acquisition workforce. Specifically, we discuss how our research is relevant to the Deputy Assistant Secretary (Contracting) (SAF/AQC) Air Force Contracting Flight Plan, Line of Effort #1. This line of effort is Air Force contracting's goal to develop mission-focused business leaders (Air Force [AF] Contracting, *Flight Plan*, 2019, access restricted to AF personnel, retrieved from internal server, March 11, 2020). This means that Air Force contracting workforce will need to have the competencies that encompass both buyers and sellers. Line of Effort #1 also aligns back to the auditability triangle for competent personnel. Since this research is solely focused on Air Force discrepancies and the auditability of competent personnel and internal controls for the Air Force, we have provided an overview Air Force Contracting as well as a discussion of the mission, organizational structure, and acquisition data for three organizational contracting activities under Air Force Contracting.

B. AIR FORCE CONTRACTING

“The mission of the Air Force is to fly, fight and win in air, space and cyberspace” (DAF, 2019). The mission of Air Force Contracting (SAF/AQC) is exactly the same. The vision of SAF/AQC is to create “mission-focused business leaders driving modernization, readiness and lethality” for the Air Force (SAF AQC, n.d.). To execute this strategic vision, Major General Cameron Holt, Deputy Assistant Secretary for Contracting, created a Board of Directors, which is a governance structure of Air Force senior contracting leaders. In his The Contracting Experience (TCE) Podcast Episode 10, Major General Holt explains the purpose of this governing body. He makes clear in the podcast, that the purpose of the

Board of Directors is 1) transparency; 2) improve representation of the contracting workforce; 3) simplify for understanding what it means to be a leader in Air Force contracting and give junior members of the career field a clear vision of their future role as leaders; and finally, 4) by naming it the Board of Directors, this provides emphasis as to contracting leaders roles as business leaders for the Air Force (Holt TCE Podcast Episode 10, 2019, 5:18). Major General Holt wants all Air Force contracting professionals to embrace this role of mission-focused business leaders. As part of his Strategic Flight Plan released in 2019, he formally changed the focus from business advisor to mission-focused business leaders (Holt TCE Podcast, 2019; AF Flight Plan, 2019).

1. Line of Effort

Scott Kiser, Associate Deputy Assistant Secretary of Contracting, gives further details in The Contracting Experience Podcast Episode 10, on what a mission-focused business leadership means to the Air Force contracting workforce. Mr. Kiser explains, “Contracting has a direct role in each of the three predominant lines of effort outlined in the National Defense Strategy. First, to build a more lethal force, by increasing lethality and readiness. Second, strengthen alliances and attracting new partners [to the Air Force] and finally, to reform DoD business practices for greater performance and affordability” (Holt TCE Podcast Episode 10; 6:12, 2019). The SAF/AQC Strategic Flight Plan (AF Flight Plan, 2019) has a direct correlation to these three key areas in the National Defense Strategy and is designed with four objective Lines of Effort.

- Line of Effort 1: Building Mission-Focused Business Leaders
- Line of Effort 2: Tools Not Rules!
- Line of Effort 3: Owning the High Ground: Optimizing the Acquisition Enterprise
- Line of Effort 4: Expeditionary Contracting as a Joint Force Capability (AF Flight Plan, 2019, p. 6)

This discussion will focus on Line of Effort 1 as it directly aligns to our research. Tom Robinson, Director for Air Force Life Cycle Management Center, Contracting Directorate, is the champion for this Line of Effort. In summarizing this line of effort, the Air Force Contracting Flight Plan states, “One of our primary focus areas that will affect

both recruiting and retention is a renewed emphasis on a culture of mission-focus and lifelong learning and development” (AF Flight Plan, 2019, p 7).

(1) Objective 1: Attract, access and retain key talent

Objective 1 states, “The bedrock of a professional contracting workforce is talented individuals” (AF Flight Plan, 2019, p. 7). There are several key points in Objective 1 including showcasing the Air Force as a great career opportunity, attracting the best talent not only from within the Department but also from industry, working with Air Force personnel office to improve hiring authorities, and working toward increased pay and increased authority and responsibility for the contracting workforce (AF Flight Plan, 2019).

(2) Objective 2: Reimagine training and culture from initial skills through executive level

Objective 2 is designed to “evaluate and improve training and development tracks.” (AF Flight Plan, 2019, p. 7) The goal is to provide create a consistent career training plan with feedback as well as promoting growth past the DAWIA Acquisition Professional Development Program Level III certification and an unlimited Contracting Officer warrant level. The Air Force has identified a gap in training between the Level III and increased responsibility as a Senior Contracting Official (SCO). This ties directly back to Major General Holt’s vision for the Air Force Contracting Board of Directors and aligns perfectly with our research (AF Flight Plan, 2019).

(3) Objective 3: Leverage and formalize key strategic external partnerships

Objective 3 is to evaluate strategic partnerships with external organizations, then develop long-term partnerships that can help advance the Air Force mission. Through understanding of industry acquisition processes and using models that encompass both buyer and seller activities, these partnerships will be validated and more useful to meeting mission needs. This objective also directly aligns with our research (AF Flight Plan, 2019).

2. Call to Action

Maj Gen Holt’s flight plan is a call to action and to take calculated risks as business leaders do. In the introduction of the Air Force Contracting Flight Plan, he concludes by stating:

Today, we find ourselves at a crossroads. As identified in the National Defense Strategy, the United States is returning to an era of Great Power Competition and the stakes could not be higher. We do not have the luxury to wait for decade-long acquisition cycles or passive engagement in procurement decisions. The Air Force, now more than ever, needs Mission-Focused Business Leaders who can employ the full spectrum of Government contracting tools. Yet that is not enough! The Air Force's Business Leaders also must become more knowledgeable about US industry capabilities, capital markets and business process innovations related to air, space, cyber and full-spectrum readiness. (AF Flight Plan, 2019, p. 3)

By utilizing the NCMA CMBOK CMS as a model for contract management processes, Air Force contracting professionals can and will be more mission-focused business leaders.

In the next section, we provide a summary of three Air Force organizations and their missions. These organizations provide a good cross-section of the different types of Air Force contracting mission sets, from services acquisitions, systems, and research and development.

C. OVERVIEW OF THE MAJOR COMMANDS OF THE ORGANIZATIONS HIGHLIGHTED IN THIS RESEARCH

1. Air Combat Command

The Acquisition Management and Integration Center (AMIC) is aligned under Air Combat Command (ACC). According to the AMIC website ACC is, "the largest of the Air Force's Major Commands" (AMIC, n.d.). ACC is headquartered at Joint Base Langley-Eustis, Virginia. According to the ACC website the mission is:

To support global implementation of national security strategy, ACC operates fighter, reconnaissance, battle-management and electronic-combat aircraft. It also provides command, control, communications and intelligence systems, and conducts global information operations. As the Combat Air Forces lead agent, ACC develops strategy, doctrine, concepts, tactics, and procedures for air-, space-, and cyber-power employment. The command can also be called upon to assist national agencies with intelligence, surveillance and crisis response capabilities. (ACC, 2013)

2. Air Force Material Command

The Air Force Nuclear Weapon Center and Air Force Research Laboratory are aligned under the Air Force Material Command (AFMC, 2018). AFMC is headquartered at Wright-Patterson Air Force Base, Ohio and “conducts research, development, test and evaluation, and provides acquisition management services and logistics support necessary to keep Air Force weapon systems ready for war” (AFMC, 2018). The Command “fulfills its mission of equipping the Air Force with the best weapon systems through the Air Force Research Laboratory and several unique centers which are responsible for the ‘cradle-to-grave’ oversight for aircraft, electronic systems, missiles and munitions” (AFMC, 2018).

D. OVERVIEW OF THE ORGANIZATIONS HIGHLIGHTED IN THIS RESEARCH

1. Acquisition Management and Integration Center Overview

Headquarters (HQ) Air Combat Command (ACC) Acquisition Management and Integration Center (AMIC) is a unique services acquisition organization located at Langley AFB, Virginia. In 2007, the merger of ACC’s contracting and program management squadrons were combined to create an integrated service acquisition center based on the center of excellence models for acquisition. According to the organization’s website, “The AMIC is unique where contracting officers and program managers work side-by-side developing acquisition solutions, while understanding the constraints of performance, cost, and schedule. It is an industry-like model which is conducive to meeting the warfighter’s mission needs. The catalyst behind this merger was to create an organization with cross-functional/cross-directorate capability to service the command’s service acquisition needs. Since 2007, AMIC has grown and is recognized as a "center of excellence" for Air Force services acquisition management. According to AMIC’s website under the home section, AMIC’s mission is to “deliver responsive, cost-effective, mission-focused acquisition solutions to maximize operational capabilities” (AMIC, n.d.). Additionally, the center has over 430 personnel including contracting, program management, legal, financial & human resource management, communications, logistics, civil engineer and quality assurance

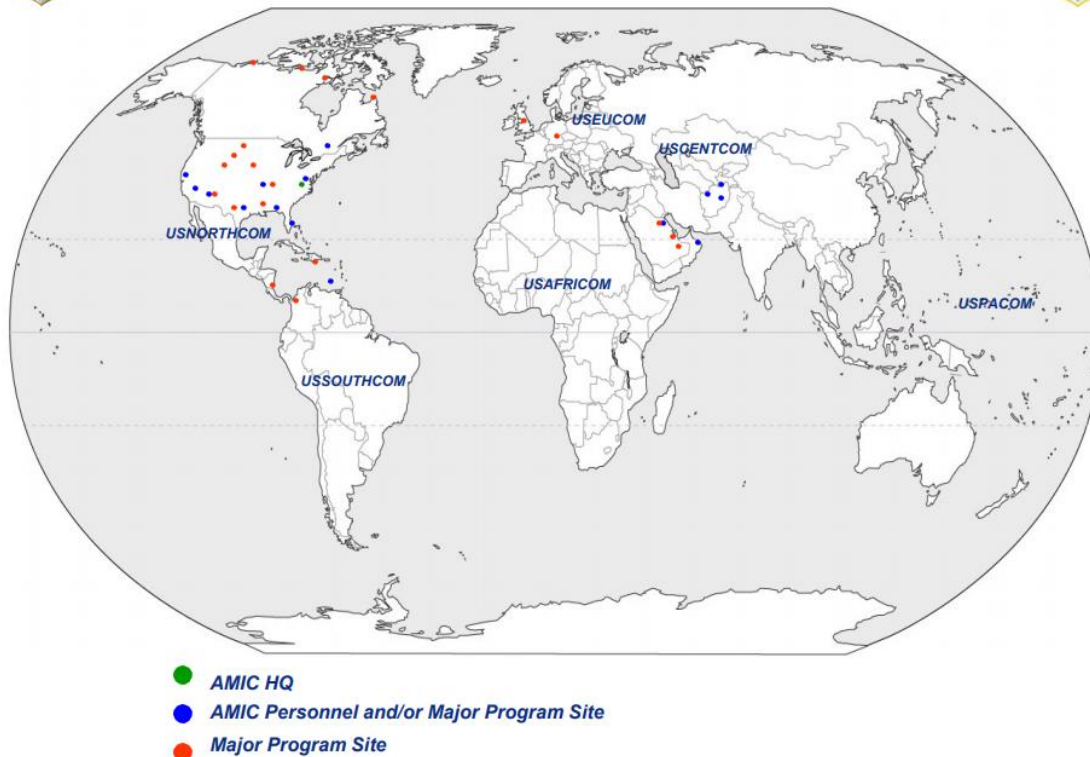
personnel supporting a \$15B services acquisition portfolio for HQ ACC (AMIC, n.d.). The Director of HQ ACC AMIC is Mr. Timothy Applegate.

Some of the benefits realized through this integrated model have been process-oriented rather than functional task-oriented methodologies to requirements development. Additionally, the AMIC model maximizes resource availability by reducing functional competition and unlike many Air Force contracting squadrons, program managers provide data analytics for cost and spend rates across functional areas, resulting in a process to promote more efficient acquisition solutions. As an employee since 2008, my experience is through their model, AMIC has been able to reduce cycle times and maximize training efficiency by training a common skill set and language across functional areas. Finally, this model has AMIC professionals interacting with other organizations outside of ACC at the wing, combatant commanders and numbered Air Force to take advantage of synergies wherever possible.

Figure 8 shows AMIC's global footprint, multiple theaters and all the areas where AMIC is providing contracting and program management support. AMIC provides integrated acquisition support in six global commands, USNORTHCOM, USSOUTHCOM, USAFRICOM, USEUCOM, USCENTCOM and USPACOM. In the next section, a summary of each of the contracting divisions supporting these missions is provided.



AMIC Global Footprint



Source: AMIC unpublished presentation slides, accessed from internal server, October 2, 2010.

Figure 8. AMIC Locations.

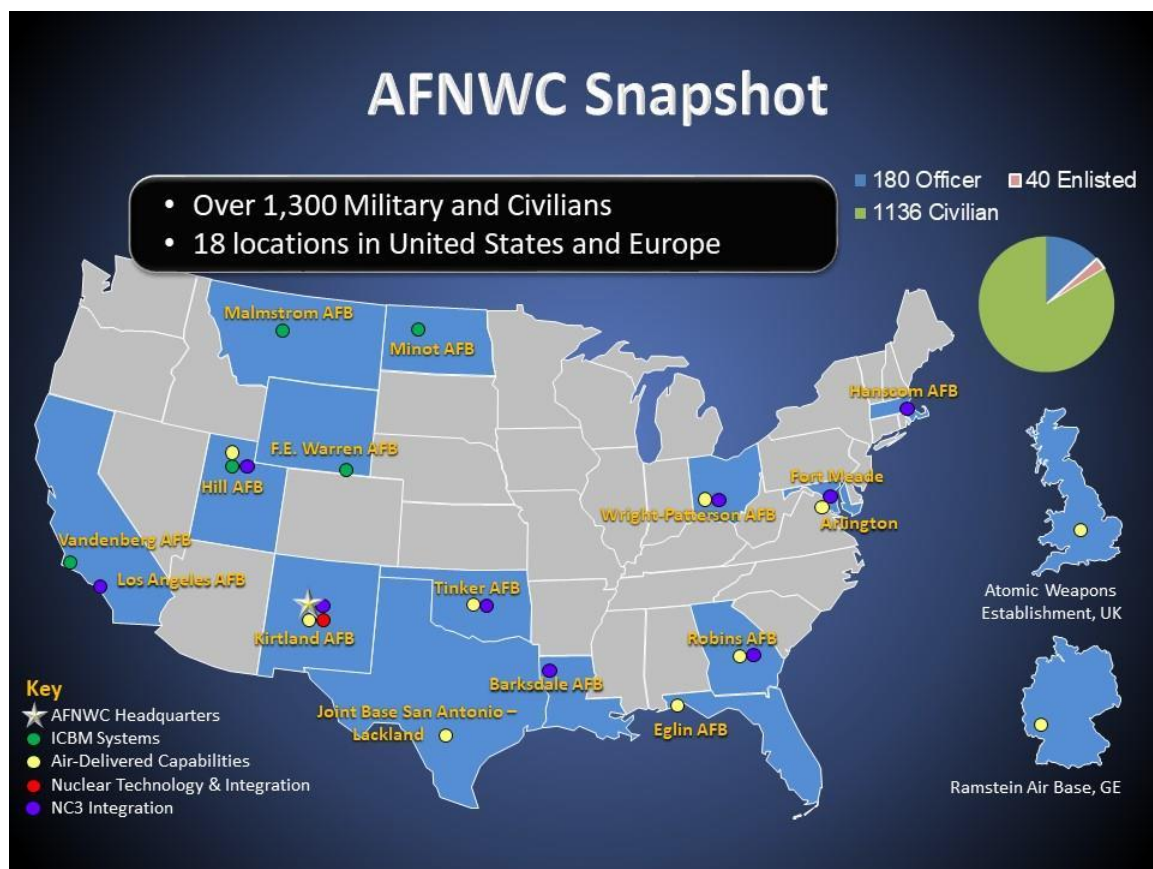
According to internal AMIC records (S. Wagner, email to author, June 9, 2020). AMIC obligations were approximately \$1.7B in FY19. AMIC primarily supports professional, administrative and management support services as well as operations, maintenance and repair of equipment [aircraft] and facilities for HQ ACC. Support for the flying mission of ACC is the backbone of the AMIC portfolio. In the next section, we will provide an overview of the Air Force Nuclear Weapon Center.

2. Air Force Nuclear Weapon Center Overview

The Air Force Nuclear Weapon Center (AFNWC) was established in 2006 as a Directorate within the Air Force Materiel Command (AFMC) (AFNWC, 2016). AFNWC assists both AFMC and Air Force Global Strike Command (AFGSC) to preside over all

aspects of nuclear material management and to sustain and extend the life of the Intercontinental Ballistic Missile (ICBM) fleet. The mission of AFNWC is to “Deliver nuclear capabilities Warfighters use every day to deter and assure” and their vision is to “ensure our nation’s most powerful weapon systems are never doubted, always feared” (AFNWC, 2016, p. 1).

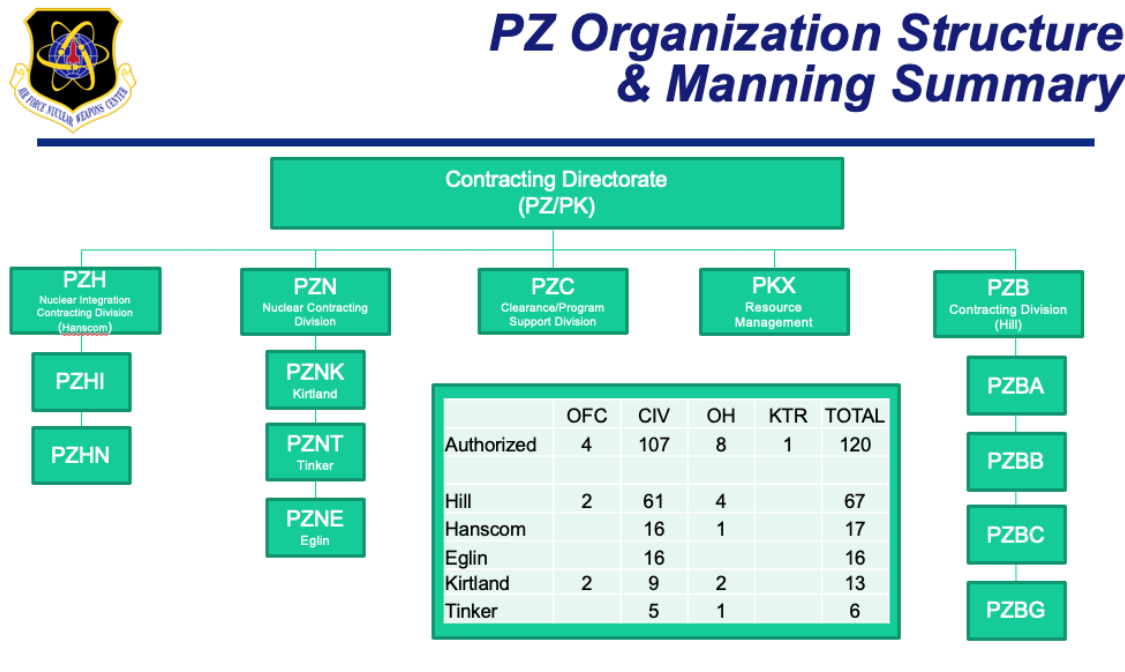
AFNWC’s headquarters is based at Kirtland Air Force Base in New Mexico. Figure 9 shows a snapshot of AFNWC’s locations. They employ over 1,300 people across 18 different locations. The Organization is made up of four major directorates: NC3 Integration Directorate (AFNWC/NC), Air Delivered Capabilities Directorate (AFNWC/ND), the ICBM systems Directorate (AFNWC/NI), and the Nuclear Technology and Interagency Directorate (AFWNC/NT) (AFNWC, 2016).



Source: Lt. Col. R. Smith, e-mail to author, April 1, 2020.

Figure 9. AFNWC Snapshot.

The contracting directorate that supports AFNWC is referred to as PZ/PK. Figure 10 depicts the organizational structure for the contracting directorate as well as a summary of the manning.



Source: Lt. Col. R. Smith, e-mail to author, April 1, 2020.

Figure 10. AFNWC/PZ Organizational Chart.

Overall, this contracting activity has a budget execution of over \$22B on approximately 33 programs (Peters et al., 2019). Because of the highly visible programs under this directorate, it is important that it is equipped with highly trained contracting business leaders. The next section provides an overview of the Air Force Research Laboratory.

3. Air Force Research Laboratory Overview

The Air Force Research Laboratory (AFRL) is headquartered at Wright Patterson Air Force Base, Ohio. AFRL is one of six Air Force Material Command centers and is tasked with the core mission area of discovery and development (AFRL, 2016). AFRL was created in October 1997 as a result of the consolidation of “four former Air Force laboratories and the Air Force Office of Scientific Research” (AFRL, 2016). AFRL’s

mission is to lead “the discovery, development and delivery of warfighting technologies for our air, space and cyberspace forces” (AFRL, 2016). According to the AFRL website, the laboratory maintains state of the art buildings and equipment that are specialized to meet the current and future demands for technology to support the warfighter and national defense (AFResearchlab, 2020). As described on AFRL website, the lab is comprised of nine Technology Directorates (TD), eleven Functional Directorates, 711th Human Performance Wing and the Air Force Office of Scientific Research. Each TD focuses on “the development and innovations of AFRL and are separated by technological capabilities. The functional directorates provide specialized support, strategic direction and oversight of the operations and business functions” (AFResearchlab, 2020).

According to the Kirtland Air Force Base (KAFB) webpage, “AFRL is the Air Force’s only organization wholly dedicated to leading the discovery, development, and integration of warfighting technologies for our air, space and cyberspace forces. It traces its roots to the vision of airpower pioneers who understood science as key to air supremacy” (KAFB, n.d.). It goes on to state the vision of the past and present AFRL workforce “has helped create the world’s best air, space and cyberspace force” (KAFB, n.d.).

AFRL’s locations are shown in Figure 11.



Figure 11. AFRL Locations. Source: AFRL Overview (n.d.).

E. SUMMARY

This chapter summarized the Air Force Contracting mission and objectives to develop mission-focused business leaders, under Line of Effort #1. We discussed organizational structure and mission for the three organizations we are each assigned to. These organizations also provide a good cross-section of the Air Force contracting mission. In the next chapter, we will compare Air Force contract management deficiencies found in data retrieved from several DoD IG reports to the CMS. We will also compare the Air Force Contracting Self-Inspection Checklist with the CMS to determine how both of these are aligned under the CMS competency framework. The analysis of the alignment of the reported deficiencies with the CMS competency framework may identify knowledge gaps in the contracting workforce and provide opportunities for additional training thus improving workforce competency. The analysis of the contracting self-inspection checklists will determine the extent that Air Force Contracting Self-Inspection Checklist items are aligned with the CMS competency areas and provide insight into the Air Force's internal controls for auditability.

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IV. ANALYSIS OF DOD IG AND AIR FORCE CONTRACTING SELF-INSPECTION RESULTS AND RECOMMENDATIONS

A. INTRODUCTION

This chapter presents the results of an analysis of DoD Inspector General (DoD IG) identified deficiencies and categorizes these deficiencies into contract management process areas as found in the Contract Management Body of Knowledge's (CMBOK) Contract Management Standards (CMS). This analysis focuses on Air Force-specific deficiencies to identify potential Air Force acquisition workforce competency and knowledge gaps compared to the CMS contract management competency model. In addition, a comparative analysis of how the Air Force Contracting Self-Inspection Checklist aligns with the CMS was also completed. Currently, the Air Force utilizes self-inspection checklists as an approach for internal controls within their contracting organizations.

B. SOURCES OF DATA COLLECTED

1. DoD IG Audit Report Deficiencies

The source data for this analysis originated from DoD IG audit reports released between 2003 through 2010. This information was sourced from Table 1 of a previously published thesis titled, *An Analysis of Internal Controls for DoD Contract Management* (Hidaka & Owen, 2015). For purposes of this research, Table 1 was created to capture only deficiencies applicable to the Air Force from the Hidaka and Owen research (2015). Three additional tables align the DoD IG deficiencies against the CMS.

Table 1. DoD IG Identified Air Force Deficiencies. Adapted from Hidaka & Owen (2015).

DOD IG Report on Contract Management Process Number of Deficiencies			
Contract Management Key Process Area	Key Practice Activities	Air Force # of Deficiencies	Air Force % of Deficiencies
1	Procurement Planning		
PP-1	Requirements Analysis	5	3.8%
PP-2	Required Sources of Supply and Services	1	0.8%
PP-3	Acquisition Planning	15	11.5%
PP-4	Market Research	5	3.8%
PP-5	Determine Competition Environment	4	3.1%
Sub Total of Procurement Planning		30	22.9%
2	Solicitation Planning		
SP-1	Document Competition Environment	0	0.0%
SP-2	Determine Procurement Method	3	2.3%
SP-3	Determine Evaluation Strategy	7	5.3%
SP-4	Develop Solicitation Documents	2	1.5%
SP-5	Determine Contract Type/ Incentive	9	6.9%
SP-6	Determine Terms and Conditions	3	2.3%
Sub Total of Solicitation Planning		24	18.3%
3	Solicitation		
S-1	Advertise Procurement Activities	2	1.5%
S-2	Conduct Conference	1	0.8%
S-3	Amend solicitation documents as required	4	3.1%
Sub Total of Solicitation		7	5.3%
4	Source Selection		
SS-1	Evaluate Proposals	6	4.6%
SS-2	Apply Evaluation Criteria	7	5.3%
SS-3	Negotiate Contract Terms and Conditions	8	6.1%
SS-4	Contractor Responsibility Standards	4	3.1%
SS-5	Select Contractor	0	0.0%
SS-6	Manage Protests, Disputes and Appeals	0	0.0%
Sub Total of Source Selection		25	19.1%
5	Contract Administration		
CA-1	Conduct conferences	0	0.0%
CA-2	Manage contract change process	3	2.3%
CA-3	Monitor contractor's management of subcontracting	2	1.5%
CA-4	Manage government furnished property	1	0.8%
CA-5	Monitor and measure contractor performance	11	8.4%
CA-6	Manage Transportation Issues	0	0.0%
CA-7	Manage Value Engineering Issues	0	0.0%
CA-8	Manage contractor payment process	7	5.3%
CA-9	Manage patents, data, copyright, bonds, insurance, taxes	0	0.0%
CA-10	Manage Protests, Disputes and Appeals	0	0.0%
CA-11	Comply with terms and conditions	18	13.7%
Sub Total of Contract Administration		42	32.1%
6	Contract Closeout		
CCO-1	Verify contract completion	2	1.5%
CCO-2	Verify contractor compliance	1	0.8%
CCO-3	Ensure contract completion documentation	0	0.0%
CCO-4	Make final payment	0	0.0%
CCO-5	Document lessons learned/ best practices	0	0.0%
CCO-6	Process contract terminations, if applicable	0	0.0%
CCO-7	Dispose of buyer-furnished property and equipment	0	0.0%
CCO-8	Process contract closeout procedures	0	0.0%
Sub Total of Contract Closeout		3	2.3%
TOTAL OF ALL DEFICIENCIES		131	100.0%

2. Air Force Contracting Self-Inspection Checklist

The source of the data for this analysis is found in Air Force Federal Acquisition Regulation Supplement (AFFARS) Mandatory Procedure (MP) 5301.601-9. The Air Force Self Inspection Checklist, however, can only be accessed by Air Force personnel as it is housed on an internal server. (Air Force [AF], *Contracting Self-Inspection Checklist*, access restricted to AF personnel, retrieved from internal server, May 10, 2020). Three tables were created to cross-reference the alignment of the Air Force Contracting Self-Inspection Checklist against the CMS competency model. This was done in order to determine what competency gaps are evident between the two. They are broken down by pre-award, award and post-award. However, we begin this section by discussing the analysis of the DoD IG deficiencies, followed by an analysis of the self-inspection checklist.

C. ANALYSIS OF DOD IG TO CMS COMPETENCIES

The DoD IG reported deficiencies that were found from Hidaka and Owen (2015) were aligned into the key process areas identified in the Contract Management Maturity Model (CMMM) that were discussed in Chapter II. There are six contract management key process areas: Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout. These six process areas were then broken down into key practice areas of focus. The number of deficiencies was calculated for each key practice area (Hidaka & Owen, 2015). A review of the key practice areas was completed and each was aligned to a section under the CMS matrix. A comparison was completed to determine where gaps occurred between the process areas of the DoD IG deficiencies and the CMS contract life cycle of Pre-Award, Award, Post-Award matrix.

1. Pre-Award Process: Procurement Planning, Solicitation Planning, Solicitation

Three of the DoD IG Key Processes: Procurement Planning, Solicitation Planning and Solicitation were covered by the CMS Pre-Award area. In the procurement planning section of the DoD IG report, the Air Force received 30 deficiencies or about 23% of the Air Force's total reported deficiencies. About half of those deficiencies were found in just

acquisition planning. The Solicitation Planning phase had a total of 24 deficiencies or about 18% of the total. The majority were related to determining contract type/incentives. Under the Solicitation phase, only seven deficiencies were found which was just above 5% of the total. Overall, the Air Force had nearly half of its deficiencies with 46.5%, in the Pre-Award Phase (Hidaka & Owen, 2015).

Table 2 cross-references the alignment of each grouped deficiency with the CMS in the Pre-Award contract life cycle phase. This was done to determine how the DoD IG deficiencies align with the NCMA CMS competency model to identify any potential trends.

Table 2. CMS Competencies—Pre-Award.

CROSS REFERENCE OF CMS COMPETENCIES TO DODIG CONTRACT MANGEMENT KEY PROCESS AREAS			
CMS Competencies 2.0 Pre-Award		Contract Management Key Process Area	# of Deficiencies from DODIG Report
2.1	Develop Solicitation		
2.1.1.	Plan Solicitation		
2.1.1.1	Shape Internal Customer Requirements		
	Perform Needs Assessment	PP-1	5
	Perform Requirements Assessment	PP-1	5
	Identify Measurable Outcomes and Incentives	SP-5	9
	Verify Availability of Funds		
2.1.1.2	Conduct Market Research	PP-4,PP-5,	5,4
	Identify Potential Suppliers	SP-1	0
	Evaluate Requirement Achievability	PP-3	15
	Conduct Pre-Offer Conference	S-2	1
2.1.1.3	Perform Risk Analysis		
	Make or Buy Assessment		
	Supply or Services Determination	PP-2	1
	Develop Delivery Schedule		
	Determine Owner-Furnished Property/IT/Equip		
2.1.1.4	Formulate Contract Strategy		
	Select Contract Type	SP-5	9
	Select Contract Method	SP-2	3
	Determine Business & Regulatory Requirements	SP-6	3
	Formulate Offer Evaluation Plan		
2.1.1.5	Finalize Solicitation Plan	SP-3	7
2.1.2	Request Offers		
2.1.2.1	Execute Solicitation Plan	PP-3	15
2.1.2.2	Prepare Solicitations	SP-4	2
	Respond to Questions from Potential Offers		
2.1.2.3	Issue/Publicize Solicitations	S-1	2
2.1.2.4	Amend Solicitations	S-3	4
Total Pre-Award Deficiencies			61

Adapted from Hidaka & Owen (2015) and CMS (2019).

As reflected in Table 2, when compared to what the DoD IG covered in its inspection against the CMS matrix it was found that although many of the competencies were covered, there were many items under the CMS matrix that were not covered by the DoD IG identified deficiencies or were difficult to align. For example, Verifying Availability of Funds under CMS 2.1.1.1 was never identified as a deficiency under any part of the inspection. This is arguably the most important aspect of the contract planning process. Another area, CMS 2.1.1.3 Perform Risk Analysis was not represented in the deficiency areas. The only aspect covered under Risk Analysis was the determination of supply or service. Overall, in this section the DoD IG's assessment found identified deficiencies in most aspects of the CMS Pre-Award model, leaving only a few gaps. However, even with many Pre-Award CMS areas free of reported deficiencies, the majority of the Air Force deficiencies were also found in this section.

2. Award Process: Source Selection

The Award competencies from the CMS were only covered in the Source Section contract management key process areas. Under the Source Selection key activities, the Air Force received 25 deficiencies (Hidaka & Owen, 2015). These deficiencies were fairly evenly disbursed between evaluating proposals, applying evaluation criteria, and negotiating contract terms and conditions. There were a few deficiencies in contractor responsibility standards, and no deficiencies in the other two categories. Overall, the Source Selection area of the DoD IG deficiencies received 19.1% of the total Air Force deficiencies (Hidaka & Owen, 2015). Table 3 illustrates how DoD IG key processes deficiencies align under the CMS Award competencies.

Table 3. CMS Competencies—Award.

CMS Competencies 3.0 Award		Contract Management Key Process Area	# of Deficiencies from DODIG Report
3.1 Form Contract			
3.1.1	Cost or Price Analysis		
3.1.1.1	Comprehend Offer	SS-1	6
3.1.1.2	Evaluate Seller Terms and Their Impact on Risk	SS-1	6
3.1.1.3	Determine Reasonable Pricing	SS-1	6
3.1.1.4	Document Analysis Results		
3.1.2	Plan Negotiations	SS-3	8
3.1.2.1	Clarification Requests		
3.1.2.2	Document Objective		
3.1.3	Select Source	SS-5	0
3.1.3.1	Review Compliance of Offer(s)	SS-1	6
	Source Selection/Evaluate Offers in Accordance with Evaluation Criteria	SS-1 SS-2, SS-4	6, 7, 4
3.1.3.3	Conduct Negotiations	SS-3	8
3.1.3.4	Finalize Negotiations		
3.1.3.5	Finalize Offer Revision		
3.1.3.6	Prepare Contract Document		
3.1.3.7	Finalize Contract Award		
3.1.3.8	Document Outcome of Offer		
3.1.4	Manage Disagreements		
3.1.4.1	Submit Protests and Appeals	SS-6	0
3.1.4.2	Respond to Protest and Appeals	SS-6	0
Total Award Deficiencies			25

Adapted from Hidaka & Owen (2015) and NCMA CMBOK CMS (2019).

As reflected in Table 3, when the DoD IG reported deficiencies were compared to the CMS matrix, it was determined that the key process areas were broader and that one evaluated element, SS-1 Evaluate Proposals, could be applied to multiple sections under the CMS award competencies. The key activities were broader than compared to the CMS competencies; it is hard to discern what specifically the deficiencies were attributed to under the CMS. However, there appears to be many gaps in what the DoD IG deficiencies and the CMS matrix. For example, the CMS competencies specifically refers to plan negotiations, while the DoD IG deficiency was in negotiating the terms and conditions of the contract. Overall, the gaps where no key process area was identified for a CMS competency appears due to the broad nature of the key process areas. They fit at a higher level, but were hard to apply to more specific areas. The award phase had the least amount of reported deficiencies identified in the DoD IG reports (Hidaka & Owen, 2015). However, there were few areas of the CMS Award process where deficiencies were reported.

3. Post Award Process: Contract Administration, Contract Closeout

The Post-Award competencies from the CMS were covered by two of the key process areas: Contract Administration, and Contract Closeout. In the contract administration section of the DoD IG reported deficiencies, the Air Force received 42 deficiencies or about 32% of the Air Forces total reported deficiencies (Hidaka & Owen, 2015). The majority of the deficiencies were associated with CA-11, comply with terms and conditions, and CA-5, monitor and measure contract performance. The contract closeout section received only three deficiencies, which was just 2.3% of the total (Hidaka & Owen, 2015). Overall, the Post-Award process accounts for 34.4% of the total Air Force deficiencies reported. Table 4 depicts how the key process areas and associated deficiencies compare to the CMS matrix in the post-award phase.

Table 4. CMS Competencies—Post-Award.

CMS Competencies 4.0 Post-Award		Contract Management Key Process Area	# of Deficiencies from DODIG Report
4.1	Contract Performance		
4.1.1	Administer Contract	CA-7, CA-9, CA-10,	0
	Conduct Post Award Conference Meetings	CA-1	0
	Manage Contract Payment Process	CA-8	7
	Administer Owner-Furnished Property, Equipment	CA-4	1
	Establish/Maintain Communications		
	Evaluate Contractor Performance	CA-5	11
4.1.2	Ensure Quality		
	Plan for Contract Performance Delivery	CA-6	
	Plan for Contract Performance Monitoring	CA-5	11
	Inspect and Accept Contract Performance		
4.1.3	Subcontract Management		
	Determine Supply Chain Requirements	CA-3	2
	Issue Subcontracts		
4.1.4	Manage Changes		
	Manage Contract Changes	CA-2	3
	Conduct Contract Interpretation	CA-11	18
	Determine Contract Termination	CCO-6	
4.2	Close Out	CCO-5	
	Validate Contract Performance	CCO-2	1
	Verify Physical Contract Completion	CCO-1	2
	Prepare Contract Completion Documents	CCO-3	0
	Coordinate Final Disposition of Owner-Provided Property	CCO-7	0
	Reconcile Contract	CCO-6	0
	Make Final Payment	CCO-4	0
	Finalize Contract	CCO-8	0
Total Post-Award Deficiencies			45

Adapted from Hidaka & Owen (2015) and CMS (2019).

As reflected in Table 4, the key practice activities were aligned under the CMS matrix to discern how they compare and to see if there were any gaps that could be identified. Table 4 shows the Post-Award process under the CMS align well with what the DoD IG inspected. A few areas did not align well with the CMS; for example, inspect and accept contract performance, issue subcontracts, and establish and maintain communications. In this situation the key practice activities that were more specific than what the CMS had, but that still fit broadly under the contract administration umbrella.

The previous discussion aligned the DoD IG reports and identified deficiencies with the CMS. Air Force contracting organizations prepare for IG inspections by conducting self-inspections. The Air Force has a self-inspection checklist that is used to conduct these self-inspections as they prepare for a formal IG inspection. The next section will compare the Air Force Contracting Self-Inspection Checklist to the CMS to analyze any potential gaps.

D. ANALYSIS OF AIR FORCE CONTRACTING SELF-INSPECTION CHECKLIST TO CMS

For this section of the analyses, the phases of the CMS and the Air Force Contracting Self-Inspection Checklist are both broken down into pre-award, award and post-award. The checklist also covers some of the major tasks under the CMS such as acquisition planning, market research, source selection, cost/price analysis, as examples. It also is very specific to special governmental contract management tasks; e.g., determinations and findings, government furnished property, security requirements, as well as legal reviews and contract clearances. There are separate sections for research and development, construction, and architect-engineering type contracts. Finally, the checklist also has inspection items to review unit self-inspection programs and contracting officer appointments and warrants (Air Force Self-Inspection Checklist, retrieved from internal server, May 10, 2020).

Similar to the DoD IG discrepancy analysis in the previous section, we aligned the checklist items where we believe they best fit under the CMS matrix. Overall, it appears that the self-inspection checklist is not meant to inspect each task as shown in the CMS,

but rather focus on areas where the Air Force has historically had deficiencies. This was also discussed in the previous section where the majority of the discrepancies noted were in the areas of procurement planning or risk analysis. In the next section, we will look at the Air Force Contracting Self-Inspection Checklist and compare the checklist to the CMS. Tables 5-7 provide a cross-reference from the Air Force Contracting Self-Inspection Checklist to the CMS process areas. Table 5 shows the CMS pre-award phase competencies aligned to the Air Force Contracting Self-Inspection Checklist.

Table 5. CMS Competencies—Pre-Award Aligned with Air Force Contracting Self-Inspection Checklist.

CMS Competencies		AF Self Inspection Checklist
CMS Competencies 2.0 Pre-Award		
2.1 Develop Solicitation		
2.1.1. Plan Solicitation		
2.1.1.1 Shape Internal Customer Requirements		
	Perform Needs Assessment	
	Perform Requirements Assessment	
	Identify Measurable Outcomes and Incentives	
	Verify Availability of Funds	1.1. Purchase Request/Funding
2.1.1.2 Conduct Market Research		1.3 Source List/Market Research
	Identify Potential Suppliers	1.4 Small Business Coordination
	Evaluate Requirement Achievability	
	Conduct Pre-Offer Conference	
2.1.1.3 Perform Risk Analysis		
	Make or Buy Assessment	
	Supply or Services Determination	
	Develop Delivery Schedule	
	Determine Owner-Furnished Property/IT/Equip	1.13 Government Property
2.1.1.4 Formulate Contract Strategy		1.7 Determinations and Approvals
	Select Contract Type	1.7.1.7 Contract Type
	Select Contract Method	
		1.6 Other than Full and Open Competition
		1.9 Proposal Reqs and Certs
	Determine Business & Regulatory Requirements	1.10 Subcontracting Plans
	Formulate Offer Evaluation Plan	
2.1.1.5 Finalize Solicitation Plan		1.2 Acquisition Planning
2.1.2 Request Offers		
2.1.2.1 Execute Solicitation Plan		
2.1.2.2 Prepare Solicitations		
	Respond to Questions from Potential Offers	
2.1.2.3 Issue/Publicize Solicitations		1.5 Synopsis of Proposed Contract Action
2.1.2.4 Amend Solicitations		
		1.24 Other Contract Actions
		1.25 Assistance Instruments
		1.26 Broad Agency Announcements
		1.27 Construction
		1.28 A&E Services

Adapted from NMCA CMBOK CMS (CMS, 2019) and Air Force Contracting Self-Inspection Checklist (AFFARS MP5301.60-91, n.d.).

1. CMS Competency 2.0—Pre-Award

As reflected in Table 5, the Air Force Contracting Self-Inspection Checklist addresses specific areas of pre-award planning, such as market research, determining contract type, and acquisition planning as indicated in Table 5. However, it does not have a specific alignment to some of the key tasks under CMS 2.1.1.1, 2.1.1.2 and 2.1.1.3 which are needed to fully develop the requirement. Rather, the self-inspection checklist simply uses the over-arching term of Acquisition Planning to encompass these tasks. Secondly, in this section, we see another gap or a lack of direct alignment under solicitation planning, preparing, and amending solicitations. These are the CMS tasks shown under 2.1.2.1, 2.1.2.2 and, 2.1.2.4. Finally, the Air Force Contracting Self-Inspection Checklist addresses areas not covered under the CMS. These are specialized contract types, such as Assistance Instruments, Broad Agency Announcements, Construction and Architect and Engineering Services. These could be aligned to CMS Task 2.1.1.4, Formulating Contract Strategy, however, it was decided that the questions asked under the self-inspection checklist for these special contract vehicles were specific to these areas and not part of determining the broader scope of contract type.

The next section will compare the Air Force Contracting Self-Inspection Checklist to the CMS 3.0 Award Competencies. Table 6 shows the CMS award phase competencies aligned to the Air Force Contracting Self-Inspection Checklist.

Table 6. CMS Competencies—Award Aligned with Air Force Contracting Self-Inspection Checklist.

CMS Competencies		AF Self Inspection Checklist
CMS Competencies 3.0 Award		
3.1 Form Contract		
3.1.1	Cost or Price Analysis	1.14 Cost/Pricing
3.1.1.1	Comprehend Offer	
3.1.1.2	Evaluate Seller Terms and Their Impact on Risk	
3.1.1.3	Determine Reasonable Pricing	
3.1.1.4	Document Analysis Results	
3.1.2	Plan Negotiations	
3.1.2.1	Clarification Requests	1.17 Legal Review
3.1.2.2	Document Objective	
3.1.3	Select Source	
3.1.3.1	Review Compliance of Offer(s)	1.15 Security Requirements 1.9 Proposal/Representations and Certifications
3.1.3.2	Source Selection/Evaluate Offers in Accordance with Evaluation Criteria	1.11 Contractor Responsibility 1.16 Source Selection 1.17 Legal Review 1.18 Technical Review 1.30 Compliance with DoD's Only one Offer
3.1.3.3	Conduct Negotiations	1.17 Legal Review
3.1.3.4	Finalize Negotiations	1.19 Clearance Review & Approval
3.1.3.5	Finalize Offer Revision	1.14 Cost/Pricing
3.1.3.6	Prepare Contract Document	1.8 Solicitation/Contractual Document
3.1.3.7	Finalize Contract Award	1.8 Solicitation/Contractual Document 1.17 Legal Review 1.19 Clearance Review & Approval
3.1.3.8	Document Outcome of Offer	1.20 Distribution
3.1.4	Manage Disagreements	
3.1.4.1	Submit Protests and Appeals	1.21 Protests Before/After Award
3.1.4.2	Respond to Protest and Appeals	1.21 Protests Before/After Award

Adapted from NMCA CMBOK CMS (CMS, 2019) and Air Force Contracting Self-Inspection Checklist (AFFARS MP5301.60-91, n.d.).

2. CMS Competency 3.0—Award

As reflected in Table 6, in comparing the Air Force Contracting Self-Inspection Checklist to CMS Competencies for Section 3.0, Award, the areas for self-inspection align closely to the CMS as indicated in Table 6. The only gap appears to be in tasks at the top of the chart, which cover evaluation and documentation of the seller's offer. This could be covered on the Air Force Contracting Self-Inspection Checklist under 1.16 Source Selection as the price reasonableness determination is covered in the overall source selection documentation. The self-inspection checklist item that most closely aligns with the CMS tasks at 3.1.1 is 1.14 Cost/Pricing. The inspection questions, however, focus on both competitive and non-competitive cost/price analysis and documentation. Overall, this

section of the CMS appears to be well-aligned with the Air Force Contracting Self-Inspection Checklist.

The next section will compare the self-inspection checklist to the CMS 4.0 Post-Award Competencies. Table 7 shows the CMS post-award phase competencies aligned to the Air Force Contracting Self-Inspection Checklist.

Table 7. CMS Competencies—Post-Award Aligned with Air Force Contracting Self-Inspection Checklist.

CMS Competencies		AF Self Inspection Checklist
CMS Competencies 4.0 Post-Award		
4.1 Contract Performance		
4.1.1	Administer Contract	1.23 Contract Administration
	Conduct Post Award Conference Meetings	
	Manage Contract Payment Process	
	Administer Owner-Furnished Property, Equipment	1.13 Government Property
	Establish/Maintain Communications	1.20 Distribution
	Evaluate Contractor Performance	
4.1.2	Ensure Quality	
	Plan for Contract Performance Delivery	
	Plan for Contract Performance Monitoring	1.17 Legal Review
	Inspect and Accept Contract Performance	1.21 Protests Before/After Award
4.1.3	Subcontract Management	
	Determine Supply Chain Requirements	
	Issue Subcontracts	1.10 Subcontracting Plans
4.1.4	Manage Changes	1.29 Ratifications
	Manage Contract Changes	1.12 UCA and Unpriced Changes
	Conduct Contract Interpretation	1.14 Cost/Pricing
	Determine Contract Termination	
4.2	Close Out	
	Validate Contract Performance	1.22 Quality Assurance
	Verify Physical Contract Completion	2.10 Oversight of Q&A Program
	Prepare Contract Completion Documents	
	Coordinate Final Disposition of Owner-Provided Property	
	Reconcile Contract	
	Make Final Payment	
	Finalize Contract	2.7 Contract Closeout

Adapted from Data from NMCA CMBOK CMS (CMS, 2019) and Air Force Contracting Self-Inspection Checklist (AFFARS MP5301.60-91, n.d.).

3. CMS Competency 4.0—Post-Award

As reflected in Table 7, the comparison between the Air Force Contracting Self-Inspection Checklist and the CMS was the most misaligned. Under the self-inspection checklist, Section 1.23 is labeled Contract Administration, and it does have a question regarding conducting post-award conferences; however, Section 1.23 of the self-inspection

checklist also has questions on terminations, options, award fees, adequate accounting systems and novation agreements. This section of the self-inspection checklist, does not direct the inspector to review any of the contract payment process or evaluation of the contractor's performance, which are tasks under 4.1.1 in the CMS. A key aspect of ensuring the buyer (government) gets what they pay for is evaluating contractor performance and monitoring contract delivery. This appears to be a gap in the Air Force Contracting Self-Inspection Checklist under Post Award. Another gap between the CMS and the Air Force Contracting Self-Inspection Checklist is under Subcontract Management, CMS task, 4.1.3. The self-inspection checklist covers Subcontracting Plans under Section 1.10; however, the questions on the self-inspection checklist under this section primarily focus on whether or not a subcontracting plan is needed and whether the reporting is being done. The CMS task 4.1.3 shows a competency for determining supply-chain requirements under subcontracts and this is clearly a gap in the Air Force Contracting Self-Inspection Checklist. The remaining areas of closing out a contract are adequately addressed in both the CMS and the Air Force Contracting Self-Inspection Checklist.

E. RECOMMENDATIONS

Based on the analysis of the DoD IG identified Air Force contracting deficiencies and the Air Force Contracting Self-Inspection Checklist, the following are our recommendations for opportunities for additional training for the contracting workforce and opportunities for revisions to the self-inspection checklist.

It is recommended that the Air Force focus more training and education in the pre-award life cycle, since nearly half of the reported DoD IG deficiencies fell under the CMS competencies for pre-award. Specifically, the Air Force should focus on training that assists its workforce in being proficient in developing the solicitation, performing market research and formulating the contract strategy. Focusing on training to eliminate deficiencies in pre-award activities, will set contracts and contract managers up for success leading to more effective award decisions and less contract administration burdens. Because of the low number of deficiencies, in the award and post-award processes, we did

not identify any specific training opportunities for these phases of the contract management life cycle.

Secondly, recommended revisions to the self-inspection checklist would be beneficial in both the pre-award and post-award life cycle phases in order to be more aligned with the CMS. The current self-inspection checklist does not provide an in-depth review of all aspects of acquisition planning or pre-solicitation planning. Sound acquisition planning is the cornerstone to developing a good contract. In addition, if ambiguity in the requirement is removed before the solicitation is released, this may also result in a better contract with less contract administration burdens. The results of the analysis showed there are no gaps in the award phase of the current self-inspection checklist; therefore, there are no recommended changes to the award phase section of the self-inspection checklist. The Air Force checklist adequately focuses on the award phase of the contract management life cycle. Under the post-award review of the self-inspection checklist when compared to the CMS, there are gaps. The self-inspection checklist does not currently address review of the contractor payment process, contractor evaluations, or supply-chain requirements under subcontracts. It is recommended the Air Force review the CMBOK CMS and add these specific areas, as they are important again to reducing overall contract administration burden and are critical to ensuring the government is getting what is paid for under the contract. Additionally, we found that post-award contract management is a key area of concern for the DoD IG as discussed in the next paragraph.

As introduced above, we found that lack of contract payment and contract surveillance oversight has been identified by the DoD IG as one of the top ten management challenges discussed in their FY 2020 report titled, *Top DoD Management Challenges* (DoD IG Report, 2020). It is a key area of concern from the DoD IG Office because according to the Report, “DoD acquisitions and contracts continue to be at high risk for fraud” (DoD IG Report, 2020, p. 120). Additionally, lack of adequate payment data can affect the contracting officer’s ability to establish a fair and reasonable price (DoD IG Report, 2020). These issues contribute significantly to government overpayments and procurement fraud issues. This validates our findings that lack of contractor payment

review in the self-inspection checklist is significant and in order to avoid procurement fraud issues, the Air Force should modify the checklist.

F. SUMMARY

This chapter discussed the findings from our research. We first discussed the findings from the results of the comparison of DoD IG deficiencies with the Contract Management Standard. This resulted in a recommendation for more training and education opportunities in the pre-award phase of the contract management life cycle. Next, we discussed the comparison of the Air Force Contracting Self-Inspection Checklist to the Contract Management Standard. This analysis led us to recommend changes to the pre-award and post-award phases of the contract management life cycle. Particularly in the area of contract oversight, as this is validated by the *DoD IG Management Challenges 2020* report. In summary, our findings identified opportunities for improvement were found in both the training and education as well as updating the Air Force Contracting Self-Inspection Checklist to ensure the Air Force has the most competent workforce as well as effective internal controls. In Chapter V, we will provide a summary of our conclusions and propose future areas of research.

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V. SUMMARY, CONCLUSIONS AND AREAS FOR FURTHER RESEARCH

A. INTRODUCTION

This chapter will summarize our research by first discussing the background which led to the purpose of our research. We accomplished this research by answering our research questions which are discussed in the conclusion. This chapter closes with recommended areas for future research.

B. SUMMARY

With contract management listed as one of GAO's high-risk areas, the DoD has been conducting thorough reviews of its business practices to identify areas where efficiencies can be gained (Mihm, 2019 & Defense Budget Overview, 2019). In response to this, SAF/ACQ began developing lines of effort to meet DoD's directive. From this charge the Air Force Contracting Flight Plan was created to align Air Force contracting with the mission and the national defense strategy (AF Flight Plan, 2019). To meet this charge, the workforce needs be transformed into mission-focused business leaders that think strategically and execute as efficiently industry leaders (AF Flight Plan, 2019).

The demand for Air Force contracting to develop the contract management workforce to be mission-focused business leaders is becoming more important. They are no longer just business advisors. They are relied upon to be agile, adaptive and knowledgeable in all areas of contract management. Saddled with the demand to move quickly in an arena that is a GAO defined high-risk area the contracting workforce needs skills and competencies to help them succeed. This requires a competency model and auditable checklists that align with the knowledge and skills required by today's contracting workforce. The results of this research can be utilized to identify gaps and training opportunities to equip the contracting workforce with the skills and competencies to effectively perform their duties in a fast-paced environment while potentially reducing deficiencies.

We accomplished our research by aligning the Air Force-specific DoD IG deficiencies with the NCMA CMS competency framework to identify any gaps to provide opportunities for additional training. This research also looked at the Air Force Contracting Self Inspection checklist and how it aligned with the CMS. This was completed to help improve the internal control tool utilized by Air Force contracting organizations.

C. CONCLUSION

Through this research and analysis of the DoD IG report and how it aligns to the CMS as well as the analysis of the CMS compared to the Air Force Contracting Self-Inspection Checklist the following questions were answered:

1. How Air Force contracting deficiencies reported by the DoD IG align with the NCMA CMS competency model?

The DoD IG deficiencies alignment to the CMS was shown in Tables 2 through 4. The tables show that most of the activities from the DoD IG were able to align with the CMS. Overall, the DoD IG deficiencies were defined at a broader level, which made it difficult to identify exactly where the deficiencies align under the CMS. It also showed some gaps, where the CMS had competencies that were not inspected under the DoD IG.

Our analysis also revealed that the majority of the Air Force deficiencies were aligned in the Pre-Award phase of the CMS matrix with 46.5% of the deficiencies found in this phase. The Award phase had the fewest deficiencies with only 19.1%, and Post-Award phase followed with 34.4% of the deficiencies.

2. How does the Air Force Contracting Self-Inspection Checklist align with the NCMA CMS competency model?

The Air Force Contracting Self-Inspection Checklist did not align completely with the CMS as shown in Tables 5 through 7. There were areas that directly aligned and others that did not. Through the analysis, we were able to find that in the pre-award and award phases, while not directly aligned by specific task, the CMS and self-inspection checklist covered mostly the same areas. Additionally, our analysis revealed that the Air Force Contracting Self-Inspection Checklist was more broadly focused on the pre-award tasks

versus the post-award contract administration tasks. For example, the contracting self-inspection checklist did not cover contractor evaluations, or supply chain management of subcontracts, which are very specifically outlined as tasks in the CMS under post-award. These are also areas of high concern to the DoD IG, thus emphasizing the recommendation to update the checklist to inspect these key tasks.

3. What opportunities for additional training for the contracting workforce and opportunities for revisions to the self-inspection checklist were identified?

It was determined the Air Force has an opportunity to focus more training and education on pre-award activities. Since nearly half of the reported DoD IG deficiencies fell under the CMS competencies for pre-award. Specifically, the Air Force should focus on training that helps develop their workforce in the pre-award phase of the contract management life cycle.

For the Air Force Contracting Self-Inspection Checklist analysis, an opportunity was found to improve the post-award section. The Air Force should consider adding a few additional areas for inspection, such as contractor evaluations and review of contractor payments to focus on the post-award life cycle phase. This, combined with the focus the Air Force already uses to inspect pre-award and award life cycle phases, should provide leaders with the confidence the full spectrum of contract management phases, domains, and job tasks are being completed accurately and effectively.

D. AREAS OF FURTHER RESEARCH

Based on this research, we recommend the following areas of further research.

This research covered two parts of the auditability triangle by using the DoD IG reported deficiencies as an indicator of competent personnel and the Air Force Contracting Self-Inspection Checklist as an indicator of internal controls, and comparing them to the NCMA CMS. An area for further research is to complete the auditability triangle (Rendon & Rendon, 2015). This can be completed by reviewing previous process capability

assessments and determine if the findings can be aligned with the CMS to conduct a process capability assessment.

Secondly, use the CMS to compare the DoD IG deficiencies with the other DoD services identified in Hidaka and Owen (2015).

Third, use the CMS to compare the applicable DoD services' self-inspection checklists, if applicable, to determine if there are opportunities for training, education or revision of these service self-inspection checklists and align with the CMS. Perhaps further research could determine if a need exists for a DoD self-inspection checklist aligned with the CMS that applies to all the services.

Finally, if the DoD adopts the CMS contract management competency framework, should the DoD establish a self-inspection checklist based on the CMS to be used by all military services?

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