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MARCH 2021

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Turning Dollars into Mission Learn how Air Force Contracting Chief Maj. Gen. Cameron G. Holt is building an elite business force.

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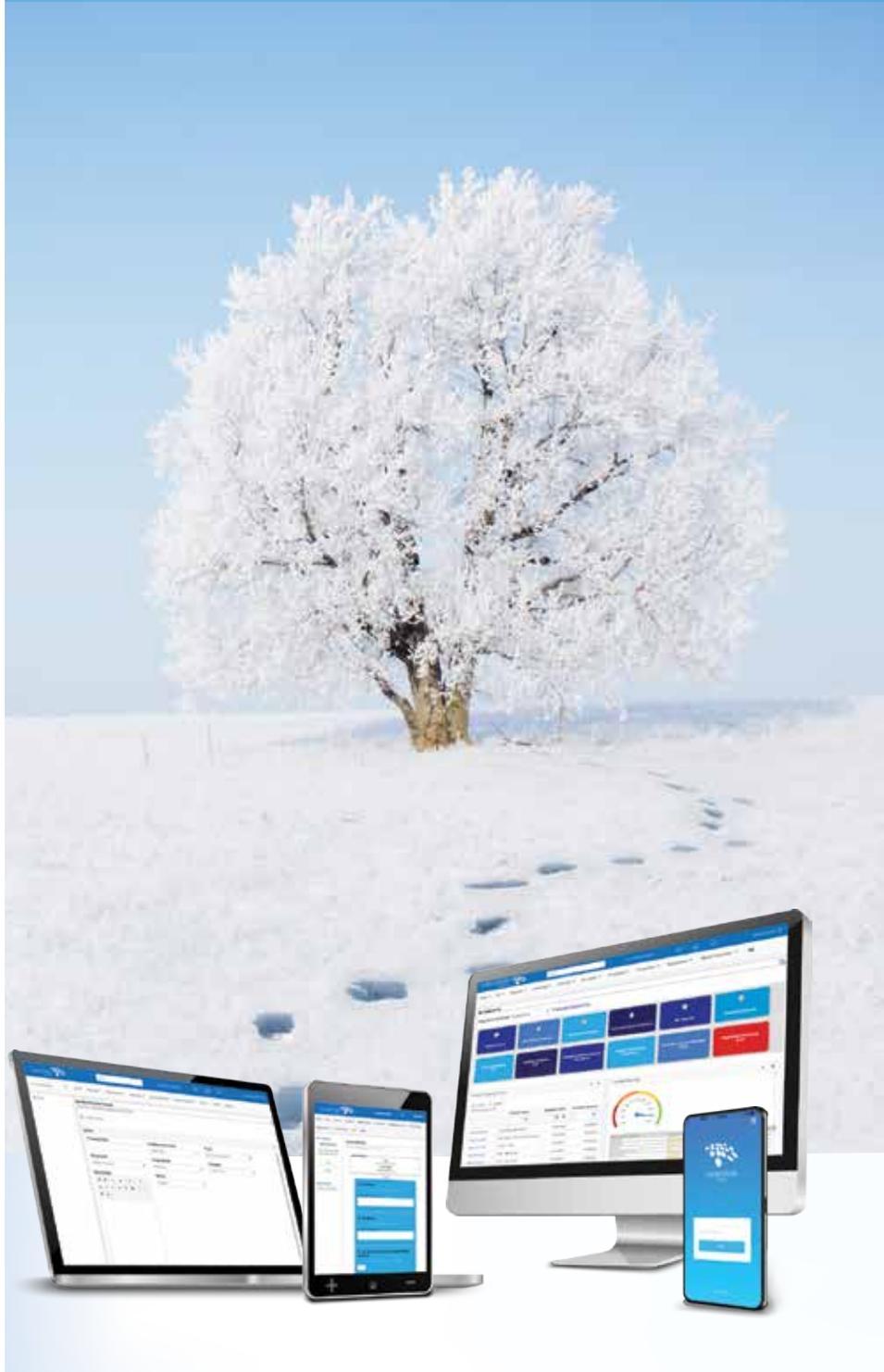
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Samantha Williams
Transitioning Managing Editor
Samantha.williams@ncmahq.org

Michael J. West
Copy Editor

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THOR Design Studio
thor.design

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352-333-6021 | hboe@naylor.com

ARTICLE SUBMISSIONS

Send potential articles, abstracts, and ideas to Anna McGarity, Managing Editor, at anna.mcgarity@ncmahq.org.

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Looking Forward



Melissa
Starinsky

NCMA President
(2020–2021).

I have been reflecting on the challenging year we have faced since last March as a contract management community and as citizens of our great country. I suspect that there were days when we all felt we were enduring one challenge after another with no relief in sight. It has been difficult, but we have weathered this storm together and we will be stronger as a result.

You know that I believe we must build our resiliency muscle. If this past year didn't do just that, I don't know what else possibly could. I remain hopeful and optimistic that we are turning the corner in fighting this

awful pandemic and that we will come together as Americans to address the many other challenges we are facing.

Although I certainly don't have a crystal ball about the future of contracting, here are some of the priorities I see as critical for our profession in the coming year.

Contract Management Workforce: With a year of strong evidence proving the effectiveness of telework, competition for talented and competent contract management professionals is going to intensify. We likely will see a more geographically dispersed contract management workforce with employers offering more telework options.

Employers will no longer be constrained to local talent. The best and the brightest contract management professionals will have more employment options. NCMA's certifications are a fantastic way for contract management professionals to demonstrate proficiency and distinguish themselves. If you haven't yet achieved an NCMA certification, there is no better time to pursue one – or more.

Diversity, Equity, & Inclusion (DE&I): The federal government and private sector are taking real action to strengthen their commitment to DE&I. NCMA, too, is committed to ensuring that strong DE&I principles, actions, and practices are embedded in our management, governance, and operations. We are initiating an independent assessment to help us identify opportunities for improvement. Our goals are to ensure that NCMA plays an active role in providing equitable access to those interested in the contract management

profession at all career levels and business sizes, expanding opportunities to participate in governance of the association and leadership training by cultivating a more inclusive and diverse environment, and encouraging relationships so members of all backgrounds and cultures feel welcomed, valued, appreciated, and included. Stay tuned for more information as our work progresses.

Category Management: Having now spanned two presidential administrations as a priority initiative, category management is here to stay. World-class procurement organizations are organized around category management and as a result drive real value into procurement spending and ultimately the mission. At first a skeptic, I am now a big believer in category management. Our community needs to champion it.

Risk Management: COVID-19 highlighted the need for better visibility and management of the supply chain. Legislation and regulations to remove adversary-owned and -influenced companies from the government supply chain are solidly in place and likely will proliferate. In addition to supply chain risk management, we must balance contract management oversight and mission execution. Contract management policy shops should reexamine self-imposed local policies that hinder nimbleness and agility in the contract management workforce.

Data: We can't drive contract management improvements – such as optimized procurement spend, reduced cycle time, and collective accountability among the acquisition team – without data. The technologies and tools now are mature enough to help us mine data for insights to help make us better.

Contract Management Technology: Today's contract management technologies can be game changers in freeing contract management professionals from managing the process so they can deliver real value to mission outcomes. We need to take advantage of modern technologies like robotics processing automation and artificial intelligence.

I love March because it augurs the spring, warm weather, and growth and renewal. Especially appropriate this year is a quote from poet Anita Krizzan: "Spring will come and so will happiness. Hold on. Life will get warmer."

Our lives will indeed get warmer as we work together to heal our nation and COVID-19 fades into the rearview mirror. I so hope I will get to see you in person in July at World Congress 2021 in Denver. In the meantime, please stay well and do what you know how to do best: strong contract management! **CM**

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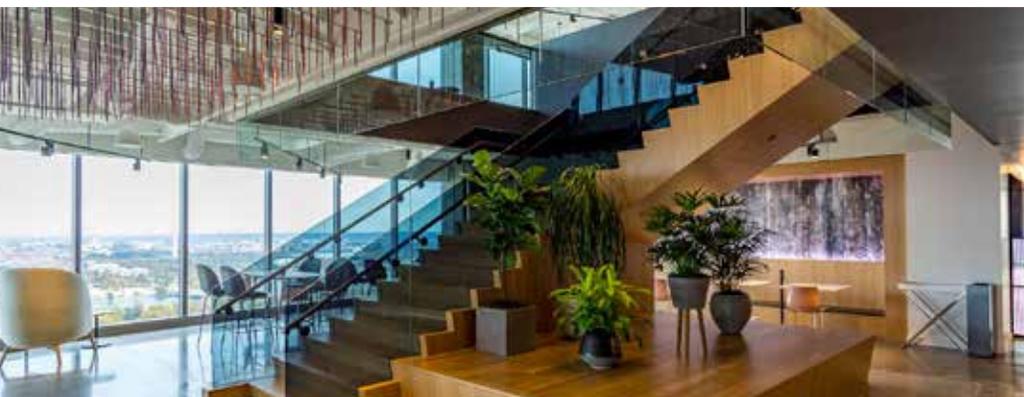


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MARCH 2021

KEY LEGISLATIVE UPDATES

Proposed Government Ethics Reform: On January 11, 2021, U.S. Rep. Jimmy Gomez (D-CA) introduced the Executive Branch Conflict of Interest Act, H.R. 244, in the House of Representatives. This bill aims to reduce the influence of industry lobbyists on senior government officials and addresses the revolving door between lobbying firms and the government by strengthening and enhancing ethics requirements for federal employees, including strengthening restrictions prohibiting former federal contracting officials from joining private sector contracting firms; and expanding the prohibitions on senior government officials from lobbying the agencies they worked at for two years after they leave federal employment, instead of the current one year. The bill has been referred to the Committee on the Judiciary and to the Committee on Oversight and Reform.

FedRAMP Codification Bill Passes House: On January 5, 2021, the House of Representatives passed the FedRAMP Authorization Act, H.R. 21, that would codify and reform the Federal Risk and Authorization Management Program, or FedRAMP. The bill seeks to address concerns raised by industry and federal stakeholders, including accelerating the time it takes for agencies to adopt cloud solutions. The bill was included as an amendment to the House National Defense Authorization Act of 2021, which had previously passed twice in the House, but did not make it into the final version of the 2021 NDAA. Importantly, the bill would require GSA to automate processes to promote reciprocity for security validations between agencies and to establish a committee to ensure dialog among GSA and relevant stakeholders, including agency cyber and procurement officials and industry. In addition, the proposed bill authorizes \$20 million in annual appropriations for the FedRAMP program office. The bill has been read in the Senate and referred to the Committee on Homeland Security and Governmental Affairs.

KEY REGULATORY & EXECUTIVE UPDATES

FAR Council Issues a Final Rule Increasing the Buy American Act (BAA) Domestic Content Requirements and Price Preference for Domestic Products

On January 19, 2021, the Department of Defense (DoD), the General Services Administration (GSA), and the National Aeronautics Space Administration (NASA) (collectively the “FAR Council”) issued a final rule amending the *Federal Acquisition Regulation (FAR)* to implement Executive Order (EO) No. 13881, “Maximizing Use of American-Made Goods, Products, and Materials” (84 Fed. Reg. 34257, July 18, 2019). As relevant to this final rule, the BAA and its implementing regulations require federal agencies to give preference to domestic end products during the procurement process. The final rule states requires that the cost of foreign iron and steel for iron and steel products must be less than 5 percent of the cost of all components in the products in order to meet the definition of “domestic end product” or “domestic construction material.” For all other types of noniron and nonsteel products, the domestic content of such products must exceed 55 percent of the cost of all components.

The final rule also increases the price preference for offerors proposing to use domestic end products and domestic construction material from 6 percent to 20 percent for large businesses, and from 12 percent to 30 percent for small businesses. It also revises relevant definitions, including the terms “domestic construction material,” “domestic end product,” and “predominantly of iron or steel or a combination of both”; adds the definition of “foreign iron and steel”; and clarifies that the domestic content test does not apply to commercially available off-the-shelf (“COTS”) fasteners. This final rule is effective on January 21, 2021 and the changes in this rule apply to solicitations issued on or after February 22, 2021 and resultant contracts.

DoD Issues a Final Rule Regarding the Procurement of Covered Telecommunications Equipment and Services

On January 15, 2021, the DoD issued a final rule amending the *DFARS* to implement sections of the National Defense Authorization Acts (“NDAA”) for Fiscal Years 2018 and 2019 regarding the procurement of covered telecommunications equipment or services. The final rule, which adopts the interim rule with changes, bars the use of certain telecommunications

equipment or services from certain Chinese entities and from any other entities that the Secretary of Defense reasonably believes to be owned or controlled by, or otherwise connected to, the government of the People’s Republic of China or the Russian Federation. The changes provide additional time to complete the reporting requirements required by the clause at DFARS 252.204-7018, “Prohibition on the Acquisition of Covered Defense Telecommunications Equipment or Services.” Specifically, the rule amends DFARS 252.204-7018 by extending: (1) the reporting timeframe for the discovery of covered defense telecommunications equipment or services from one day to three days, and (2) the reporting timeframe to submit information about mitigation actions undertaken from 10 days to 30 days. The final rule is effective as of January 15, 2021.

FAR Council Issues a Final Rule Specifying the Criteria for Using Lowest Price Technically Acceptable Source Selection

On January 19, 2021, the FAR Council issued a final rule amending the FAR to provide criteria that must be met in order to include lowest price technically acceptable (“LPTA”) source selection criteria in a solicitation. The rule implements Section 880 of 2019 NDAA. In general, the purpose of this rule is to avoid the use of the LPTA source selection criteria in circumstances that would deny the government the benefits of cost and technical tradeoffs in the source selection process. The criteria for using LPTA is set forth in FAR 15.101-2(c), and the new subsection (d) states that contracting officers are to avoid using LPTA when a procurement is predominantly for the acquisition of certain services and equipment, including but not limited to: information technology services, cybersecurity services, personal protective equipment, or knowledge-based training or logistics services in contingency operations or other operations outside the United States. The final rule will be effective on February 16, 2021.

A Condensed List of President Biden’s First Executive Orders That Relate to Federal Contractors:

- ▶ EO No. 14005, “Ensuring the Future Is Made in All of America by All of America’s Workers” (Jan 25, 2021), which seeks to strengthen Buy American Act domestic preference

restrictions and reduce waivers granted on federal purchases of domestic goods.¹

- ▶ EO No. 13992, “Revocation of Certain Executive Orders Concerning Federal Regulation” (Jan. 20, 2021).²
 - Revokes the following orders relating to agency regulatory approval process:
 - EO No. 13771 of January 30, 2017 (“Reducing Regulation and Controlling Regulatory Costs”),
 - EO No. 13777 of February 24, 2017 (“Enforcing the Regulatory Reform Agenda”),
 - EO No. 13875 of June 14, 2019 (“Evaluating and Improving the Utility of Federal Advisory Committees”),
 - EO No. 13891 of October 9, 2019 (“Promoting the Rule of Law Through Improved Agency Guidance Documents”),
 - EO No. 13892 of October 9, 2019 (“Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication”), and
 - EO No. 13893 of October 10, 2019 (“Increasing Government Accountability for Administrative Actions by Reinvigorating Administrative PAYGO”).
- ▶ “Regulatory Freeze Pending Review” (Jan. 20, 2021)³ - Memorandum instructing executive agencies to refrain from issuing new rules and regulations and/or postpone, delay, or withdraw certain pending or published rules and regulations until review obtained for appropriate action.
- ▶ Section 10 of EO No. 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government,” January 20, 2021,⁴ revokes EO No. 13950 (“Combating Race and Sex Stereotyping”).
- ▶ EO No. 13991, “Protecting the Federal Workforce and Requiring Mask-Wearing,” January 20, 2021, requires all on-site federal contractors to wear masks, maintain physical distance, and adhere to other public health measures, as provided in CDC guidelines. The EO also sets up a “Safer Federal Workforce Task Force” and encourages mask wearing across America.⁵

- ▶ EO No. 13999, “Protecting Worker Health and Safety,” January 21, 2021, directs the secretary of labor to issue revised guidance to employers on workplace safety during the COVID-19 pandemic.⁶

EO No. 14001, “A Sustainable Public Health Supply Chain,” January 21, 2021, under the Defense Production Act of 1950, instructs the federal

government to take actions to secure supplies necessary for responding to the pandemic.⁷ **CM**

ENDNOTES

- 1 86 FR 7475.
- 2 86 FR 7049.
- 3 86 FR 7424.
- 4 86 FR 7009.
- 5 86 FR 7045.
- 6 86 FR 7211.
- 7 86 FR 7219.



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EVERY NCMA MEMBER HAS A STORY TO TELL, and *Contract Management* is capturing, cataloging, and sharing these stories—here in “Faces of NCMA”—to show how our members are making a positive impact in the contract management community. This month, we highlight **Crystal Glenn**.

Crystal is the material project manager for strategic sourcing, Leidos. She previously served as vice president of finance and business operations at UUV Aquabotix, program control consultant at CenturyLink Business, project control manager at SAIC, and program controller at the National Institute of Aerospace. She is a Certified Professional Contract Manager (CPCM), certified Project Management Professional (PMP), and a past president of NCMA’s Tysons Corner chapter. Crystal is also a 2007 graduate of the NCMA Contract Management Leadership Development Program (CMLDP).

“To be a member of NCMA is to be part of a community”: Crystal Glenn

Contract Management How long have you been a member of NCMA?

Crystal Glenn I’ve been a member since 2005. That’s 15 years now! Wow.

CM What led you to join?

CG I joined NCMA as I started a new position in contract administration, and I wasn’t familiar with it at all. I knew I needed help in training that I wasn’t going to get in my organization, which was a small nonprofit. A previous boss of mine in another profession was a huge advocate of associations, and that inspired me to

search out NCMA. I found everything I was looking for, and then some.

CM What was it about NCMA that made you want to become involved?

CG My first exposure to NCMA was with World Congress 2006 in Atlanta. It was eye-opening for me. I didn’t realize how big the field really was. It was exciting. I saw so much opportunity.

Plus, as a military spouse who was moving around a lot, I also saw this amazing network, and with it the possibility of staying in one professional field instead of changing jobs and fields as I did with every other move we’d had.

CM Tell us a brief story that illustrates what you've gained, personally or professionally, from being a member.

CG After graduating from the leadership program – that was back in 2007 – I gained confidence that I didn't expect to have. I never imagined being a speaker, much less speaking at a conference. Today, I can't tell you how many sessions or conferences I've spoken at. So that's a good sign.

Besides that, NCMA truly helped me become the leader I am today. Within the network I've built through NCMA, I've had numerous career opportunities, including the position I hold today with Leidos, as well as my previous position as vice president of business operations at Aquabotix.

What truly made a difference for me at NCMA is building the friendships I have there. Every World Congress feels like a family reunion.

CM You served as the president of the Tysons Corner chapter. Tell us about why you decided to take on this role. What's a key lesson you've learned from it?

CG At the time it was the largest chapter in the association, and I had served in several other positions within that chapter. I found that there were several senior members who were basically rotating in positions: They stayed within the chapter but would take turns as secretary or treasurer. I wanted to give younger members leadership opportunities within the chapter, but I didn't want to lose those senior members. So, I created the Board of Advisors to keep our senior members involved and

give some of the younger members a chance to shine.

A key lesson I learned was that I couldn't just jump in and do the whole job myself. I needed to enable others to succeed – and to learn from their mistakes. It was rewarding to see others grow and learn from their experiences.

CM What's the most unexpected thing you've discovered as an NCMA member?

CG I think the big surprise for me is the true friendships that I've developed just by being a member. Several members/friends were at my baby shower; I've attended weddings, baby showers, and other events. I'm happy to support my friends at NCMA; they're my family. And the mentors I've gained through NCMA, both officially and unofficially, have been there for me both professionally and personally. That sense of community is what was most unexpected about being a member.

CM What is your hope for the future of your membership in NCMA?

CG I hope that the future will offer similar opportunities to what I've been offered – the chapter leadership opportunities, the open networking opportunities with other professionals – and resources for us to be successful in our careers, as well as giving us opportunities to help others be successful in their careers as well.

CM What one thing would you tell a contracting professional who is on the fence about joining NCMA?

CG You can read articles, and research contract-related materials, but really, to be a member of NCMA is to be part of a community, where you can reach out to other members for professional or personal questions. Just hearing others in conversation and what they're dealing with can help you learn more about the field that you can take back to your own position and organization.

An example of this is when I heard there was more scrutiny being applied to award fee determination. I was responsible for estimating award fee on my program, and while our program had received high 90s in the past for their award fee score, I knew the pressure was on the government to award less. So, I estimated in the low 80s in the subjective areas. We were ultimately awarded 85 percent, and instead of leadership being upset with the loss of revenue – that we didn't lose, since we projected less – they were happy we didn't overestimate. So, it was a win-win.

I'll also mention something with regard to certifications. The credentials earned with any of the certifications at NCMA mean a lot to anyone in the contracting community. I know that I put someone's résumé up higher on the stack, knowing what they went through and the knowledge they gained while going through that process. Plus, it shows a willingness to continue to learn. **CM**

Crystal Glenn

- ▶ Material Project Manager, Strategic Sourcing, Leidos, Springfield, Virginia.
- ▶ CPCM, PMP.
- ▶ Past President, NCMA Tysons Corner Chapter.
- ▶ 2007 Graduate, NCMA Contract Management Leadership Development Program (CMLDP).

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“Late is Late”: The Government Control Exception for Late Proposals under FAR Part 15



BY IRVIN GRAY,
CPCM, CFCM

By the nature of government contracting, an array of standard contract clauses and provisions is available to agencies and contractors to apply as needed. However, these clauses and provisions are only useful if contract managers understand when and how to apply them correctly.

This month’s Clause Corner examines a case study on the “government control” exception for late proposals received after the deadline on a U.S. federal government solicitation. The article will review a case study of the FAR 52.215-1¹ exception to the lateness rule – its specific uses, how it has been used in practice, and a few best practices that will help selling agencies and purchasers to administer the provision during the submission and receipt of proposals on the due date.

Uses for the “Government Control” Exception to “Late is Late”

- ▶ In general, proposals received at the government office designated in the solicitation after the exact time specified for receipt of offers are “late” and will not be considered.
- ▶ There are three exceptions to the “late is late” rule if the proposal is received before award, and if the contracting officer determines that the late offer would not unduly delay the acquisition:

1. If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial

point of entry to the government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals;

2. There is acceptable evidence to establish that it was received at the government installation designated for receipt of offers and was under the government’s control prior to the time set for receipt of offers; or
3. It is the only proposal received.
 - ▶ The first exception is helpful for those offerors who e-mail their proposal the afternoon before the due date.
 - ▶ The third exception is helpful for offerors who end up as the only offeror for the solicitation.
 - ▶ This case study focuses on offerors who submit an e-mailed proposal after 5 p.m. the prior working day.

Case Study: *FAST, LLC v. U.S.*²

On Monday, September 15, 2014, United States Special Operations Command (SOCOM) Contracting Officer Karen Stevens was having a difficult time with the SOCOM e-mail system. According to her request for proposals (RFP) for support services, proposals were due via e-mail at 4:30 p.m. E-mails were limited to 20 megabytes (MB).

Over that final weekend, she would receive many e-mails from six frustrated offerors, including some chief executive officers (CEOs), who had submitted proposals that were less than 20 MB but were rejected by the government e-mail servers.

One of these, Federal Acquisition Services Team, LLC (“FAST”), e-mailed its proposal to the solicitation’s designated e-mail address at 11:56 a.m. on September 15, 2014. The e-mailed FAS propos-

al totaled less than 18 MB. A Defense Information Systems Agency (DISA) server that screened SOCOM’s incoming e-mails received FAST’s proposal and incorrectly determined its size to be nearly 25 MB. After the screening, the DISA server e-mailed the FAST proposal to the designated e-mail address from the solicitation. The DISA e-mail failed due to “size limit exceeded.” The delivery failure notification was sent to FAST shortly after noon. FAST’s CEO was working in a secure facility without access to e-mail, which might have prevented him from noticing the notification from DISA in a timely manner.

About four hours after the deadline for proposals, FAST made several requests to the Contracting Officer to confirm receipt of its proposal. A few days later, the Contracting Officer replied that FAST’s proposal had not been received.

FAST replied with multiple e-mails. The first e-mail documented the date and time of the e-mailed proposal. The second e-mail provided the “government control” exception.

In reply, the Contracting Officer stated, “The government control exception doesn’t apply since there is no evidence that the proposal was received at the government installation. There is no exception in the FAR that would allow me to accept a late proposal from FAST.”

FAST filed a bid protest at the Government Accountability Office (GAO) on September 25, 2014. FAST argued that SOCOM improperly excluded FAST’s proposal. FAST argued that its proposal should have been accepted because it was submitted more than four hours before the deadline, and that it was rejected by the e-mail server

even though it was less than the 20 MB size limit in the RFP. FAST cited two U.S. Court of Federal Claims (COFC) cases that apply the “government control” exception for e-mailed proposals – an exception that the GAO does not recognize. Due in part to the contracting officer’s statement that only three other offerors had e-mail difficulties with initial rejections and that SOCOM received 15 timely proposals, the GAO denied FAST’s protest.

FAST then filed a complaint at the COFC on January 27, 2015, arguing that under the two COFC cases the proposal should have been considered received under the “government control” exception. SOCOM filed the administrative record of the proceedings before the GAO. FAST submitted a declaration of a CEO who submitted a proposal and copies of e-mails between that CEO and the contracting officer. Soon after, SOCOM added e-mails between the contracting officer and other prospective offerors regarding e-mail difficulties. The court allowed FAST to depose the Contracting Officer by written questions.

Based on the supplemental e-mails and the deposition, the COFC determined that at least seven offerors, including FAST, informed SOCOM of problems with e-mailed proposals. Of the seven offerors, six corresponded directly with the contracting officer herself. COFC also found that, contrary to SOCOM’s statement before the GAO (three rejections, 15 received), seven e-mailed proposals were initially rejected and only 13 e-mailed proposals were received via e-mail by the deadline. The COFC also found that SOCOM’s failure to disclose to GAO the extent of e-mail problems encountered during the final days of the solicitation prejudiced FAST.

Both FAST and SOCOM agreed that the “government control” exception applies to e-mailed proposals under COFC cases. The COFC found that the DISA server was owned and operated by the Department of Defense. Therefore, the FAST proposal was under the government’s control before the deadline for proposals. The COFC found that the SOCOM must accept and evaluate the FAST proposal on the same terms as other proposals accepted as timely.

Case Study Findings

- ▶ The Court of Federal Claims found that

the proposal submitted by FAST was not delivered to the agency e-mail inbox for the procurement.

- ▶ The government’s servers failed to accept files totaling up to 20 MB as stated in the solicitation.
- ▶ The e-mail containing FAST’s proposal was timely received by the DISA server before the time set in the solicitation.
- ▶ The FAST proposal was under the government’s control when the DISA server performed safety checks on the e-mail.
- ▶ The FAST proposal, sent 4.5 hours before the deadline, met its responsibility to ensure the proposal’s timely delivery and that the file was less than 20 MB. This is distinguished from other cases, where an offeror sent its proposal less than 15 minutes before the deadline and normal e-mail processing resulted in a late proposal.

Practice Points for the Agency

- ▶ Practice sending large e-mails to the destination e-mail address before issuing the solicitation and check again before the due date for proposals.
- ▶ Provide file size limits in the RFP that are significantly lower than the technical limits of the e-mail system.
- ▶ In advising the contracting officer, check case law in both the GAO and the COFC since the protestor can choose either venue, or both venues sequentially. In this fact pattern, the split between the two venues favors the protester at COFC.
- ▶ When a protest is filed, have the contracting officer complete a Statement of Facts early, while the events are fresh in her mind. Likewise, gather statements from key witnesses early, before they forget details.

Practice Points for Offerors

- ▶ For e-mailed proposals, consider submitting proposals before 5 p.m. the business day before the deadline to qualify for “e-commerce” exception to the late proposal rule.
- ▶ If the “e-commerce” exception is too early, submit e-mailed proposals two or more hours before the deadline for proposals, and earlier if possible.

- ▶ Check the sending e-mail address for any rejection e-mails.
- ▶ If sending two hours early is not possible, realize that an e-mailed proposal sent less than 15 minutes before the deadline might be rejected because e-mails normally take a few minutes to reach another inbox and are frequently delayed by normal glitches.
- ▶ If you submit an e-mailed proposal after 5 p.m. the business day before the deadline, and more than 15 minutes before the deadline, and the agency rejects the e-mailed proposal for lateness, file the pre-award bid protest at the Court of Federal Claims, not the GAO.
 - Why? Because for bid protests, the Court of Federal Claims will apply the “government control” lateness exception to e-mailed proposals that reach a government server. The GAO will not apply the “government control” lateness exception but instead will apply the “e-commerce” exception. The “e-commerce” exception only works for e-mailed proposals sent before 5 p.m. on the prior workday. **CM**

Irvin Gray, JD, MBA, CPCM, CFCM, CCCM

- ▶ Assistant General Counsel, Honeywell Federal Manufacturing and Technologies.
- ▶ Provides legal advice to executives, buyers, and contract managers with an emphasis on federal government contracts and commercial subcontracts.
- ▶ LLM Candidate, Government Procurement, The George Washington Law School, anticipated graduation in May 2022.
- ▶ President, NCMA Kansas City Chapter.

The information provided in this article is for informational purposes only and does not, and is not intended to, constitute legal advice. With respect to any particular legal matter, readers should consult with an attorney.

ENDNOTES

- 1 FAR 52.215-1 Instructions to Offerors - Competitive Acquisition (January 2017)
- 2 *Fed. Acquisition Servs. Team, LLC v. U.S.*, 124 Fed. Cl. 690 (2016). Unless otherwise noted, all quoted material in the remainder of this article is taken from *Agredano*. Facts and holdings are from the published case without additional citation.

Turning Dollars into Mission:

AIR FORCE CONTRACTING CHIEF CAMERON HOLT ON THE FUTURE OF CONTRACT MANAGEMENT



The career journeys and perspectives of contract management executives offer lessons and insights for NCMA members at all levels in their careers. For this reason, Contract Management has begun a new series of interviews with leaders from government and industry.

This month, we present NCMA CEO Kraig Conrad's discussion with Major General Cameron Holt, the U.S. Air Force Deputy Assistant Secretary for Contracting, about the future of contract management and how he is spending his career shaping that future.

The interview, which occurred in January 2021, has been edited for length and clarity.



KC: For our “Future of Contracting” issue, we couldn’t think of a better person to have a conversation with than Maj. Gen. Holt.

As you know, our contract management standard was accepted by the Department of Defense (DoD) as the foundation for a future single level of certification. While all this was evolving, you were already revolutionizing your contracting workforce development as a part of your Air Force Contracting Flight Plan, *Mission-Focused Business Leadership*. How do you see these programs, particularly within your flight plan, developing competencies needed for the future of contracting?

CH: Frankly, some of this is just dumb luck on my part – some in Congress and NCMA have hit a revival at the same time that Air Force contracting is reinventing itself in response to sophisticated adversary threats to U.S. dominance in air, space, and cyberspace. Our partnership has been, I think, very beneficial. But let me talk for a minute about where we’re going.

In our Air Force Contracting Flight Plan¹ there are four Lines of Effort. Line of Effort 1 is “Building Mission-Focused Business Leaders.” It is really essential that we understand what is different about building a contracting technician in our past to a fully capable Air Force business leader for the future. We are investing more in our already great workforce to move from a compliance focus to a mission focus and from business advisers to business leaders. This requires new Knowledge, Skills, and Abilities

(KSAs), from initial skills all the way through executive education.

Of course we have to be experts in our “primary weapon system” first, which is contracting and pricing. Our people know more about the details of how to turn dollars into *Fly, Fight, and Win* than any other member of the acquisition team. That is valuable! In fact, I believe many of our folks have undervalued the importance of their expertise to mission outcomes. With the economic and information challenges to national security ahead, it is time we step up and find new business solutions to tilt the balance of speed and capability in America’s favor.

When you reach a competence level in contracting as a journeyman and an expert in government contracting, that’s when I have asked the Air Force to start investing in our people, not stop investing in them. When you show the capability and the capacity to deal with that much complexity as an expert in government contracting, that is the time to invest in them by sending them to focused and intensive business courses to broaden and deepen their capabilities.

In partnership with the Darden School of Business at the University of Virginia and the Kenan-Flagler School of Business at the University of North Carolina, and other top business schools in America, we’re actually pouring into [journeyman contracting officers] knowledge of balance sheets and income statements and cash flow statements. Knowledge of private venture capital and private equity and

institutional investors [such as] how to read 10-Ks and 8-Ks and align our contractual incentives to mission priorities and with corporate financial performance.

Why? Well, the “why” is because of the adversaries we face. They are not coming after us initially with bombs and bullets or even diplomacy, but rather with information and with economic power. While they are happy to steal our companies’ intellectual property, they have learned it is far faster to simply buy it through relatively modest investments in our capital markets and equity stakes in our innovative high-technology startups. Our resourcing, acquisition, and contracting system is still optimized for the Cold War world. With all the complexity and barriers to entry, it is much easier for a small U.S. company that’s very innovative and fast moving, but doesn’t have a big cost structure, to do business with China than it is for them to do business with the DoD today. That bothers me deeply. We need our business leaders to step up and find new solutions to modernization and readiness – ones that are compliant, yes, but that move at the speed required by the mission and focus on partnering with U.S. industry in a manner that protects our priceless engine of intellectual property in America from exploitation by the adversary.

I’ve had this conversation with you before, Kraig, about where NCMA can play a role there. We’re looking at the potential, even on the industry side, to develop a clear path from the contracting



Always ready to pave the way for contracting professionals, Holt helped a team at the Air Force Weapons Program Executive Office close a contract at 5:17 p.m. on Sept. 30, 2017, to commit expiring funds for an urgent operational need. Left to right: Lorna Tedder, Col. Holt, Capt. Lorie Romero, Robert Reyes.

Photo provided by Lorna Tedder

profession to chief financial officer (CFO) and chief executive officer (CEO) roles. It may be time to look at our top contracting leaders in industry as also top business and financial analysts, so they understand equally how to work a balance sheet and how to make the *Federal Acquisition Regulation* “sing”: knowledge of capital markets that make ideas reality. On my side in the defense business, our “contracting ninjas” also need to understand why they do what they do: national security, instruments of national power, and what our adversaries are up to in the same capital markets. I believe in the next generation, if we are successful with this change, the folks that replace me in the next 10 years, my goodness, they will be so much more capable than I am! And that is really the point.

KC: We’ve been hearing that contracting professionals are feeling a bit anxious about the coming changes: going to a single-level certification, removing some of the business coursework requirements to get into the chair initially. How would you help calm the fears of the contracting officer who’s not sure what’s coming next and may not have your leadership?

CH: If you look at a three-tiered process and all the DAU classes and all the things we used to do with brick-and-mortar training, we are departing from that. And that’s OK. What I want people to understand is that the way people learn and train has moved away from brick and mortar. There is no way that we can develop the kind of competencies that we’re looking to develop with just that.

So, we’re looking at a very broad range of training experiences – but brought together into very specific planned KSAs – that we are building into people intentionally at various places in their career through a variety of delivery methods.

I’ll use one quick example. We have this thing that we always use called continuous learning points (CLP), right? And at least in the Air Force, it’s the biggest joke in the world because you get on your next two-year run and you’re supposed to have 80 hours and you kind of look back at what you’ve done and you add in all your CLPs and then, oh, you’re good. So, you must be trained.

We want to take that idea but make it quite intentional. What’s to prevent our folks from getting continuous learning through an app from Khan Academy or from a



“Our contracting officers are the gateway to the almost unlimited capabilities of the private sector.”

specific financials course that was put on by Yale online as a two-week certificate program? What are all those opportunities that exist out there beyond just the brick and mortar in a way that is not just haphazard but is very intentional about building those KSAs over time, so those CLPs actually matter toward building the capabilities that we’re looking for?

This year, as a matter of fact, we’re redoing all of our initial skills training. We’ve got the midrange partnerships with DoD, with Darden, and with Kenan-Flagler. Now we’re also looking for opportunities at the Senior Contracting Official (SCO) level to send them to a very high-cachet business training program, either by Harvard, Stanford, Kellogg School at Northwestern University, or someplace like that. We haven’t decided yet, but really it will be a bootcamp

preparation for CFO or CEO because that’s what I need them to be doing as SCOs for the Air Force.

I don’t need somebody with 18 years’ experience as a procuring contracting officer (PCO) in a senior contracting officer’s (SCO) seat. At the SCO level, we’re actually building business leaders on par with CFOs of the biggest corporations. They need to let PCOs make PCO decisions, while they shape and remove business barriers to defense at a higher level: picking up a phone and calling a friend on Wall Street saying, “Hey, we need to find a different way to value [intellectual property].” Or calling a CFO during a very difficult negotiation and speaking to them in language that they understand about the government’s offer and its impact on their cash flow or their balance sheet or their income statement. That’s the kind of leader we’re building for the future.

Right now, it’s very difficult for people as they sit in their jobs to understand, “How do the things that I’m doing, all that General Holt’s talking about, really impact me today?” We’re going to connect the dots for them. It’s OK if people don’t understand that quite yet. But we’ve got their backs, we do have a plan, and it is coming together.

KC: You mentioned CLP. Do you expect any experiences to be added? For example, if you embed someone at a hedge firm or a private equity firm, is that experience a CLP-worthy experience?

CH: Absolutely. In fact, we now have our first Education with

Industry (EWI) tour at a venture capital firm. We have our very first EWI opportunity for enlisted. Our partnership with Naval Postgraduate School has only deepened, and now we’re sending not just military officers, but civilians, and we’re about to send enlisted, to get their master’s degrees in business with a focus on enterprise sourcing. All the glass ceilings, all those artificial limitations, all the silly bureaucratic rules, we’re systematically removing them. People will only be constrained by their capacity and their drive.

We’re on our way to becoming an elite business force! It will not be easy to keep up with that, I’ve got to tell you. The vision of the future contracting officer in the Air Force, it’s going to be difficult to even stay on that track because it is going to be demanding, exciting, and rewarding. In the future, people leaving a successful career in Air Force contracting will be very valuable people in any industry.

But we have such good people; even today, there are contracting officers that are doing things in different program offices that are exhibiting every bit the vision that I have for the future. Right now, today.

KC: So back to the plan. How do you see it evolve? A lot of innovations, but as those flourish and your contracting ninjas go forth, what is next? How do you keep it going?

CH: I don’t want people to focus too much on the individual innovations in and of themselves. There’ve been lots of useful tools

that we have put on the table and that we have developed. Our approach to Commercial Solutions Openings is one of those. We actually have used that for pandemic response and have over 3,700 companies in there simultaneously working through a three-spiral process that results in really rapid contract awards across a variety of industries in response to the need of the nation.

We've deleted every mandatory procedure in contracting below the Air Force level – hundreds of pages, gone. Gone with it is bureaucracy, polished rocks, and innovation-squelching standardization. But what will replace it? Our nonmandatory tactics, techniques, and procedures (TTPs). With technology and teamwork, we realize we can become a living and breathing learning organization, where if you try something somewhere that works in the Air Force on a Monday, the entire Air Force contracting population will be able to do it on Friday. That's how fast we're moving. Air Force pitch days were a good example of that. We led all the contracting and payment process reengineering for the first pitch day out of my office in the Pentagon – led by Maj. Sarah Lark – single-page contract, credit card payment within minutes after the pitch. And I'm proud to tell you that there were at least 15 Air Force Pitch Days in the year that followed, and my office was not directly involved in any of them. That's how fast we are learning to propagate knowledge and to push the envelope of

innovation. So, it's really about developing that culture of critical thinking and innovation more than the tools themselves.

KC: Everyone talks about the air cover you give your team. You're very optimistic about changing risk aversion culture and recrimination culture. How do we sustain that? How do we keep it going?

CH: I think first, Kraig, with a recognition that what we do is very important. It's a public trust. We spend an awful lot of taxpayer money. When some folks on the team start to not understand that, I give them a little analogy and I ask them, "Hey, this one action you're doing, if you had to drive by the number of U.S. households that it would take to fund that one thing, how long would you be driving? Think about that. You'd be driving for a long time." So, is what we do important? Sure. We always ought to take that seriously. But what we must resist is overreacting on rainy days.

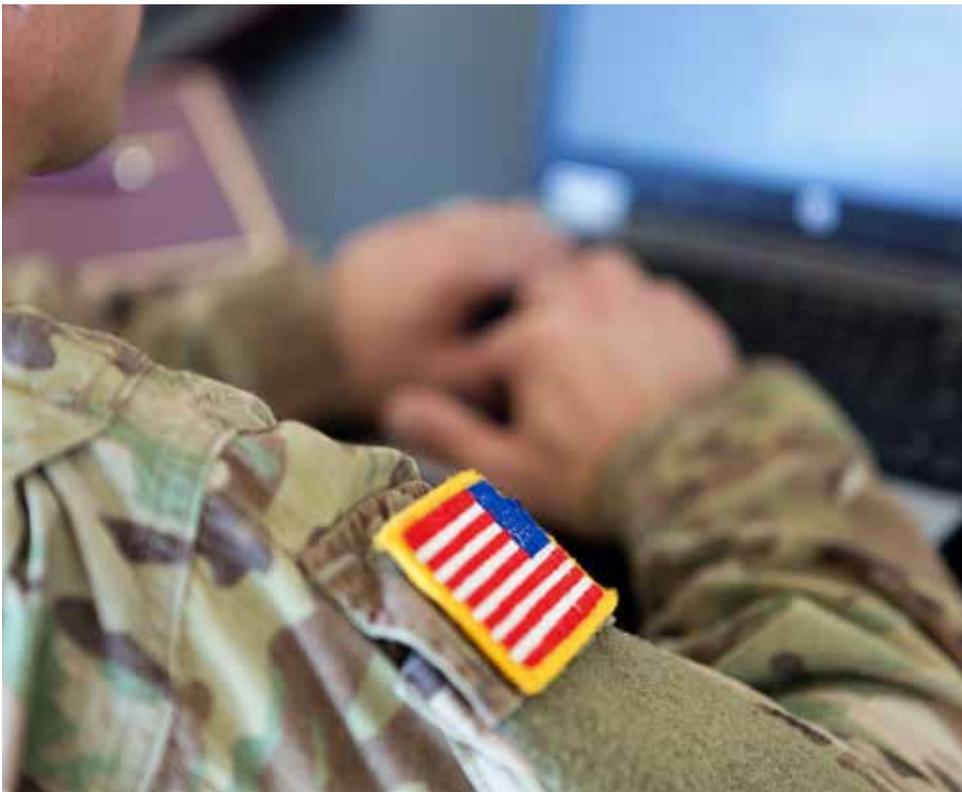
The [Washington] DC recrimination culture is powerful and will always be there, I talk about it openly. I expose it where I see it, frankly, because there are a lot of folks who benefit from overreaction. Unfortunately, mistakes will be made. I've never seen a perfect acquisition yet. I've not seen a perfect contract. The good news is, you're often only one Standard Form 30 modification away from a perfect contract. Very few things in our business can't be fixed or mitigated. So, when mistakes happen, the difference is

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going to be, how does leadership react to that?

Those articles will be written. Those questions will come from Congress. The audits will go forward, whether they're fair or they're not. The recrimination culture never sleeps. The difference will be leadership. Are leaders worried about their own reputations and their own advancement? Or do they look at the high leadership position they are blessed with as an opportunity to provide that “blast-shield” support to the people they lead, people doing a difficult job with limited resources, real and artificial time pressures and massive complexity and scrutiny.

The one caveat I would always give is that we'll never stand behind unethical situations. If people are doing something for themselves because they're arrogant or because they're getting personal gain out of it, I'll never stand behind something like that. But an honest mistake in



“People will only be constrained by their capacity and their drive.”

pushing the envelope that results in a bad result? I’ll stand behind that every day of the week and twice on Sunday. As leaders it is our role to share success and to own the blame.

That can be hard. When you’re in a senior leader role, you need to understand that can result in your being replaced. If you need to absorb that much blame, you need to be prepared to step down and not pass on unfair recrimination to your folks. Make it stop with you. So that’s a big challenge and a big responsibility. But leadership is clearly where the difference comes from.

KC: As you look at your day-to-day running an \$850 billion acquisition portfolio, what keeps you up at night?

CH: Well, you might be surprised

by my answer to that. It is a broad portfolio. Of course, as we just mentioned, the opportunity for a mistake in that kind of a portfolio that then results in the DC recrimination culture getting geared up is always there. However, I will tell you that doesn’t keep me up at night at all. I have tremendous faith in our folks. They are so good. So, I don’t worry too much about our ability to execute the mission and that broad portfolio.

There are things, though, that keep me up at night. One is the threat that we face. Every day I’m thinking about that threat because it is so sophisticated, and it is not something that we’re used to as a nation. We’re not used to dealing with information power. We’re not used to dealing with economic power used against us. We are more accus-

tomed to understanding military and diplomatic power. This is a new 21st century conflict where victory may not have the same obvious, visible measures as before, but the risk is no less existential to our way of life and the unalienable rights we can easily take for granted. The challenge of speed and sophistication are real, yet our acquisition system and our contracting system are based upon the 1980s – on a Cold War marketplace that no longer exists and assumptions that are no longer valid. With all our efforts to hack our system to gain back advantage in contracting and acquisition, I actually think the most threatening of our antiquated processes is resourcing and resourcing oversight. The planning, programming, budgeting, and execution system (PPBES) is largely

unchanged from the monstrosity conceived by Robert McNamara and it produces painfully slow and rigidly micromanaged constraints that prevent us from changing course or reinvesting rapidly as new opportunities arise. Our adversary can plan years ahead of our execution and have no such encumbrance as they shift resources with dictatorial efficiency. I see no signs of that improving, so what we are doing to increase speed and drive business innovations in contracting is even more important.

KC: Our readers would love to know a little bit about your career path. You are such an inspiring leader. Would you share a little about the highlights that have helped you succeed?

CH: Sure, Kraig; there's really not a lot of magic in it. I will tell you I fundamentally love what we do. I love contracting, I always have.

I mean, you don't grow up thinking you're going to be in contracting, but I was hooked from the beginning. As the Air Force has allowed me opportunities to attend school and think about national security even above the military level, it has allowed me to look back at what we do in contracting in context and understand how valuable our knowledge really is. I think our contracting folks take their own knowledge for granted and they think because others on the acquisition team use some of the same terms, they have the same depth of knowledge that we do about how to turn dollars into mission.

The truth is, as I said before, there's really no one else in the entire acquisition team that knows more about the details of how to get from dollars to mission. We find solutions – we get to “yes” when no one else can see the path. The Air Force has been very patient with me and allowed me to be a critical thinker, even to challenge the Air Force I loved at the times it needed challenging.

KC: At the NCMA Government Contract Management Symposium, you mentioned that this is your dream job. Can you tell us a little bit about why?

CH: Our culture in the Air Force, when the Air Force began, is a culture of mavericks, a culture of critical thinkers, not for their own sake, but for the sake of the mission. So, I found the Air Force a great place to grow and learn.

The other point I would make is that I feel I really know the contracting people that I lead. Of course, I don't know all 8,000 of them personally, but I have served in just about every seat you can serve in along the way in the various different kinds of contracting that we do and in all the different places that we do it. I feel like I really understand these folks and truthfully, I love them.

I feel like my role is to set my folks free, to take the shackles off

them and reintroduce them to the Air Force and Space Force missions. As we all lend our own expertise to the Air Force's *Fly, Fight, and Win* mission, some may not look at contracting as a big game-changer, but they'd be wrong about that – I have seen it again and again from the boardroom to the battlefield.

The Air Force's heritage always has been connected with technology and with industry. Our success or failure depends on that strong connection. Our contracting officers are the gateway to the almost unlimited capabilities of the private sector. And if our contracting officers don't understand the Air Force mission, the Air Force is in trouble.

It's essential that our contracting officers that grew up with and mastered the complexity of the contracting job really understand the mission end states they are supporting. We are the airmen and guardians who must lead toward business solutions and be stewards of the strong connection to industry innovation. So, I see my role as just reintroducing the people that I know and love to the Air Force mission that I know and love. **CM**

Major General Cameron Holt

▶ U.S. Air Force Deputy Assistant Secretary for Contracting

ENDNOTES

- 1 "Air Force Contracting Flight Plan: Mission-Focused Business Leadership," November 13, 2019, <https://www.ncmahq.org/docs/default-source/awards/af-contracting-flight-plan-13nov19-ecopy.pdf>.



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INFLUENCING THE CULTURE OF FEDERAL ACQUISITION : THE DEPARTMENT OF HOMELAND SECURITY'S PROCUREMENT INNOVATION LAB

With real cultural change, compliance and innovation can co-exist in federal acquisition.

BY SORAYA CORREA AND POLLY HALL

Creating an Innovation-Friendly Culture

One of the biggest misperceptions in today's federal acquisition system is the belief that innovation cannot co-exist with a simultaneous focus on compliance. At the Department of Homeland Security (DHS) we indeed know that they can and do. The DHS Chief Procurement Officer established the Procurement Innovation Lab (PIL) in Fiscal Year (FY) 2015 to help unleash the creative potential of our acquisition community by promoting a culture that embraces new ideas, innovation, and the inherent risks associated with doing things differently. An innovation-friendly culture is a key pillar of the President's Management Agenda. At DHS, we are interested in deep-seated transformation that motivates and inspires teamwork and collaboration to achieve improved acquisition outcomes that support mission objectives.

The PIL started small in our early days – both in staff and in the number of projects supported. We recognized that innovation is best not forced and that our acquisition community would need to see evidence that its leadership truly supported procurement innovation long-term before they gained trust in the PIL. That trust is growing, and therefore, so is the PIL! Today, we have a larger team to support the increasing demand for our services and have coached teams across all the DHS contracting activities and even a few at partner agencies.

Five years into our journey, we are amazed with what our acquisition community has accomplished. Terms like “Federal Acquisition Regulation” and “innovation” are regularly used in the same sentence! Across the federal acquisition community, teams are collaborating as they test new ways to enhance the customer experience through the contracting process. Trust is growing, and more acquisition professionals feel empowered to streamline the acquisition process and flex

our regulations to deliver mission more effectively. We have found a way to influence outcomes by providing support and a safe space for people to test their ideas and share results.

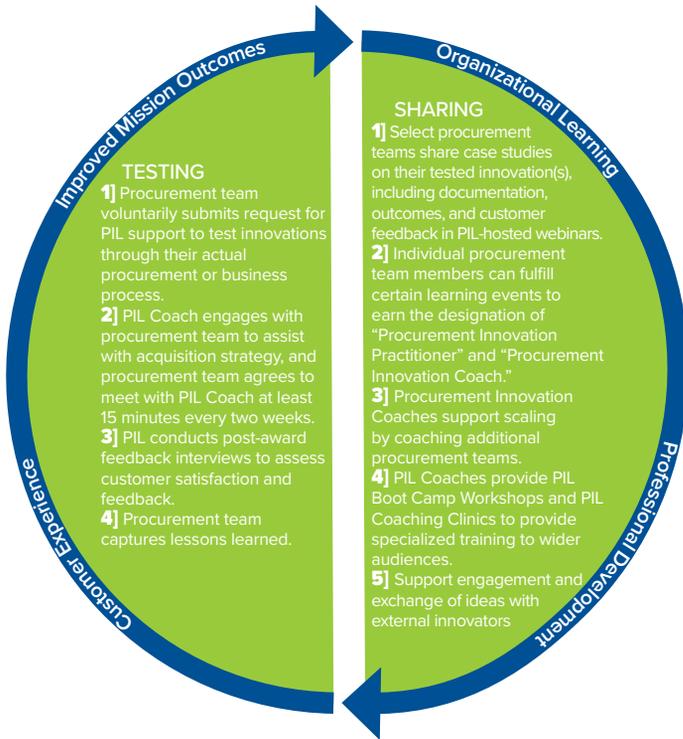
In the July 2018 *Contract Management Magazine* article entitled “Procurement Innovation In DHS – A Progress Report” we shared our experiences over our first three years. Now, we want to share how our journey has evolved and how it has been greatly enhanced by our partners.

The PIL Framework: Testing and Sharing

The PIL supports our acquisition workforce through a “testing” and “sharing” framework that remains constant. However, to meet the just-in-time needs of the acquisition workforce, we have adapted this model with new and improved innovative business practices, information-sharing techniques, and training. Our focus on customer experience, improved mission outcomes, organizational learning, and professional development encompass every engagement. Interviews conducted after every PIL procurement project reveal team collaboration is the number one driver of reduced time to award and improved customer satisfaction.

When any movement is starting up, ideas and theories make up its story. The PIL is no different. We started with ideas born out of the collective experiences of acquisition professionals focused on making the contract formation, evaluation, and award process more streamlined, while yielding better results for the mission. Our work is grounded on the premise that any member of the acquisition community can voluntarily approach the PIL and obtain support to explore their procurement innovation ideas. We use an iterative testing framework to put their ideas into practice. First, we provide coaching support to the teams to

FIGURE 1. Procurement Innovation Lab Framework



explore the innovation and mitigate any inherent risks. Coaches then observe as the acquisition team implements their idea on a procurement or business process – this is what we refer to as testing. Throughout the process, the PIL obtains feedback, learns from the information collected, and shares the learning forward. By applying these steps, those who follow (or adapt our framework) can iterate to continually improve the process. This adaptive framework also provides us with the opportunity to leverage the experiences of other agencies as we learn together in this new space.

Key Accomplishments – An Update

Since our FY 2018 article, the PIL framework has grown steadily. From FY 2018 to FY 2020, the number of procurement teams coached by the

PIL grew by 151%. Our unique training approach, PIL Boot Camps, remains in high demand demonstrating the strong appetite across the federal acquisition community to think differently as they approach their work. Our metrics indicate that the PIL

framework of testing and sharing is positively impacting culture change. Procurement professionals are excited to apply their creativity to continually improve acquisition practices and processes and find value in opportunities to learn from one another.

Assessing Culture Change

Partnering with the Center for Accelerating Operational Efficiencies (CAOE), a DHS Center of Excellence, we collaborated with leading supply chain management researchers at Arizona State University on a multi-year research effort. The purpose of this research was to develop an objectively derived procurement performance metric to assess how well the PIL is advancing the cultural change necessary to support a more efficient and effective procurement process at DHS. Through this effort, we identified a strong and repeatable outcome measurement structure (called the “Competing Values Framework” assessment, adapted from Quinn and Rohrbaugh, 1983), which provides both a qualitative and quantitative



FIGURE 2.

ACCOMPLISHMENT	CUMULATIVE THROUGH FY 2018	CUMULATIVE THROUGH FY 2020
PIL PROCUREMENT PROJECTS	35	88
PIL PROCESS IMPROVEMENTS	16	30
PIL DIGI-BADGES	255	1,361
PIL WEBINARS	39	49
PIL WEBINAR CUMULATIVE ATTENDEES	8,290	13,237
PIL WEBINAR AVERAGE SATISFACTION	4.4 out of 5.0	4.5 out of 5.0
PIL BOOT CAMP WORKSHOPS	9	45
PIL BOOT CAMPS ATTENDEES	421	2,447
PIL BOOT CAMP AVERAGE SATISFACTION	4.7 out of 5.0	4.7 out of 5.0
PIL COACHING CLINICS	--	3
PIL COACHING CLINIC ATTENDEES	--	46
PIL COACHING CLINIC AVERAGE SATISFACTION	--	4.8 out of 5.0

analysis of the cultural mindset related to the PIL’s framework for procurement innovation. Based on three years of data, we now know that a dominant focus on process control competes with the values of innovation, human relations, and mission outcomes. Based on trends from FY 2018 – FY 2020, we see progress. If trends continue, it appears that innovation may be valued equally to process control within the DHS organizational culture by the end of FY 2024.

As we look to the results of this culture assessment, we recognize that the cultural tensions evident at DHS are relevant to the entire federal acquisition community. The PIL framework of testing and sharing has demonstrated that by focusing on the values of innovation (creative problem-solving and new ideas) and human relations (teamwork, cohesion, and employee morale), mission outcomes and even process controls are improved. These findings bring new energy to the work of the PIL.

Coaching Innovation

We believe the most transformative aspect of the PIL is our focus on sharing. The Office of Management and Budget (OMB), Office of Federal Procurement Policy (OFPP) refers to the PIL sharing framework as a force multiplier. Coaching procurement teams, obtaining feedback on their innovation experiences, tracking the outcomes of those acquisitions, and sharing what is learned fosters a learning organization. Enabling acquisition professionals to hear from their peers about what worked and what failed, allows us to steadily improve and be more responsive and flexible to the constant changes that exist in operational and mission environments.

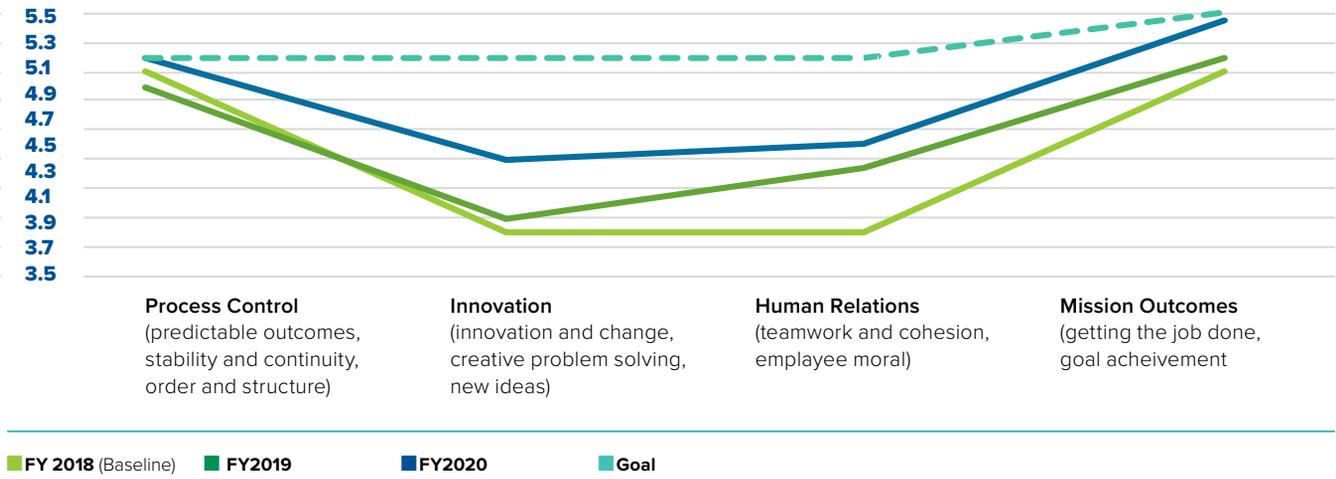
By the end of 2020, 49 procurement teams participated in PIL webinars where they shared the innovations they tested and what they learned with their peers across the acquisition community. These live we-

binars are recorded and made widely available. They serve as an important repository of key use cases and sample documents for the DHS acquisition community.

In 2018, based on requests from our acquisition community, we created a new method of training called PIL Boot Camps. PIL coaches taught these one-day immersive workshops which provided detailed use and implementation instruction on the 10 most frequently used procurement innovation techniques and engaged attendees in a hands-on procurement innovation challenge exercise. Because we learn better together, we opened the PIL Boot Camps to all members of the federal acquisition community and to the industry. In FY 2020, these workshops were converted to an online platform to ensure the shared learning opportunities continue despite the pandemic.

Building upon the goals of the PIL and our sharing framework, we also

FIGURE 3. Competing Values Framework (CVF) Assessment DHS Acquisition Workforce



▶ While all four higher-order values are vital to the work of procurement professionals, a dominant focus on process control competes with the values of innovation, human relations, and mission outcomes.

▶ Yet, over the past two years, with dedicated leadership focus and support to operational procurement teams, there is evidence of change.

▶ Based on trends over the past two years assessed, Innovation will be equivalent to Process Control in about 4 years (end of FY 2024).

▶ CPO Goal – achieve greater equality on the cultural importance placed on the four values of mission outcome, human relations, innovation and process control.

developed a “train-the-trainer” course called PIL Coaching Clinic. Piloted in June 2019, the PIL team launched the Coaching Clinics in FY 2020 as another shared learning opportunity for the Federal acquisition community. The PIL Coaching Clinic is designed to develop a cadre of procurement innovation coaches to support the acquisition community as more procurement teams feel motivated and inspired to think differently.

During our FY 2020 “Competing Values Framework” assessment of the DHS acquisition workforce, we asked survey respondents to share their use of nine of the most frequently tested procurement innovations, which are taught in PIL Boot Camps. The survey results showed that more DHS acquisition professionals are testing these innovations without PIL support than those who are testing with PIL

coaching. This diffusion of procurement innovation demonstrates that sharing exponentially improves the cultural change we seek to influence. The results also show that our journey is not over, but our impact is lasting. While only 35% of respondents indicated they had utilized the techniques, that 35% reported multiple uses on a variety of acquisitions.

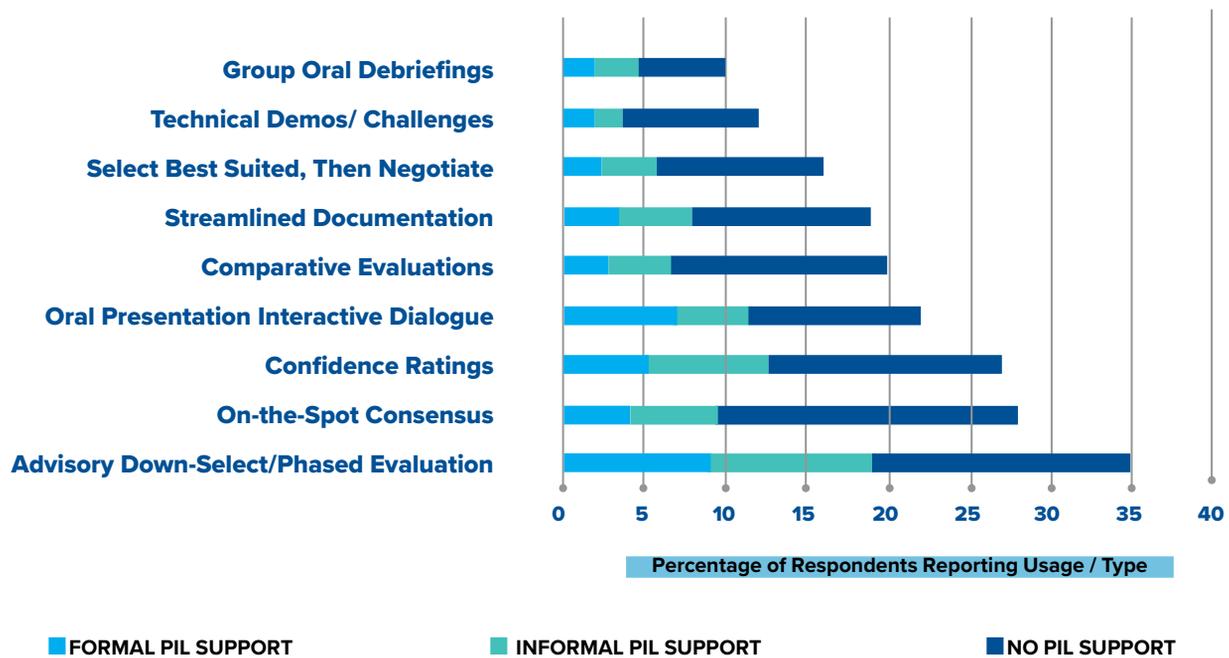
The Future of Procurement Innovation

Procurement innovation has arguably always been rooted in the FAR. By providing a safe space and supportive resources to our acquisition community, a more risk-tolerant culture and a willingness to apply creativity to our acquisition system has taken shape. Persistent cultural change takes time. It is a gradual process and requires attention and nurturing. Within DHS

and across the federal acquisition community we see evidence that cultural change is being nurtured through the collaborative efforts of Acquisition Innovation Advocate Councils (both at the DHS and federal levels), as well as through supportive messaging about acquisition innovation coming from the OFPP, industry, and others. Collaborative efforts to create tools like the Periodic Table of Acquisition Innovations (www.fai.gov/periodic-table), and the stand-up or expansion of procurement innovation labs across federal agencies are visible examples of this continuing culture change.

The acquisition lifecycle provides us amazing opportunities to keep innovating! Our acquisition community has creative ideas to improve how we describe what we buy, how we understand the marketplace, how we structure solicitations to most

FIGURE 4. Level of PIL Technique Diffusion and Type of PIL Involvement



efficiently and effectively receive and evaluate proposals, how we keep costs down without compromising quality outcomes, and how we administer our contracts to ensure they deliver the intended mission outcomes. As we continue to collaborate, learn together, and share our successes and failures with one another, we are *together* the force multipliers!

The PIL will continue to stand by our acquisition community as they test the new ideas of tomorrow. By remaining flexible and adaptive, we will be ready to support new challenges and opportunities as our acquisition ecosystem, and operational environment evolves. With the support of OMB, the PIL has strengthened our ability to serve the acquisition community and federal partners through enhanced training opportunities. In FY 2021, we will launch a train-the-trainer program

designed to develop procurement innovation coaches across the federal acquisition community. We also plan to produce more government-wide PIL webinars and partner with organizations like the National Contract Management Association to provide the industry an opportunity to work and learn together with government.

Ultimately, cultural change comes down to people embracing new ways of doing business. Procurement innovation creates opportunities for acquisition professionals to collaborate, enhance cross-functional understanding, and have a hand in creating new levels of efficiencies in the procurement process. It brings us

tremendous satisfaction to see acquisition professionals experiencing their jobs differently and being a part of this growing community of federal procurement innovators. Innovation and compliance can co-exist quite comfortably in federal acquisition. We can't wait to see what you try next! **CM**

Soraya Correa

▶ Chief Procurement Officer, U.S. Department of Homeland Security

Polly Hall

▶ Director, Procurement Innovation Lab at the U.S. Department of Homeland Security

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MAKING STRATEGIC DECISIONS THROUGH OPPOSITION + UNCERTAINTY

IRS CPO Shanna Webbers reveals how her team tackled the task of modifying all their active procurement contracts with time quickly running out. BY SHANNA WEBBERS

It was August 1, 2020. My team, “Team Procurement,” was laser focused on meeting current obligations and knocking it out of the park for the fiscal year. But we had yet to finalize the implementation plan to comply with Section 889 of the Fiscal 2019 National Defense Authorization Act by August 13. We had less than nine business days to figure it out. Although we knew it would be an extreme challenge, we still did not give up and aggressively sought a solution.

We had to work quickly and address myriad questions:

- ▶ How many contracts will require a modification?
- ▶ How will we monitor completion so we can quickly answer data calls?
- ▶ How will we consistently manage

vendor exception requests?

- ▶ What is the potential backlash if we haven’t properly modified a contract and the vendor is using prohibited services or equipment?

First things first. I needed to understand the scope of the situation. We had approximately 2,700 active contracts. Our process takes about two hours on average to complete a modification, input data into the Federal Procurement Data System-Next Generation (FPDS-NG), and upload the document in our contract file repository. So, worst-case scenario, it could take up to 5,400 hours – or 2.5 years – to modify 100 percent of our active contracts.

Did I mention we only had *nine* days?!

To narrow down the scope, we

used the Product Service Code to identify 1,466 contracts that met Section 889 criteria. Based on our current process it could still take up to 3,000 hours – or a full year – to get this finished. There had to be a quicker way.

We had successfully used a Robotic Process Automation (aka “bot”) to correct data errors in the FPDS-NG earlier in the year, but we hadn’t used it for any other purpose. We knew the bot could update FPDS-NG in seconds, but we didn’t know if it could create contract modifications in bulk. There was a lot of angst and opposition about using the bot for this purpose. I listened to various concerns and reasons that this might not work. Each had merit and deserved consideration when assessing our options. I was convinced that the bot was our best path to success, so I continued to

probe with more questions that would highlight the risks.

We didn't have all the answers and there were a lot of disparate data points to consider. I had learned early on in my career to trust my instincts. At the end of the day, as chief procurement officer, I was ultimately responsible for meeting the implementation timeline and managing risk. I decided to move forward with the bot effort, even though there was much uncertainty and disagreement within the team about which approach was best. I was willing to accept the risks and give it a try, especially since I didn't see any other way to modify thousands of contracts in such a short timeframe. Plus, if the bot didn't work as expected, we could pivot to Plan B: using our current process. Either way, we would get it done, but the bot would produce results in a much shorter timeframe.

Once my decision was made to pursue the bot solution, we created a solid path forward within a week that could be implemented quickly, and with minimal risk. Our approach was simple. We:

- ▶ Tested and confirmed the bot could accurately create modifications in bulk.
- ▶ Created a unique e-mail address for vendors to submit questions and exception requests.
- ▶ Used a modification number ending in "889A" for quick identification.
- ▶ Selected a dozen contracting officers to sign the modifications.
- ▶ Received interim approval for the bot to upload modifications into the contract file repository.

- ▶ Used the bot to e-mail 1,466 modifications to the appropriate vendor.
- ▶ Added Section 889 clause to our contract writing system for new awards.

Even with this approach, I knew we still couldn't meet the August 13 deadline. So, we sent a letter explaining our implementation approach to every contractor in our database and established a deadline for submitting an exception request. These would be our priority since it had the highest risk, but no exceptions were received.

While we didn't meet the August 13 deadline, we did accomplish a task of this magnitude in record time. More importantly, we pushed outside of our comfort zone and still were successful. The route you know is not always the best route. We are operating in a constant state of uncertainty during this COVID-19 pandemic; when uncertainty exists, you need to think outside of the box to find new solutions.

It might even reveal opportunities that were not apparent before. As a leader, you must be able to manage risk, push your team outside their comfort zone, and take a chance when the opportunity presents itself.

We used an unproven approach and it paid off. The return on investment (ROI) was impressive. In addition to reducing the administrative burden on contracting officers and

eliminating data errors, the total time savings went from ~1 year (2,860 hours) to ~3 days (72 hours). Plus, it didn't require additional funding or other resources to implement this effort. IRS Team Procurement *rocks!*

But we didn't do it alone. Our CIO and IT partners deserve a special shout-out. By providing interim approval for the bot to access our contract writing system, we limited the amount of human intervention required in the process, thus maximizing ROI.

Just remember, the perfect contract is only one modification away. Now is the time to take a chance – so go forth and make great things happen.

One team! One procurement! One IRS! **CM**

Shanna Webbers

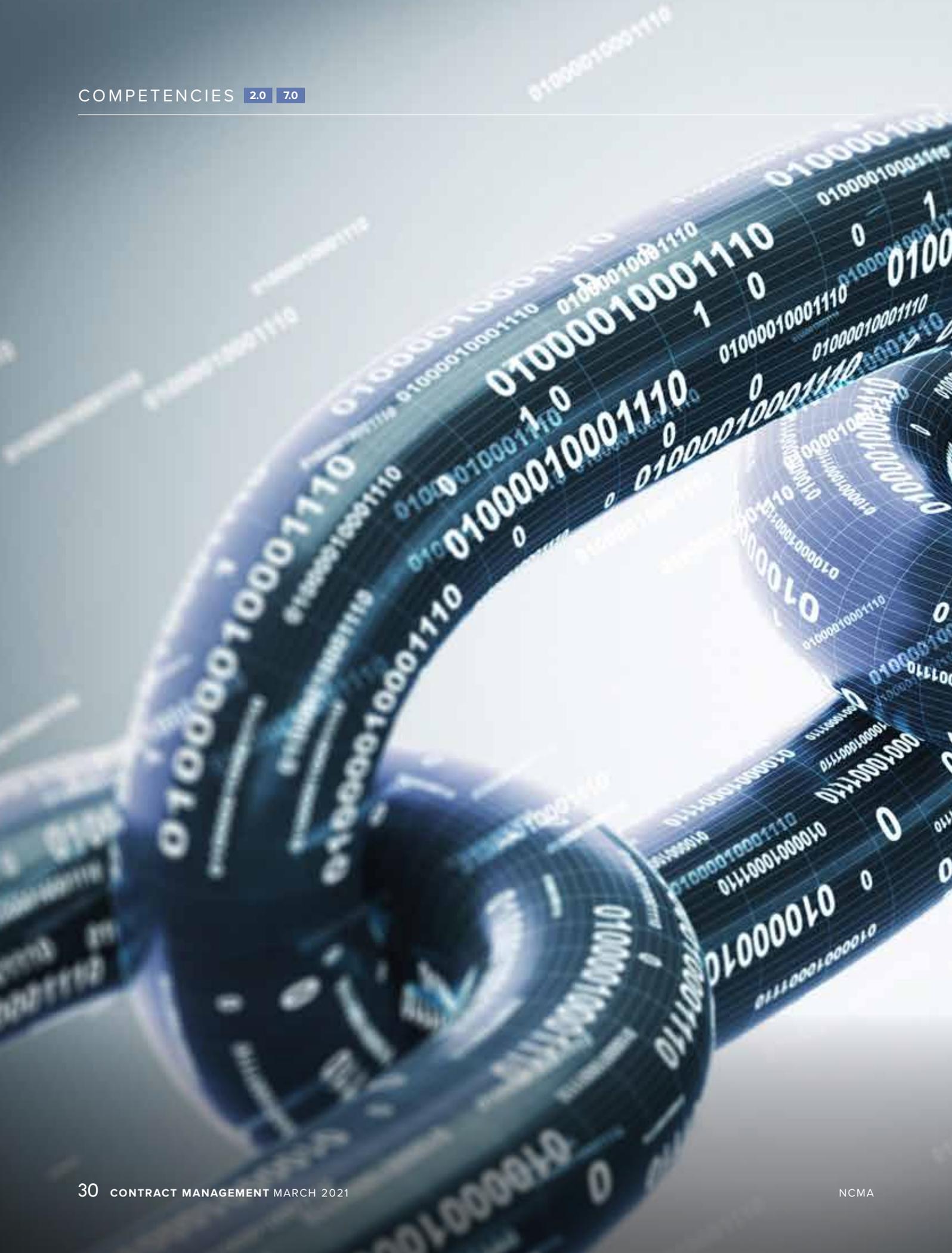
- ▶ Chief Procurement Officer, U.S. Internal Revenue Service.

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- 1 National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2019 (Pub. L. 115-232), Section 889(a)(1)(B) prohibits executive agencies from entering into, or extending or renewing, a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, on or after August 13, 2020, unless an exception applies or a waiver is granted.
- 2 Time for a contracting officer to manually create one modification, input data into FPDS-NG, and upload modification into the contract file repository is about two hours (120 minutes average). In contrast, the bot created the modification in one second, input data into FPDS in less than one second, and uploaded the modification in three minutes, on average.



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INTELLIGENT CONTRACTING:

Molding AI, Bots, Blockchain, Big Data, and More into a Brand New Business Model

Emerging technologies have kickstarted a new vision for the future of federal procurement. It's up to government and contracting leaders to enable that vision to become reality. BY VERNON MYERS, COL., USA (RET.)

Today, federal procurement organizations are grappling with looming budget restrictions, loss of experienced personnel, and a continuing challenge in crafting acquisition requirements. These factors regularly strain contract execution in government and industry. Requiring activities are obligating money faster, and resource managers are reallocating funds more frequently to meet critical requirements. As a result of growth in the national budget deficit due to pandemic relief spending, budgets will remain constrained for the foreseeable future.

As these trends continue, removing unnecessary administrative burdens and low-value tasks from the contracting process has become critical. Federal agencies and defense contractors increasingly are adopting emerging technologies, such as artificial intelligence (AI) and robotic process automation (RPA) tools, to streamline the procurement process and increase contracting workforce productivity. As

federal agencies lean forward to adopt cutting-edge technology solutions, the age-old problem of isolation and duplication is growing.

Isolated, or “stove-piped,” technology development generally takes the form of systems purchased to fix specific problems that are limited in scope, focus, and functionality and cannot integrate seamlessly with other systems. A great example within the Department of Defense (DoD) is the development of separate contract writing systems for each of the services, such as the Standard Procurement System (SPS) Procurement Desktop Defense (PD2), and Procurement Automated Data and Document System (PADDS), which are scheduled to be replaced by a shared contract writing environment in the next few years.¹ The duplication of maintenance and technology refresh costs caused by such stove-piping is prohibitive and unsustainable. What's needed is strategic governance of procurement automation.

Intelligent Agents at the Core

Federal procurement is a defined market where customers (requiring activities) engage market facilitators (contracting agencies) to initiate agreements with suppliers (government contractors) via a transparent and secure marketplace (primarily beta.sam.gov, which includes the former Federal Business Opportunities) for goods and services to be delivered at specific dates in the future. The current federal procurement business model has served us well over many years; however, new technology will disrupt it. Since the government is often slow to adopt new technology, a business model based on emerging technologies with applications developed specifically for the procurement domain is probably a few years off. Intelligent agents, combined with other emerging technologies, could be the core of that new model that transforms how procurement is executed in the future.

I became interested in intelligent agents a few years ago when I entered a contest and developed an idea called the Federal Multi-Agent System (FEDMAS)². FEDMAS was to be a platform that connected all federal executive agencies. In it, intelligent agents (think an army of Siris or Google Assistants) would facilitate millions of daily services required by citizens, such as applying for a passport, renewing a driver's license, or paying taxes. Citizens would be able to deploy personalized intelligent agents anytime, anywhere, and for any legitimate purpose authorized by the government.

Already, big technology companies have made intelligent agents commonplace as voice assistants and virtual helpers by integrating them into smart-

phones (Apple Siri), personal computers (Microsoft Cortana), smart speakers (Google Home), and smart device controllers (Amazon Alexa).

The increased capability of intelligent agents combined with the need for acquisition transformation call for a new contracting vision encompassing a relevant, cost-effective, and technology-enabled procurement ecosystem. The goal is to put the best emerging technologies into the hands of a trained and ready workforce to create greater value for stakeholders throughout the federal government.

Intelligent Contracting: The Vision

Intelligent contracting is an aspirational, high-level vision of what federal procurement could be in 10 to 20 years. It is based on the convergence of six emerging technologies – three primary and three supporting – to facilitate the entire procurement value chain, from requirements development and solicitation to contract award and performance (See **Fig. 1** on page 33). The primary technologies are cloud computing, artificial intelligence, and big data. The supporting technologies are intelligent agents, smart contracts, and blockchain. The six emerging technologies exist right now and four are already being used in diverse applications throughout the federal government. The integration of these six emerging technologies would provide an innovative, intelligent contracting platform that could automate the procurement process and increase its efficiency and effectiveness.

I'm advocating that we think big by harnessing industry and government creativity and capacity to push

the procurement business model to catch up with the 21st century. The exciting prospect of intelligent agents, combined with artificial intelligence, operating within a government cloud computing platform, using data from millions of historical contract actions, leveraging smart contracts technology as the contract instrument, and using blockchain to secure the transaction, could increase speed and accuracy and decrease the cost of executing contracts. The required technology exists; we must work together to bring the vision to life.

The intelligent contracting ecosystem comprises the 3 P's: people, platform, and processes. The people are contracting professionals responsible for facilitating the contracting process in conjunction with the platform and processes. The platform consists of the intelligent contracting ecosystem's foundational infrastructure, including the primary technologies of artificial intelligence, big data, and cloud computing, which provide processing, analysis, and data capability. The processes consist of the functional technologies – intelligent agents, blockchain, and smart contracts – that execute, secure, and finalize a procurement transaction.

Today, contracting professionals work in a manual, task-by-task manner. They will continue to spearhead the intelligent contracting ecosystem's procurement process, using the six emerging technologies combined with processing and collaborative assistance from artificial intelligence and intelligent agents. Contracting professionals will continue to lead the intelligent contracting ecosystem by interacting directly with the platform and processes.

Intelligent Contracting Primary and Supporting Emerging Technologies

PRIMARY TECHNOLOGIES

- Cloud Computing
- Artificial Intelligence
- Big Data

SUPPORTING TECHNOLOGIES

- Intelligent Agent Technology
- Smart Contracts
- Blockchain

AI, Big Data, and Cloud Computing

AI, big data, and cloud computing must be developed and integrated to provide the platform for the intelligent contracting ecosystem to function. AI will perform the analysis, evaluation, and decision-making functions.³ It works by combining large amounts of data with fast, iterative processing, and intelligent algorithms, allowing software to automatically learn from patterns within the data and automate the procurement process.⁴ AI is currently capable of learning, planning, and problem-solving.⁵

The Department of Homeland Security (DHS), for example, uses AI to improve mission performance and streamline information technology operations.⁶ DHS uses AI to identify and read past performance evaluations to inform current and future contracting decisions, including explanations and rationales for selected solicitations.⁷ Although DHS is at the leading edge of integrating AI into procurement operations, the agency intends for AI to *assist*, not *replace*, the contracting workforce.⁸

“Big data” refers to enormous data

sets that can be analyzed computationally to reveal patterns, trends, and associations.⁹ The data needed to support intelligent contracting already exist throughout the federal government. The primary sources include the Federal Procurement Data System Next Generation (FPDS-NG), Virtual Contracting Enterprise (VCE), and the Procurement Integrated Enterprise Environment (PIEE). Existing data will need to be sent through a systematic process to clean, organize, and package it to allow intelligent agents, smart contracts, and the blockchain to efficiently use it to execute intelligent contracting functions.¹⁰

Contracting professionals can use AI to analyze data the government already collects to determine the best acquisition strategy for each procurement. Contracting agencies can use raw data from solicitations, spending data, contractor performance reports, requests for information, policies, regulations, specifications, and other correspondence, in conjunction with AI, to analyze, interpret, answer questions, solve problems, and address issues.¹¹

The General Services Administration

(GSA) has combined AI with big data to review end-user license agreements, update agency procedures to comply with new regulations and policies, and execute low-level tasks related to legacy acquisition policies.¹²

Cloud computing is the practice of using a network of remote servers hosted on the Internet, rather than local servers or personal computers, to store, manage, and process data.¹³ Intelligent contracting would operate within a cloud computing infrastructure similar to the cloud services that Amazon Web Services (AWS) provides to many of the world’s largest commercial enterprises and governments.¹⁴ The government would need to establish a dedicated cloud architecture to support AI, big data, intelligent agents, smart contracts, and blockchain capabilities. Contracting with a leading cloud provider to host the procurement computing infrastructure would allow the government to quickly scale intelligent contracting at a reasonable cost.

AI, combined with data from existing government data centers and intelligent agents, will provide an advanced way to automate the procurement process by finding data, analyzing it, making recommendations, and providing predictive analysis to assist humans in making procurement decisions that are in the best interest of the government.

Bots, Blockchain, and Smart Contracts

If the engine for the intelligent contracting ecosystem is artificial intelligence and the gas that makes the engine run is big data, then the attendants pumping the gas are intelligent agents and bots. In the future, any repeatable

process requiring structured information and rule-based processing will be automated using technologies such as AI, natural language processing, analytics, and bots to make sense of the data.¹⁵ As technology continues to advance, intelligent agents will progress from simply executing transactions to guiding and making business decisions and choosing the most viable strategy, thus increasing efficiency and decreasing costs.¹⁶

The intelligent contracting ecosystem uses three functional technologies as the supporting processes that will allow contracting professionals to successfully execute the procurement process. As the execution function, intelligent agents – working in conjunction with humans, AI, and big data – facilitate a contract action through the entire procurement process. Intelligent agents can plan, set goals, reason effectively, and improve their knowledge and performance through learning.¹⁷ The Internal Revenue Service (IRS) now uses AI and RPA to drive greater efficiency by freeing up procurement officers to focus on higher-value tasks.¹⁸ The IRS conducted an experiment involving a software bot programmed to execute a business process. It scanned historical contract data to ensure that the latest regulations, policies, and clauses were included in a pre-award compliance check.¹⁹

A blockchain is a decentralized, distributed, and often public digital ledger used to record transactions across many computers so that selected records cannot be altered retroactively, without altering all subsequent blocks.²⁰ Blockchain is a relatively new technology that has been most

associated with Bitcoin and cryptocurrency; however, it has many other applications. The blockchain is the intelligent contracting mechanism used to facilitate contract award, payment, and verification of performance or delivery of goods and services. Contracting professionals can use blockchain to record and enforce smart contract transactions.

Smart contracts are a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a contract. Within the intelligent contracting ecosystem, smart contracts provide a secure contractual instrument to execute the terms of a contract and verify contractor performance for credible transactions without third-party assistance.²¹

Intelligent Contracting in Action

Using an integrated platform consisting of AI, big data, cloud computing, intelligent agents, smart contracts, and blockchain technology, contracting professionals will operate an automated, intelligent contracting process from requirements development through contract closeout.

Here's how that might look:

The requiring activity in conjunction with AI will develop an initial requirement package using historical data as a reference source. AI will search historical contract data from similar requirements located in existing government databases and provide recommendations to the requiring activity for inclusion in the final requirements package. The requiring activity will submit the final requirements package to the

contracting organization in preparation for solicitation.

With an intelligent agent's help, a contracting professional will finalize the solicitation and submit the request for proposal (RFP) through the government point of entry (beta.sam.gov). The contracting professional will monitor the RFP status and oversee all AI and intelligent agent activity, including status updates, communication with interested contractors, and recommended changes or amendments to solicitation documents.

When the RFP ends, the contracting professional will receive all proposals, confirm receipt with offerors, and prepare proposals for evaluation in conjunction with AI and the intelligent agent. The contracting professional and requiring activity will evaluate proposals and make a source selection decision. After the proper documentation has been completed and approvals obtained, the contracting professional will make an award to the successful offeror. During contract administration, the contracting professional will administer the contract by confirming receipt of goods and services, verifying contractor performance, and using blockchain technology to facilitate contract payment, followed by closing out the contract when necessary.

Getting There From Here

Although the six emerging technologies currently are used in diverse commercial and governmental applications, implementation concerns and other risks still exist. They must be addressed to bridge today's system with the intelligent contracting ecosystem. Those concerns include

cybersecurity risks, new AI legislation, and the workforce.

Government leaders must develop a plan to manage the risk of cybersecurity breaches. Leaders will need to conduct a thorough cybersecurity risk analysis to identify vulnerabilities in the system. Identifying and reducing cybersecurity risks is critical to integrating the six emerging technologies into a system that complies with government cybersecurity requirements and delivers value to stakeholders.

Leaders must also become knowledgeable and adept at leveraging AI-focused legislation. They especially should study laws providing authority and resources that can be leveraged to develop and implement the AI-enabled intelligent contracting ecosystem. For example, the 2019 American AI Initiative²² urges AI investment, federal data access, and AI workforce training.

Finally, leaders must consider the engine that powers the new intelligent contracting platform: the workforce. The intelligent contracting system will only be as good as the workforce that operates, maintains, and sustains it. Employees and staff facing change, innovation, and new technology, may fear they will be replaced by computers or by people with more relevant skillsets. How will the implementation of the intelligent contracting platform affect the contracting workforce? What will happen to the thousands of federal workers who have spent years learning a craft that will eventually be facilitated by AI and intelligent agents? The early answer is that the current workforce will need to be retrained to integrate and work with emerging technologies.

In preparation, the 2019 Artificial

Intelligence in Government Act (AIGA) required the Office of Personnel Management to identify the skills federal workers will need to work with AI and develop an AI-specific job series based on those skills.²³ The AIGA also requires the GSA to create an AI Center of Excellence to oversee AI technology rollout throughout the federal government.

The disruptive nature of digital technology will increase the speed of change and affect how organizations operate. Federal contracting will not be excluded. The government should be proactive and identify procurement transformation as a top priority for government agencies. By harnessing the power of the six emerging technologies, the intelligent contracting ecosystem provides an achievable vision and governing strategy for adopting technology to create a new, automated procurement business model. **CM**

Vernon Myers, Col., USA (Ret.)

- ▶ Deputy Executive Director, U.S. Army Contracting Command, Orlando, Florida
- ▶ DAWIA Level III Contracting and Program Management, PMP
- ▶ Author, *The Idea Journal: A Tool for Unleashing Your Urge to Create*
- ▶ MS, Materiel Acquisition Management, Florida Institute of Technology
- ▶ BS, Business Administration, Central State University (OH)

For more information: vernon.l.myers2.civ@mail.mil

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Cybersecurity Compliance:

How contracting professionals provide the front line of defense

Reducing the impact of cyber-attacks through good cyber hygiene and attention to the enhanced systems that will be required to carry us safely forward. BY DARREN KING

Fort Lee, Virginia—

Cybersecurity should be important to everyone, as it affects all of us to some degree. To understand why cybersecurity is important, we first must understand and apply the concepts of cybersecurity to everyday situations. Let us use this example:

Have you ever been to a concert or sporting event with tens of thousands of people in attendance, all crowding at the entrances, eagerly waiting to get in and find their seats? The vast majority of those people have authentic tickets, allowing them access and assigning a unique seat for the event. However, there are those without real tickets who slip through the cracks by manipulating or tricking venue workers. Imagine what would happen if an unauthorized attendee decided to occupy a seat and collect a “ransom” when the authentic ticket holder tried to claim their spot?

While this scenario might sound a little farfetched, it provides an easy-to-understand analogy of social engineering and ransomware, two popular archetypes of cyberattacks with devastating consequences.

From a Department of Defense (DoD) perspective, protecting information is protecting and saving the warfighter. Commitment to embrace information protection is a mainstream workstyle – not a whimsical accessory. Acquisition representatives frame the initial architecture of information protective measures and activities.

The cyber threat is not going away, so data must be defended in nonfederal networks and systems managed by our Defense Industrial Base (DIB) partners. The DoD information

entrusted to the DIB must be protected so enemies do not exploit, misuse, or misdirect our national capabilities as defined and described in DoD contracts.

As we enter 2021, cybersecurity is at the forefront of the news. From a procurement and contract management perspective, you need to know there are set standards reducing the risk exposure to controlled data.¹

Implementation of these standards occurs through the inclusion of *Federal Acquisition Regulation (FAR)* and *Defense Federal Acquisition Regulation Supplement (DFARS)* provisions and clauses into contracts. Implementation of these standards can significantly assist in protecting controlled information from current and future cyber-attacks.

The SolarWinds® Orion® platform (a technology architecture integration tool)² was a recent victim of a SUPERNOVA Malware³ cyberattack⁴. This attack affected not only contractors, but also several federal government organizations. It exemplifies how creative the cyber threat is becoming, and the importance of security. Protecting controlled information is a necessity for DoD, corporate intellectual property, and economic resource preservation.

Currently, the cyberattack-du-jour is ransomware, also known as malware used for coercion. Ransomware is when all, or some, of a company's data is held hostage by cybercriminals and paying a ransom or extortion fee is the only way to have the data released. The first payment is never considered final and the cyber criminals keep coming back for more money and threats of deleting or selling the acquired data. While each threat has unique properties, the

constant is that cyber threat activity and cyber-based espionage is not going away. The threats are increasingly more sophisticated and should not be underestimated.

No matter how robust an organization's security, not every cyber intrusion can be stopped. That is why a primary principle and program within cybersecurity is incident response. If an attacker gains presence on a network, there are technologies, processes, and trained personnel in place to detect the activity and deter virtual freedom of movement. As the incident is analyzed and the hackers' steps are re-traced, mitigations, and remediation are enacted to limit the damage while supporting a return to normal operations.

Think of an expensive car's anti-theft system. No matter how robust, any car can be stolen if the thief is motivated enough. Likewise, cyber criminals only need to be successful once. The important thing is to have the ability to detect and recover as quickly as possible. For a vehicle, it is an alarm, GPS tracking software, insurance, and the police. In the cyber world, it is firewalls, intrusion detection systems, antivirus, incident handling, system back-ups, and recovery software.

So how can you protect against costly cybersecurity attacks? How do you defend against a shape-shifting threat? You, as an acquisition professional, could be the first link in slowing the threat by guiding the construction of a cohesive and holistic cybersecurity strategy. This strategy starts with acquisition considerations articulated in *DFARS* for guiding a contract's controlled information risk exposure, risk mitigation, and remediation through

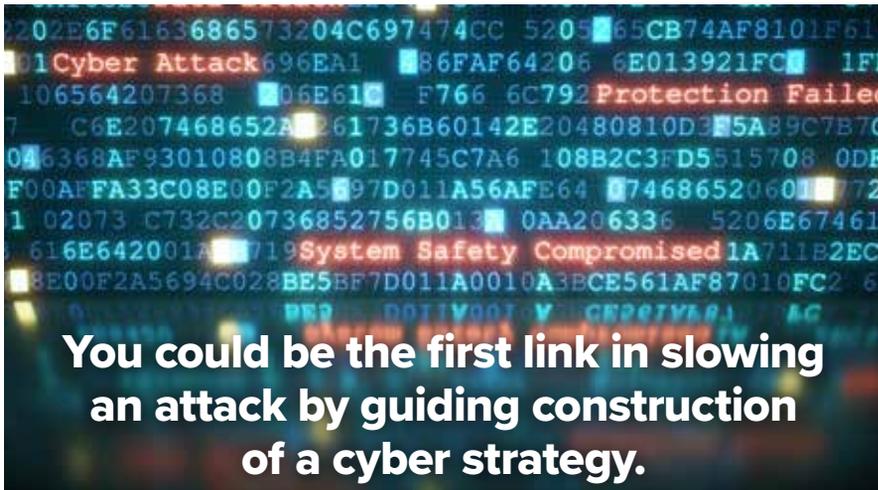
contractual requirements and post-award contractor surveillance.

Standards

Prior to 2013, the DoD worked with the DIB to define the cybersecurity standards to reduce the risk exposure of DoD information in contractor networks. DoD recognized there is a balance required between adequate security, costs, complexity, and usability. On December 31, 2017, DoD enacted its first significant issuance changing DoD contracting processes to encompass cybersecurity. Several years of parallel coordination and communications between DoD, industry, and the National Institute of Standards and Technology (NIST) resulted in the first defined, cybersecurity protections for nonfederal institutions: NIST Special Publication (SP) 800-171, "Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations."⁵

The latest version is dated February 2020 and provides agencies with recommended security requirements for protecting the confidentiality of controlled unclassified information (CUI) when this information

- ▶ resides in nonfederal systems and organizations;
- ▶ is not being collected or maintained by a nonfederal system or organization on behalf of a federal agency or using or operating a system on behalf of an agency; and
- ▶ has no other specific safeguarding requirements for protecting confidentiality prescribed by authorizing law, regulation, or governmentwide policy for the CUI category listed in the CUI Registry maintained by the National Archives and Records Administration (NARA).⁶



You could be the first link in slowing an attack by guiding construction of a cyber strategy.

These requirements apply to all components of nonfederal systems and organizations that process, store, and transmit CUI, or that provide protection for such components. These security requirements are intended for use by federal agencies in contractual vehicles and serve as the foundation for building a cohesive, holistic security strategy starting with acquisition. Many of these requirements are process, governance, and oversight related in addition to technical implementations of cyber-hygiene best practices.

From December 2017 to June 2019, the DoD had several programs and groups to evaluate DoD contractor implementation of *DFARS* clause 252.204-7012 *Safeguarding Covered Defense Information and Cyber Incident Reporting*.⁷ This clause requires defense contractors that handle, process, or store CUI to have “Adequate Security” as defined in NIST SP 800-171R2.

In 2019, DoD directed the Defense Contract Management Agency (DCMA) to establish the capability to assess DIB CUI Protection compliance from an “enterprise” perspective. DCMA Strategic Assessments verify and validate DIB contractors’ implementation

of the NIST SP 800-171 cybersecurity requirements by reviewing contracts managed by Commercial and Government Entity (CAGE) Codes to assess protection confidence levels in accordance with published guidelines.⁸

Today, there are several *DFARS* clauses and provisions regarding cybersecurity:

- ▶ *DFARS* clause 252.204-7012, “Safeguarding Covered Defense Information and Cyber Incident Reporting,” defining the requirements of adequate security and the need to report cyber incidents to DoD.
- ▶ *DFARS* clause 252.204-7020, “NIST SP 800-171 DoD Assessment Requirements,”⁹ dictates the DIB must open their doors so the DoD can review information technology (IT) systems, talk to DIB subject matter experts (SMEs) and determine if implementation of the requirements is appropriate.
- ▶ *DFARS* clause 252.204-7021, “Cybersecurity Maturity Model Certification Requirements,”¹⁰ establishes Cyber Maturity Model Certification where the DIB must obtain “certification” prior to contract award.
- ▶ *DFARS* provision 252.204-7008,

“Compliance with Safeguarding Covered Defense Information Controls,”¹¹ asserts that submitted offers represent compliance to the defined security requirements.

- ▶ *DFARS* provision 252.204-7019, “Notice of NIST SP 800-171 DoD Assessment Requirements,”¹² asserts for award consideration, the contractor is required to implement NIST SP 800-171 and to have a current assessment (i.e., not more than three years old unless a lesser time is specified in the solicitation) (see 252.204-7020) for each covered contractor information system relevant to the offer, contract, task order, or delivery order.

In addition to the resources mentioned above, there are 25 additional cybersecurity policies and regulations within the DoD Procurement Toolbox¹³ addressing covered defense information safeguards, cloud computing services, identification of CUI, and other acquisition-related cybersecurity issuances.

Decision-Making Tools

An important acquisition tool is the Supplier Performance Risk System (SPRS) that holds several types of information used by acquisition professionals in determination of contractor risk. This tool incorporates the price, item, and supplier risk assessments with a cybersecurity assessment to build a contractor’s risk profile.

New to the system is the *NIST SP 800-171 DoD Assessment Methodology* for evaluation scores. SPRS is the official repository for all *NIST SP 800-171 DoD Assessment Methodology* scores. The final *DFARS* Rule report on the use of SPRS assessment information is shortly forthcoming as of this writing.¹⁴

In accordance with *DFARS* provision 252.204-7019 and clauses 252.204-7012 and 7020, companies¹⁵ must perform a basic, or self-assessment, as their attestation of requirement compliance and input their scores into SPRS. Additionally, DoD performs medium and high confidence assessments and places the resulting scores into SPRS. DoD acquisition and procurement professionals have access to all submitted scores to assist in the source selection decision process. Contractors see only their data.

Basic Assessment: This is a self-assessment where the contractors grade themselves. The score may or not be accurate, depending on the level of understanding of the person performing the assessment. This assessment is a good starting point to help determine whether a company has issues and is aware of them. If the score is high they may be doing proper implementation of the requirements, or the number may be erroneous. Accuracy and confidence in the score are only as good as the person performing the assessment.

Medium Confidence: The best value offered this type of assessment is its usefulness as a tool to triage the possibility of a company's security requirements as poorly or successfully implemented. This assessment reviews the company's System Security Plan (SSP): the required document explaining how a company implements the requirements. For the company, creating an accurate and usable SSP takes time and understanding along with writing skills. Many times, the SSP simply restates regulation, which does not meet the assessment standard. The intent of the SSP is to explain *how* the company is implementing the requirement.



High Confidence: Consider the value or score from this assessment confidence level as trusted and verifiable, as it was determined by a trained DoD civilian or military member who completed at least 40 hours of assessment training and has a background in Information Technology (IT), cybersecurity, or cyber-assessments. This assessment demonstrates a company understands the security requirements and explains how they are implementing the requirements in their SSP. It also shows the implementation is verifiable by demonstration and review of the supporting policy, technology control, and/or process. The high confidence assessment generally takes a team of trained specialists a week to perform.

Scoring: The DoD Chief Information Officer (CIO) determined the highest score in NIST SP 800-171 Assessment is 110, as there are 110 requirements. Each company assessment starts with a score of 110, and each requirement not meeting the standard is graded as "Other Than Satisfied" and results in points being deducted. Some of these deductions are weighted, resulting in some requirements being valued as a

deduction of three or five points in lieu of a one-point deduction. The weighted value indicates a requirement's higher risk and potential importance when not adequately implemented. A deduction of one point usually occurs against a policy-based requirement. A deduction of three or five points usually occurs against a procedure and/or technology implementation. Overall, because some values are weighted, a company may accrue deductions resulting in a score as low as a negative 200 points. It is important to note, there is not a direct risk associated with a score. Determining importance is based upon what is not being implemented. While there is no definitive DoD scoring guide, generally a score above a positive 90 is considered low risk; below a positive 50 is high risk. Any score in the negative indicates serious concerns or problems.

Training

So far, this is a lot of information and it may feel overwhelming. When I first started the Defense Industrial Base Cybersecurity Assessment Center (DIBCAC) I felt a little overwhelmed,

and I have over 20 years of expertise in cybersecurity. I find it helpful to focus on the areas that have the most impact as you gain knowledge and experience in other areas.

After overseeing more than 140 DoD assessments of defense contractors, one of the most critical problems observed that can result in immediate impact is defining CUI on contracts. Assessment results indicate where the identification of CUI is either not clear or is not being provided by government to the contractor, or vice versa in performance of the contract.

The recently released DoD Instruction 5200.48, Controlled Unclassified Information (CUI)¹⁶ provides the latest information and guidance on identification, handling and marking requirements. Additionally, DoD is continuing to develop more training, and bring on supporting cyber-hygiene programs like the Cybersecurity Maturity Model Certification (CMMC).

CMMC has five levels of maturity and requires a decision from the program office regarding the level of certification. To assist in understanding the relationship between CMMC level three and the NIST SP 800-171, 85% of the requirements are similar with CMMC having 20 additional requirement questions (a total of 130) as compared to the 110 in NIST. The questions are close; the difference is minor from a contract implementation perspective. DIBCAC continues to champion cyber hygiene through briefing and presentation at many industry and organizations as the security evangelist and can cover DoD cyber requirements and the supporting assessment methodology in detail.

The Defense Acquisition University

(DAU) continues to develop training (Cybersecurity and Risk Management Framework¹⁷) and tools, such as their Cybersecurity and Acquisition Lifecycle Integration Tool (CALIT)¹⁸.

Additional DoD cybersecurity guidance is found on the OSD Acquisition and Sustainment website¹⁹ and on the Defense Pricing and Contracting website.²⁰

Impact

In the last few months, I have attended meetings and discussions related to ransomware to include the recent SolarWinds Orion security attack against industry and government. These cyberattacks are real, and their impact is serious. If the companies affected had implemented the requirements of NIST SP 800-171, especially the detection and response, along with having up to date and regular backup of data, the impact of these recent cyber events would have been reduced significantly. In some cases, the risk exposure these attack methods present could be reduced to a negligible amount. Both CMMC and the NIST SP 800-171 requirements are the starting point for proper cyber hygiene. Cybersecurity is a shared challenge and together we can reduce its risk to our warfighters. I look forward to diving deeper into this topic in future articles. **CM**

Darren King

- ▶ Director, Defense Industrial Base Cybersecurity Assessment Center, Defense Contract Management Agency

ENDNOTES

- 1 Controlled Unclassified Information (CUI) is information that requires safeguarding or dissemination controls pursuant to and consistent with applicable law, regulations, and government-wide policies but is not classified under Executive Order 13526 or the Atomic Energy Act, as amended. See <https://www.archives.gov/cui/about>.
- 2 <https://www.solarwinds.com/solutions/orion>.
- 3 A backdoor type of malware called Supernova is a webshell of a trojanized legitimate .NET dynamic link library (DLL) found in Orion. Supernova is compiled and executed in-memory rather than on disk using the DynamicRun method, suggesting the code is designed to evade certain cybersecurity software.
- 4 Latest information on this cyberattack is listed on the Cybersecurity and Infrastructure Security Agency (CISA) Supply Chain Compromise page at <https://www.cisa.gov/supply-chain-compromise>.
- 5 <https://csrc.nist.gov/publications/detail/sp/800-171/rev-2/final>.
- 6 <https://www.archives.gov/cui/registry/category-list>.
- 7 <https://www.acquisition.gov/dfars/252.204-7012-safeguarding-covered-defense-information-and-cyber-incident-reporting>.
- 8 NIST SP 800-171 DoD Assessment Methodology, <https://www.acq.osd.mil/dpap/pdi/cyber/docs/NIST%20SP%20800-171%20Assessment%20Methodology%20Version%201.2%20%206.24.2020.pdf>
- 9 <https://www.acquisition.gov/dfars/252.204-7020-nist-sp-800-171-dod-assessment-requirements>.
- 10 <https://www.acquisition.gov/dfars/252.204-7021-cybersecurity-maturity-model-certification-requirements>.
- 11 <https://www.acquisition.gov/dfars/252.204-7008-compliance-safeguarding-covered-defense-information-controls>.
- 12 <https://www.acquisition.gov/dfars/252.204-7019-notice-nist-sp-800-171-dod-assessment-requirements>.
- 13 <https://dodprocurementtoolbox.com/site-pages/cybersecurity-policy-regulations>
- 14 Track Case Number 2019-D009, Use of Supplier Performance Risk System (SPRS) Assessments at <https://www.acq.osd.mil/dpap/dars/index.html> (Case Status and Publication Notices)
- 15 In this article, the term “companies” is used to describe any company regardless of size, seeking to compete on a Department of Defense solicitation with DFARS clause 252.204-7012.
- 16 <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/520048p.PDF?ver=2020-03-06-100640-800>
- 17 <https://www.dau.edu/tools/se-brainbook/Pages/Management%20Processes/cybersecurity-risk-management-framework.aspx>
- 18 [https://www.dau.edu/tools/t/Cybersecurity-and-Acquisition-Lifecycle-Integration-Tool-\(CALIT\)](https://www.dau.edu/tools/t/Cybersecurity-and-Acquisition-Lifecycle-Integration-Tool-(CALIT))
- 19 <https://www.acq.osd.mil/>
- 20 <https://www.acq.osd.mil/dpap/pdi/cyber/index.html>



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Good Stock

Using Market Intelligence to Build a U.S. Supply of Government Working Dogs

Most government working dogs are imported from Europe. The DoD and the Air Force are working to develop a domestic breeding base through a methodical approach to category management market intelligence.

JULY 29, 2009 AFGHANISTAN

Fixed on the scent of two Afghan insurgents, Cairo, a four-year-old, 70-pound Belgian Malinois combat assault dog, jumped a low stone wall. His handler, Navy Seal Will Chesney, could only see Cairo's head bobbing and weaving among trees before he lost sight of the dog.

Even for a canine SEAL "who jumped out of planes, fast-roped out of helicopters, traversed streams and rivers, sniffed out roadside IEDs, and disarmed—literally, in some cases—insurgents," this kind of mission was especially dangerous. The likely insurgents were heavily armed, probably desperate, and none of the SEALs knew where they were. Outnumbered and outgunned by the pursuing SEALs, the insurgents still had the advantage of surprise.

Cairo's job was to neutralize it.

The by-then battle-hardened Cairo was part of a federal canine force that now numbers nearly 5,000. Malinois are one of three breeds, along with German Shepherds and Labrador Retrievers, that make up 83 percent of the total corps. Patrol dogs are coveted for their controlled aggression skills and employed for "bite work," such as tackling and immobilizing suspected terrorists and criminals. Detection dogs shine at identifying explosives, drugs, currency, contraband of all sorts, and even cadavers using their exquisitely sensitive sense of smell. Some, like Cairo, are both patrol and detection trained, in his case to find and alert his handler to hidden explosives.

Especially since the 9/11 terrorist attacks on the United States, both types of working dogs have been in high demand by law enforcement and militaries worldwide, not to mention private security forces, corporations, and even individuals. However, the U.S. government has battled a shortage of domestically born and bred working dogs for decades.² Some 93 percent of government canines are imported from Europe, where the United States must compete



Cairo, a mixed Belgian Malinois Navy SEAL combat assault dog, accompanied his handler on the raid that brought down Osama bin Laden. This is Cairo ready for a day of training in Ontario, California.

Working on “bite training” with Cairo and another trainer. Note the bulky bite suit worn by the “target.”
Photos: Will Chesney



with other governments – including China, Russia, and deep-pocketed Saudi Arabia – that have less stringent working dog standards than ours. European dogs cost 40 percent less than those bred domestically, an average of \$5,500 each compared to \$9,100 in the United States.

Even U.S. dog suppliers buy the animals they sell to federal agencies and federal, state, and local law enforcement from Europe. For example, in 2019, of the 427 dogs bought by the Air Force, 214 came from domestic suppliers and 213 from overseas,³ yet even among the 214 domestically sourced dogs all but 20 were born in Europe. James Lyle, who owns Kajun Kountry Kennels and has supplied more than \$3 million in dogs to the Air Force and Homeland Security Department⁴ since 2010, buys dogs from a seller in the Netherlands. Lyle says he charges the government \$25,000 for a Malinois, more than twice the price in 2010, and nets \$10,000 or more per dog.⁵ (See **Fig. 1** on page 44 for a breakdown of working dog purchases by agency).

The 14 biggest government dog buyers spend \$80 million a year with 140 vendors worldwide on working dogs and their sustenance – everything from veterinary care to kibble and biscuits (See **Fig. 2** on page 45). Demand for dogs continues to rise. The canine corps is expected to grow from 5,000 to 6,600 in 2023.⁶ Further, federal agencies aren't just competing with foreign governments for dogs, they're competing among themselves.

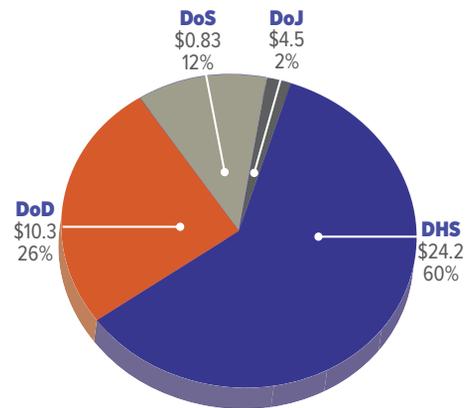
These problems were a ripe target for the governmentwide category manager for security and protection, Jaclyn Rubino, an executive in the

DHS strategic programs division. In late 2018, she pulled together a working group to create a governmentwide category intelligence report (CIR) on working dogs. Rubino named the U.S. Air Force, the Defense Department's executive agent for working dogs, to lead the CIR team. As a result, the team adopted the Air Force's rigorous category management intelligence approach.

"What we mean by [market intelligence] is doing much deeper than your traditional market research," according to Roger Westermeyer, director of enterprise solutions support for the Air Force Installation Contracting Center. "Really what we're after is to really understand how markets operate, how industry operates. What is emerging technology? What are industry best practices?" The Air Force uses that intelligence to shape requirements for procurements – because "the closer your requirements align with industry the better" – and to inform its acquisition strategies, he said during a webinar, "The Case for Market Intelligence in Contract Management," cosponsored by NCMA and the Defense Acquisition University on November 10, 2020. The Air Force seeks to "get outside the fence line" to talk to and understand industry, he added.

Market intelligence is integral to the Air Force's practice of category management, which Westermeyer described as "a business process where we're analyzing the spend and looking for opportunities to be more efficient, to reduce costs, and enhance mission effectiveness. It's not just a cut drill or cost drill, it's really looking for opportunities to improve how we actually do the mission."

FIGURE 1. Federal Working Dog Purchases Fiscal 2014-2019 (\$millions)



CIRs support the category management program with deep-dive analysis of a product or service category across the Air Force or the Department of Defense (DoD). Conducting a CIR generally takes about six months and entails talking to contracting professionals, end users, subject matter experts, and parsing asset management data – for example, the square footage cleaned and level of service at each Air Force facility to derive custodial cost per square foot for every base. CIR teams also use industry analysis tools such as ProcurementIQ and IBISWorld, which provide reports on industry segments, covering emerging trends, pricing, major players, and the like. They also consult with other buyers in government and outside to benchmark the Air Force's costs, practices, and performance and find opportunities for improvement. "Usually when we complete a CIR, we have eight to 10 recommendations on how to reduce costs and improve performance in this particular project, Westermeyer explained."

The government working dog CIR began in April 2018 at Joint Base San

Evacuated to the veterinary hospital at Bagram Airfield, Cairo pulled through and was transferred to Lackland, with its large war dog training center and medical and rehabilitation facilities. By Fall 2010, he was fully recovered and back on active duty with Chesney. Photo: Will Chesney



FIGURE 2. Working Dog Creature Comforts

- ▶ Veterinary Services – frequent medical evaluations, surgeries, rehabilitation
- ▶ Medication – various medications for dogs
- ▶ Food – food/nutrition supplements for dogs
- ▶ Equipment – collars, leashes, food/water bowls, explosive training aids, etc.
- ▶ Kennel – requirements vary depending upon agency operational environment
- ▶ Obstacle Course – made of various materials (e.g., concrete, wood, plastic)
- ▶ Vehicles – Sport Utility Vehicles or pickup trucks
- ▶ Trailers – climate-controlled trailers to transport dogs
- ▶ First Aid Kits – always kept with handlers; certain items contain expiration dates
- ▶ Airline Transportation – Delta, American and United have denied MWD “excess baggage” due to crate size and refused dog in cabin due to size

Antonio-Lackland, where representatives of 10 agencies met to discuss the commonalities and differences in their working dog programs. Lackland is the home of the Air Force 341st Training Squadron, which provides trained dogs to DoD, other agencies, and allied nations. Its DoD Military Working Dog Program breeds Malinois but meets only about 12 percent of DoD’s needs.

JULY 29 INSURGENT FIREFIGHT, AFGHANISTAN

Cairo wound up at Lackland after the July 29 operation.

Out of Chesney’s sight, the war dog followed the insurgents’ scent. He found them, one on the ground, the other in the low branches of a tree. He went for the one on the ground. But the man in the tree fired point-blank on Cairo from above. He was hit in the chest and the right foreleg.

But those shots also meant Cairo fulfilled his mission. They gave away the insurgents’ position, neutralizing their only advantage. The SEAL team moved in and killed them.

Hearing the gunfire, Chesney began calling his dog and buzzing his electronic collar to get him to withdraw. Forced by his injuries to round the wall instead of jumping it, Cairo heeded Chesney’s command more slowly than usual. But he did it. “With a nearly shattered leg and a gaping chest wound, Cairo staggered home to Dad.” He lurched toward Chesney and tipped over.

“Cairo barely reacted as the medic ripped open packages of gauze and stuffed them into his chest wound. One after another, deeper and deeper, his fingers disappearing into the hole. There was so much blood, so much damage.”⁸

The CIR team gathered at Lackland in 2018 quickly discovered that dogs were one of the few things they all had in common. “It’s all one working dog program, but every single agency has a completely different mission set,” Air Force Captain Carla Cimo told the webinar audience. “We were doing things very, very differently. All using different contract vehicles, all had completely different training and

evaluation methods.” Agencies also preferred different breeds that were more appropriate to their mission sets (Malinois and German Shepherds for DoD, Labs and Malinois for the Justice Department, for example). Homing in on price, availability, and quality, the team narrowed its scope and began to address common challenges.

Using the Air Force approach (See Fig. 3 on page 46), the team collected requirements from the 14 agencies – the scope of their programs; the dogs, products, and services they were buying; their standards and practices. Dog program managers, subject matter experts, discussed challenges, procedures, and opportunities to collaborate. At Lackland, the Air Force and the Transportation Safety Administration (TSA) already collaborate: The Air Force maintains the facility and provides vet care while TSA delivers training. Acquisition and contracting professionals present learned the range of program requirements.

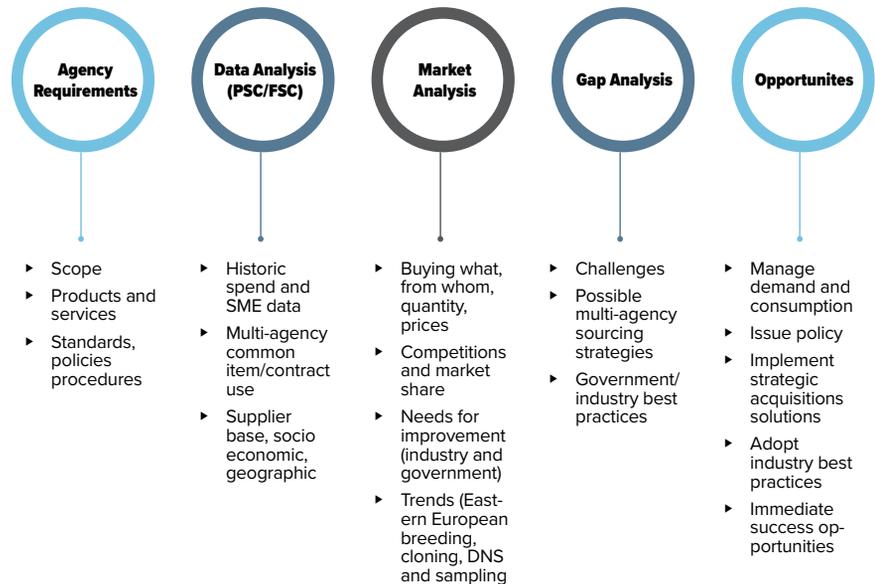
The CIR team derived working

dog spend for each agency by analyzing Product Service Code and Federal Supply Class data and information from SMEs. For its market analysis, the team discovered what dogs government was buying from whom for how much across all 14 agencies. Team members calculated the U.S. government share of the worldwide working dog market. Concurrent research by students at the Naval Postgraduate School showed, for example, that DHS was buying from 66 vendors in 26 states, while DoD was using 25 in 16 states, with a concentration in Texas around DoD's dog selection site at Lackland. Defense also spends less with small businesses than does DHS, they found, and prices paid vary widely across agencies.⁹ The team also studied Eastern European breeders and their dogs' genetics. (See **Figure 4** on page 47 to see which federal agencies use working dogs).

Team members interviewed other governments in the United States and abroad. "We interviewed the NYPD [New York Police Department]; we interviewed Chicago Fire; I interviewed the California State Highway Patrol," Cimo recalled. "We wanted to see what vendors they were working with and just get a feel for their programs to see what conclusions we could also draw based on that supplier base and the quality and the cost of dogs."

A request for information netted more than 40 respondents. "About 10 percent of them were current vendors, but that was really good," Cimo said. "We hadn't got robust feedback on our current acquisition processes in the working dog arena until that RFI was released." The team also held two industry days, one in Germany. "So,

FIGURE 3. The Air Force's Approach Category Management Market Intelligence



we got to actually go to the source, talk to the actual breeders and dealers in Germany and also just dig in and get a better feel of that supply chain," Cimo said. "We also held an industry day down at Joint Base San Antonio. Our [Contiguous United States (CONUS)] vendors came to that one."

Gap analysis showed the team how federal agency practices departed from those common in the worldwide market, as well as possible improvements. The CIR unearthed considerable challenges for the more than 2,000 federally licensed U.S. breeders. For example, the government imposes large costs and wear on candidate dogs by requiring breeders to travel to government sites for evaluation and could ameliorate the burden by making regional buying trips across the country. Varying working dog standards and contracting approaches among agencies, along with unpredictable demand add cost and com-

plexity for U.S. breeders, who already pay more for labor and supplies than do European breeders.

The CIR, issued in September 2020, recommended:

- ▶ Annual governmentwide purchase forecasts;
- ▶ Adoption of acquisition best practices;
- ▶ Establish a U.S. small breeder communication plan to ease the way for U.S. breeders into the federal market and increase domestic supply of capable dogs;
- ▶ Standard working dog travel requirements for airlines; and
- ▶ A national emergency response plan for explosive detection dogs.

Longer-term options included:

- ▶ A center of excellence for working dogs using category management to manage demand, issue policy, develop strategic acquisition solutions, and employ industry best practices;
- ▶ Establish multiagency or gov-

ernmentwide breeding programs for breeds in highest demand;

- Evaluate DNA mapping to predict a dog's changes of success;
- Support maturation of the U.S. working dog industrial base; and
- Standardize some aspects of working dog first aid kits.

Especially during the COVID-19 pandemic, government agencies and all U.S. buyers have become acutely aware of the danger in relying too heavily on supply chains based in other countries. So, the working dog CIR's focus on building a domestic breeding base has taken on more urgency. "Say something happens, a national emergency, and we don't have a healthy U.S. industry base to provide our own dogs. We have to go over to Europe, to our [outside the contiguous United States (OCONUS)] vendors, and get dogs. Everyone was very uncomfortable with that," Cimo said.

MAY 2, 2011, ABBOTABAD, PAKISTAN

In 2011, Chesney and Cairo were reassigned apart. A six-year-old and with two deployments and serious injuries under his belt, Cairo became a spare dog. Spending most of his time in a kennel at the SEAL dog program in Virginia, he could easily fit in with a new handler or unit should another dog be injured, killed, or deemed unfit for duty.

Chesney had just started Military Freefall Jumpmaster Course in Arizona, when he got a call to return to Virginia and pick up Cairo for an unnamed mission. Not until they reached a secret training facility in North Carolina did they find out their target was Osama bin Laden, leader of Al Qaeda and mastermind of the 9/11 attacks.

Intel showed bin Laden holed up

in a compound surrounded by 10- to 20-foot walls in Abbottabad, Pakistan. A week of training day and night in a full-sized replica of the compound was followed by another in the Southwest acclimating to climate, altitude, and geography that mimicked Abbottabad's, boarding helicopters and rehearsing the mission repeatedly.

Chesney and Cairo were to secure the outside of the compound against Al Qaeda, local police, or curious neighbors.

Around 11 p.m. on May 2, 2011, Chesney and Cairo took off with a dozen or so SEALs in a Black Hawk helicopter, one of two headed for bin Laden's suspected compound. Despite the need to ditch one of the helos, the operation succeeded and bin Laden was killed.

The acclaim that followed included Silver Stars for all involved save Cairo. But he did get a private meeting with then President Barack Obama and then Vice President Joe Biden at Obama's request.

*After bouts with alcohol abuse, wounding by a grenade, a long run with severe migraines, and host of bureaucratic delays, Chesney finally took Cairo home to retire. The Netherlands-born mahogany and black Malinois died in his bed on April 2, 2015. Chesney carries Cairo's ashes whenever and wherever he travels. **CM***

ENDNOTES

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FIGURE 4. Government Working Dogs

DEFENSE DEPARTMENT

- ▶ Air Force
- ▶ Army
- ▶ Navy
- ▶ Marine Corps

HOMELAND SECURITY DEPARTMENT

- ▶ Secret Service
- ▶ Transportation Security Administration
- ▶ Customs and Border Protection
- ▶ Coast Guard
- ▶ Federal Emergency Management Agency

JUSTICE DEPARTMENT

- ▶ Bureau of Alcohol, Tobacco, Firearms and Explosives
- ▶ FBI
- ▶ U.S. Marshals Service

STATE DEPARTMENT STATE DEPARTMENT

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- 8 Ibid. Chesney
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POST ABOUT this article on NCMA Collaborate at <http://collaborate.ncmahq.org>.

Farewell Dear “MB”

From time to time a community such as ours includes someone so vibrant, so caring, so full of fun that our members are genuinely anxious to meet up with them at the next conference or event. Mary Beth Lech was unquestionably that person – and more.

In January, our community learned of the loss of Mary Beth, or “MB,” as most knew her. NCMA CEO Kraig Conrad received an outpouring of e-mails expressing sadness, but also very special individual connections with Mary Beth.

One longtime NCMA member called Mary Beth an NCMA most valuable player, recognizing her as “principally responsible for the tremendous vitality and esprit de corps found in NCMA’s local Chapters.” Another member called her the lifeblood of the Chapters, explaining she served in several Chapter offices, served at the national level as a member of the Board of Directors and Treasurer, and worked on numerous task forces and committees that helped shape the future of NCMA. A fellow NCMA staff member and colleague, Chuck Woodside, credits her with touching the “lives and careers of thousands of NCMA members.”

In 2010, Mary Beth received what was then the Charles A. Dana Distinguished

Service Award, presented to individuals who have provided distinguished service to NCMA over an extended period of time.

On January 27, our community expressed its love for Mary Beth with an online Celebration of Life. Attending were her longtime NCMA colleagues, including 11 past NCMA presidents, CMLDP alums, and even an NCMA member from Ghana for whom Mary Beth went above and beyond to provide support as he gained his CPCM, CFCM, and CCCM. Member after member spoke of their personal memories with Mary Beth. Their comments consistently alluded to their sense of gratitude to her for seeking them out, insisting they “volunteer” for projects, and including them in her revelry. Another major theme was a strong recognition of her role in developing new Chapters as well as new Chapter leaders, with unanimous agreement that she was our “Mother of All Chapters.”

Wow! What a lady and what a leader!

I’ll close with a memory from (CMLDP alum) Cassandra Manos, who recalls Mary Beth’s national conference tradition, explaining that she always greeted members as they arrived, took photos of the best shoes, and posted them



on social media. Mary Beth, an NCMA member for 30 years, knew a thing or two about event icebreaking and member bonding. She clearly knew how to help everyone feel a part of NCMA.

How fortunate our NCMA community has been to know and love Mary Beth. She will be missed.

Here’s hoping we’ll all meet up with such a person who has that special sauce and inclination to follow in Mary Beth’s amazing footsteps. After all, “if the shoe fits...” **CM**

Denean Machis, CPCM, Colonel, USAF (retired)

- ▶ Chief Professional Development Officer, NCMA

“I have known Mary Beth for over 20 years and have always been in awe of not only her professional knowledge but her amazing dedication to, and efforts on behalf of, NCMA.”

Karen Reuter



Mary Beth (center) posing with NCMA members, Debbie Eytchison (left), Blue Ridge chapter, and Tammy Olilla (right), Northern West Virginia chapter, at NCMA's Government Contract Management Symposium, December 2017.

Phrases Used to Describe Mary Beth at her Celebration of Life on January 27, 2021:

WANTED US TO SUCCEED

Graalman Lady

MVP

She believed in us

Mother of All Chapters

Such an impact on my life

Never made excuses

Refused to take credit

Made things happen

REALLY DELIVERED

Always there

Made you feel welcome

No one more loyal to NCMA

Don't Just Buy American, Build American

 Welcome to *Supply Lines*, a bimonthly column about the intersection of supply chain management and contract management. This special, out-of-sequence *Supply Lines* discusses a recent Biden administration executive order that will require contracting professionals to collectively reexamine Buy American supplier systems.

 n January 20, Joe Biden was inaugurated as president and began signing a flurry of executive orders (EOs) that have major implications for supply chain and contract management. Our focus is EO No. 14005, “Ensuring the Future Is Made in All of America by All of America’s Workers,”¹ signed by Biden as part of his Build Back Better commitment to increase investments in U.S. manufacturing and workers.

Past and current policies have set preferences for purchasing American-made products. To meet today’s global reality, we need to come to grips with the fact that the state of markets for many products (and some services) make American solutions infeasible. Those cases require an approach that bolsters the availability of domestic and Pan-American sources, as well as strategic global sourcing partnerships. We need more than just a “buy” strategy; we need a “build”

strategy based on a concept of global independence. To increase domestic production, we must grasp the reality of what 20 years of outsourcing to low-cost economies has done to our economy and the sourcing structure for most products we buy today.

Background: The Buy American Act

The Buy American Act (BAA)³ was first signed into law in 1933 to respond to the Great Depression by restricting public procurement of supplies that are not domestic end products.⁴ End products under the BAA include construction and some products supplied under services contracts. The key aspect of this legislation is its focus on the manufacturing source. For example, American goods sold by a foreign company are still considered domestic, while foreign-manufactured goods sold by an American company are not. There are plenty of exceptions, which are determined by agencies on a case by case or blanket basis (See **Table 1** on page 51).

Recent Buy American and Domestic Resource Policy

In April 2017, then-President Trump signed EO No. 13788, titled “Buy American and Hire American: Putting American Workers First,”⁵ mainly focused on enforcing illegal immigration hiring restrictions. It did not address the procurement of American goods or services. President Trump also signed EO No. 13953 in September 2020, titled

“Addressing the Threat to the Domestic Supply Chain From Reliance on Critical Minerals From Foreign Adversaries and Supporting the Domestic Mining and Processing Industries.”² This EO sought to increase mining and manufacturing for critical materials necessary to U.S. economic interests. The Trump administration took additional executive action to ban communication applications WeChat and TikTok and their owners as part of a supply chain security initiative in 2020⁸.

Concerns

In April 2020, the Trump administration sought to take additional executive action to bolster Buy American provisions. The Center for Strategic and International Studies (CSIS) provided a critique of Trump policy citing concern about increasing the Buy American focus amid the constraints and challenges posed by the COVID-19 pandemic. CSIS also noted 2018 Government Accountability Office findings³ that, based on current waivers and exceptions, only 5 percent of federal obligations are for foreign end products subject to the BAA. What’s more, many are for defense equipment intended for use outside the U.S. and therefore exempt from the BAA entirely (See **Fig. 1** on page 51)⁴.

The GAO report shows that less than 2 percent of foreign goods are purchased via waiver or DoD exception.⁵ So, actions to increase the procurement of American-made goods would have to focus elsewhere. CSIS’s

TABLE 1: Buy American Act Exceptions From Federal Acquisition Regulation (FAR) Part 25

BAA EXCEPTION	FAR DESCRIPTION	FAR WRITTEN DETERMINATION AUTHORITY
PUBLIC INTEREST	When domestic preference would be inconsistent with the public interest. This exception applies when an agency has an agreement with a foreign government that provides a blanket exception to the Buy American statute (Most notably the World Trade Organization's Government Procurement Agreement).	Head of agency or as delegated
NONAVAILABILITY	The BAA does not apply with respect to articles, materials, or supplies if articles, materials, or supplies of the class or kind to be acquired, either as end items or components, are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.	Head of agency or as delegated
UNREASONABLE COSTS	The contracting officer may determine that the cost of a domestic end product would be unreasonable, in accordance with FAR 25.105 and subpart 25.5.	Contracting Officer
RESALE	The contracting officer may purchase foreign end products specifically for commissary resale.	No FAR requirement
INFORMATION TECHNOLOGY THAT IS A COMMERCIAL ITEM.	The restriction on purchasing foreign end products does not apply to the acquisition of information technology that is a commercial item, when using fiscal year 2004 or subsequent fiscal year funds (Section 535(a) of Division F, Title V, Consolidated Appropriations Act, 2004, and similar sections in subsequent appropriations acts).	No FAR requirement
MICROPURCHASES	BAA does not apply to procurements below the micro-purchase threshold (generally \$10,000).	No FAR requirement

main critique is that restricting federal procurement will do little to affect the private market purchasing decisions that overwhelmingly drive manufacturing and supply chain availability in the United States, especially of healthcare and medical supplies and services. The focus on federal procurement also reflects a lack of understanding of global supply chain structures.

Review of the Biden EO

The current EO attempts to update domestic preferences by:

1. Directing agencies to close current loopholes in how domestic content is measured and increase domestic content requirements;
2. Appointing a new senior leader in

- the Executive Office of the President in charge of the government's Made-in-America policy approach;
3. Increasing oversight of potential waivers to domestic preference laws;
4. Connecting new businesses to contracting opportunities by requiring active use of supplier scouting by agencies;
5. Reiterating the President's strong support for the Jones Act;⁶ and
6. Directing a cross-agency review of all domestic preferences.

Point 1: Closing Loopholes and Increasing Domestic Requirements

This action increases the required domestic manufacturing percentage

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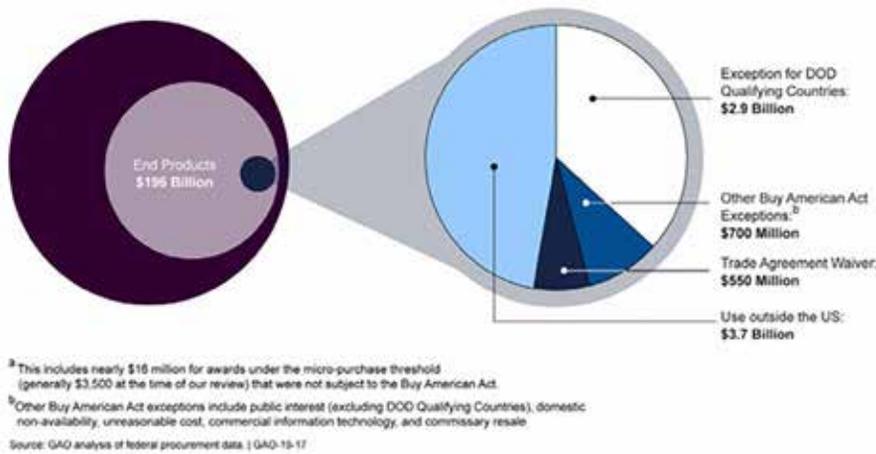
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FIGURE 1: Foreign End Product Contract Obligations and Associated Exceptions and Waivers, Fiscal year 2017



to an undefined amount (in addition to a recent 50 to 55 percent increase – 95 percent for iron and steel products – under a Trump-era policy) and increases the price evaluation differential for non-domestic product evaluations.⁷ This price differential is not defined within the EO. The order also changes the manufacturing percentage from a component-based test under FAR Part 25 to a total-added-value basis (also not defined).

The primary concern here is that these changes will not increase the availability of critical manufacturing resources. It is hard to imagine how much difference a recent 5 percent increase in domestic content costs will make in markets where no domestic source exists. In these cases, the government will have to establish other incentives for such sources to manifest. In many cases, entering these markets requires large capital investments and years to establish learning curves strong enough to overcome the vast difference in U.S. versus overseas labor costs. We also must guard against unintended consequences.

For example, if 55 percent of manufacturing component costs must come from U.S. sources, profit-motivated companies could hit the required percentage domestically while still relying on cheap overseas labor and raw materials to offset their total manufacturing costs. However, increasing the percentage could lead to negative downstream impacts to global supplier workforce conditions. Firms could further squeeze overseas labor costs to increase the share of domestic product costs to qualify for BAA. Perhaps the total-added value definition will address this concern, but this remains to be seen.

Assessments of domestic cost contribution should be tied to value in terms of product outcomes as well as production. The key questions should be “Do the components provided by domestic sources overwhelming contribute to its functionality?” and “Does the overall product component sourcing structure minimize the risk of global supply disruption?”

The change to a 55 percent domestic cost threshold would not have

solved the shortages of personal protective equipment and medical supplies needed for COVID response. Requiring that 55 percent of component costs be from American sources is a pipe dream for the N95 mask market, for example. Even before 2020, 95 percent of those masks were produced outside the United States. To ensure the government prefers American-made goods and services, the entire product value chain must be assessed for all categories deemed critical to national security (physical, economic, and health).

Rather than focusing goals on product costs, the target should be core components that endanger national security if they run short due to global supply disruption. If nonwoven material is not the most expensive component in manufacturing masks, it doesn’t matter. Without it, manufacturing cannot occur in the first place. So, the goal should be to ensure U.S. access to such keystone components, not simply to ensure 55 percent of manufacturing costs are supplied here.

It also is unclear how procurement personnel are to determine whether a price is so unreasonable as to trigger a BAA exception and choice of an overseas source over a U.S. provider. The overseas vs. domestic difference in labor rates makes price reasonableness determinations hard for most government contracting professionals.

Point 2: Executive Officer for Made-in-America

This action is promising. Gaining top-level buy-in is critical to driving institutional change. However, this role seems quite broad. We recommend

the director of Made-in-America at the Office of Management and Budget take a category-management approach to instituting the new BAA enforcement actions. Having a whole-of-government picture will be necessary to implement all other lines of effort under this EO. We recommend that the director work with the Office of Federal Procurement Policy (OFPP) to establish Buy American advocates within each federal spending category and each federal agency to keep abreast of products that are domestically available but not leveraged and to identify critical life-support and -sustainment markets with limited domestic sources of material or manufacturing (e.g., medical supplies, critical food products and plants – such as rubber trees – textiles, rare earth elements, etc.).

Point 3: Increase Domestic Waiver Oversight

We agree that having the General Services Administration (GSA) publish all existing BAA waivers is important. However, the waiver and exception provisions of FAR Part 25 are complex and confusing. We recommend that the Director of Made-in-America and GSA establish a natural-language-processing-enabled application that works similarly to TurboTax. The software would allow procurement personnel to answer a string of basic questions that lead to an indication of “waived,” “exception,” or “no waiver or exception” with an associated link to the appropriate BAA waivers and exception rules. This system could be updated in real-time to ensure that only current waivers and exceptions are considered.

Waiver overseers should acknowledge that for certain industries,

re-shoring is unlikely ever to happen. The costs of transferring an entire industry are too great, and no entity is likely to take on the investment risks knowing full well that it never will be competitive with less expensive, entrenched foreign suppliers.

Point 4: Supplier Scouting

This is a very promising directive. Essentially, it requires the use of robust and persistent market intelligence to enable agencies to become aware of nascent or opaque domestic sources of

manufacturing via the Hollings Manufacturing Extension Partnership (MEP)⁸ in all 50 states and Puerto Rico. We again recommend the use of category management and coordination with OFPP as the best first steps for organizing this effort. We have previously written about the concept of orbital market intelligence to stay abreast of sourcing solutions.⁹ We further recommend that the director of Made-in-America consider manufacturing capabilities incubated, grown, and advanced by the U.S. university system (e.g., advanced textile

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FIGURE 2: Build American Public Procurement Dovetail Strategy for U.S. Supply Chain Global Independence.



Source: Finkenstadt, D.J. 25 January 2021

manufacturing capabilities at the Wilson College of Textiles at North Carolina State University, which responded in the early months of the pandemic with much-needed nonwoven materials).

Point 5: Support for the Jones Act

Though the White House summary states that support for the Jones Act is a critical feature of the recent EO, it is only mentioned once to clarify that it qualifies as a Made-in-America for domestic preference. The Jones Act regulates maritime commerce in the United States. It requires goods shipped between U.S. ports to be transported on ships that are built, owned, and operated by United States citizens or permanent residents. We agree the Jones Act should continue to be supported, but do not see how it is considered a central feature of this EO.

Point 6: Cross-Agency Review of Domestic Preference

The concept of biannual reviews for potential domestic service and

manufacturing opportunities seems reasonable. The EO calls for updates to the list of nonavailable articles at FAR section 25.104(a) and a prompt review (“prompt” is not clearly defined) of information technology that qualifies as a commercial item. We encourage these reviews to consider how requirements are developed and defined.

Demand management and requirements development are cornerstones of sound category management. Coupled with strong market intelligence, demand management can lead to novel solutions that can open areas of innovation that increase the availability of domestic sources. For example, as part of a Hacking for Defense¹⁰ project, a team of MBA students at the Naval Postgraduate School recently presented Army Futures Command with a set of novel solutions to aid in developing a strategy for advanced textiles. The students mapped the textile manufacturing value chain, identified the scope of textile products used by the Army, and surveyed existing and developmental

automation and robotic assembly technologies. The effort included recommendations on the use of 3-D printing and nascent cut-and-sew automation to increase opportunities for domestic sourcing to meet Army needs. Such projects should be scaled across multiple federal spending categories to identify new or emerging Buy American opportunities.

Additionally, the PPE industry has high potential for domestic growth due to the existence of a textiles industry in the Southeast United States that is ready to adapt to nonwoven materials and mask production. Though much of the manufacturing had moved overseas, the necessary infrastructure, technical knowledge, skills, and abilities still remain within the local population and university system of states like North Carolina. Further, the United States has significant pharmaceutical and biotech production already and has potential for growth.

Government engineering staff should take care to seek and apply industrywide specifications to maximize the likelihood that domestic manufacturers serve the larger market and do not become overly reliant on federal buyers.

Final Recommendations

The Biden administration’s early push for improving Buy American policy is encouraging, but it needs further development. We offer the following top-level recommendations, intended to play off one another to develop domestic availability for critical products and services within the public procurement portfolio (See Fig. 2 above).

1. Increase procurement of American-produced items and services in

- areas where supply is prevalent. Despite some myopia, the EO ideal of encouraging more Made-in-America products still is a noble endeavor. Focus on high-tech areas wherein protecting intellectual property (IP) is critical.
2. Invest in American raw materials and manufacturing in high public-sector demand but low supply. At the same time, focus Buy American requirements on end items for which we need to build domestic capacity over time as markets mature.
 3. Work toward a strategy of global independence. Look to Pan-American sources for products and raw materials that currently come from other suppliers with long production cycles and/or that are geographically distant from the United States whose supply could be blocked by international trade policies or hoarding during global emergencies.
 4. Under the same global independence strategy, develop strong trade/supply partnerships with global partners who are willing to share transparent data on supply chain status and risks using safer and stronger technologies such as distributed ledgers.

Final Thought: Don't put the Buy American status decision on individual buyers or contracting officers. Elevate that determination and develop approved supplier systems for each federal spending category managed under this initiative. Make these systems accessible to all public procurement personnel and requirement developers. Allow emerging solutions to be added to create not just a Buy American strategy, but a Build American one. **CM**

Daniel J. Finkenstadt, Maj. (USAF), PhD

- ▶ Assistant Professor, Graduate School of Defense Management, Naval Postgraduate School.

Rob Handfield, PhD

- ▶ Bank of America University Distinguished Professor of Supply Chain Management, North Carolina State University.
- ▶ Director, Supply Chain Resource Cooperative (<http://scm.ncsu.edu/>).
- ▶ Also serves on the Faculty for Operations Research Curriculum, North Carolina State University.

**Disclaimer: The positions, opinions and statements in this column are those of the authors and do not reflect the official positions of the United States Air Force, Department of Defense or Federal Government.*

ENDNOTES

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WELCOME TO INNOVATIONS—

a column designed to help you navigate this time of vibrant change by bringing you inspiring ideas, approaches, and methods you can apply.

As the innovation imperative spreads across the Department of Defense (DoD) and into civilian agencies, government is looking for the secret sauce that makes private sector innovation so seemingly successful. Geoff Orazem and Peet van Biljon find plenty of similarities between public and private innovation, with differences primarily in speed and, not surprisingly, risk tolerance.

I was particularly struck by their recommendation for more marketing by government. Having once written a column titled “So Many Innovation Hubs, So Hard to Find Them,” I am only too familiar with government’s troubles connecting with innovative companies. As Orazem and van Biljon point out, venture capitalists constantly market themselves to startups.

The 2021 National Defense Authorization Act prods DoD in this direction by requiring the department to publish a list of all its other transaction authority consortia. Run by nonprofits, these entities assemble groups of mostly nontraditional defense suppliers and disseminate to them requests for white papers in response to programs’ solicitations for innovative solutions.

Similarly, the General Services Administration’s (GSA’s) new governmentwide acquisition contract (GWAC), Polaris, is designed to attract small businesses selling innovative technology. GSA points out that Polaris is the guiding star, and its namesake GWAC is designed to guide innovative firms in navigating the market. Orazem and van Biljon serve up plenty more ideas here. Enjoy!



Anne Laurent
NCMA Director of
Professional Practice
and Innovation

What Makes Public Sector Innovation Different?



BY GEOFF ORAZEM AND PEET VAN BILJON

As practitioners and teachers of innovation, we often get asked: How is innovation in the public sector different than in the private sector?

When government managers and workers ask, they almost always have another question on their minds: “How can I successfully innovate in the public sector to overcome the special challenges and constraints at a government agency?” Sometimes, there’s even a hint of an excuse: “You have to understand that it’s tougher for us. We have constraints that they don’t have in the private sector.”

Let’s peel the onion a bit on what really is different; what *seems* different but is actually quite similar; and what is the same between public and private sector innovation.

Speed and Risk

The major differences between private and public innovation are speed and risk tolerance. Overall, the private and public sectors are similarly risk tolerant, but how they conceptualize

risk and the types of risk each will accept can be quite different.

Private companies generally innovate faster, but often prefer to make bets on proven technologies that can deliver revenue or other commercial benefits quickly. The public sector usually moves more slowly but is willing to take on higher technology risk and invest in long-term research that could take decades to mature.

Fig. 1 on page 57 is an illustration of the time lag between investment and returns for various types of public (green) and private (blue) sector programs. (See **FIGURE 1** on page 57) Table 1 is a comparison of some of the main differences between public and private sector innovation. (See **TABLE 1** on page 59).

Success Factors

Whether you are innovating in the public or private space some common principles hold true, even if the terminology used is sometimes different.

1. **Align with strategy.** All innovation efforts need to fit into and align

FIGURE 1. Typical Time from Funding to Return for Various Public and Private Programs¹



with the overall strategy of the organization. In the private sector, this might be a particular growth strategy. In the public sector, this is the overarching mission of the agency. Without a strong, easily communicated connection between the proposed innovation and the investor’s goal, the project is unlikely to get management support or funding.

2. **Pick growth markets.** Being in the right place at the right time is as important in innovation as in life. In the private sector, picking the hottest sector within a growth market can compensate for many other flaws. For example, the best flip-phone maker will lag an average smartphone maker once consumer preferences have shifted, as Nokia found out to its detriment a decade ago. While not as visible, the public sector has growth markets too. Currently anything related to sensors or hypersonics seems to be getting funding.
3. **Allocate resources consistently.** Innovation must be properly resourced, no matter the sector. The Defense Department (DoD) may

declare that artificial intelligence (AI) is the future of national security, but actual budget allocations will be a more accurate assessment of DoD priorities.

4. **Get differentiated insight.** Truly differentiated insight has three main sources:

- Future consumers and their needs and desires.
 - For example, the government identified that cybersecurity experts were concerned with how quantum computing would affect password-based security and

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began investing in communities and events to explore the topic.

- Capabilities of current and new technology.
 - The government is the funder for deep tech, for example, the Global Positioning System (GPS), semiconductors, solar power, and the like.
- New business models in similar industries and situations.
 - The Air Force and Navy’s Dual-Use SBIR, and both the Defense Innovation Unit and the Air Force’s “Pitch Days” were modeled in part on best practices from private sector technology accelerators and VCs.

5. Experiment and iterate. Innovation requires both an organizational culture that enables experimentation culture, and a robust process for quickly prototyping, testing, and learning.

6. Execute with excellence. Innovation cannot succeed without proper execution, because innovation means building new things and changing the way things are done. Execution gaps are particularly visible in the launch and scale-up phases, but typically reflect mistakes made much earlier in the innovation process – for example, the troubled healthcare.gov launch.

7. Mobilize your organization. Whether in the private or public sector, successful innovation requires the efforts of many people. It always

requires leadership, healthy mechanisms for exchanging knowledge, and collaboration.

Adapting Innovation for the Public Sector

Public sector innovation can be more effective. Here are some suggestions:

- ▶ **Marketing:** Perhaps the single largest opportunity to improve government innovation is to make inventors and entrepreneurs more aware of it. Even the most respected and best-known venture capitalists market themselves and release white papers to attract the best companies. The government has funded some of the most impressive technologies of the last 100 years and has some of the most generous funding terms in the

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TABLE 1. Comparison Between Public and Private Sector Innovation

	PUBLIC SECTOR	PRIVATE SECTOR
INNOVATION'S PURPOSE & GOALS	To better deliver on a public mission To create/incubate a new sector or industry for the country	To increase revenue, decrease cost, and thereby drive returns for investors. Shareholder returns may be supplemented by environmental, social, and governance (ESG) considerations.
WHO TYPICALLY GETS FUNDED	Small group of universities, large labs, repeat Small Business Innovation Research (SBIR) winners, and large private companies that focus on public R&D projects.	Start-ups: Theoretically everyone with an idea, though in practice women and minority founders struggle. ² Established firms: Usually only designated managers who are authorized to apply for approval
WHAT GETS FUNDED	Mission-oriented technology	B2B and B2C product companies. For example: Social media products, consumer products, cyber security products
SOURCE OF FUNDS	Taxpayers	Private investors who expect returns.
END-USER/ FUNDER ALIGNMENT	The end user for the innovation, and the funder of the innovation tend to be different people in different parts of the organization who don't communicate.	Company innovation teams tend to be well connected to the end user. External innovation teams (venture capitalists (VCs) spend significant time understanding the market and end users.
FUNDING PROCESS	When: SBIR and STTR (the principal programs targeting early stage founders) have annual "solicitation windows," and if an innovator misses the window they might have to wait a year or more to compete for funding. Funds generally lost if not used during fiscal year. ³ Finance sequencing: Set funding rounds	When: Rolling investment rounds for startup with annual and quarterly budget cycles for established firms. Unused funds automatically available in next fiscal year. Finance sequencing: Size and volume of startup funding rounds tailored to the investor and inventor's needs.
RISK TOLERANCE OF INVESTORS	<ul style="list-style-type: none"> ▶ Open to long-term investments in high-risk technologies ▶ Do not care about commercial risk (they aren't trying to profit) ▶ Expect to see a strong track record 	<ul style="list-style-type: none"> ▶ Want little to not technical risk that could delay fielding ▶ Open to some commercial risk if it's quantifiable ▶ Open to first-time startup founders
COMPENSATING INVESTORS FOR THE RISK THEY ARE TAKING WITH THEIR MONEY	<ul style="list-style-type: none"> ▶ The government can better deliver on its mission ▶ National security and prosperity, economic growth 	<ul style="list-style-type: none"> ▶ Corporate Innovation: Increased profitability thanks to the innovation ▶ VC: Equity in investees
DECISION PROCESS	In the SBIR/STTR program applicants have one opportunity to submit a proposal per cycle and the government makes one decision whether to fund (black box review process)	Startups have multiple rounds of pitching, reviews, and revisions. Established firms have formal phase-gate approval processes to authorize funding for different project stages.
OVERSIGHT	Highly regulated with oversight from many internal and external groups (due to investment of taxpayer dollars in technologies that can affect millions of people)	As loose or regulated as shareholders and investors choose, subject to external constraints such as stock exchange rules, corporate law, and antitrust considerations.

research is critical and should be protected. However, we recommend that public sector funders be clear about these expectations, so inventors can quickly identify which programs are good for them. For example, founders with an intriguing idea frequently apply to the Dual-Use SBIR, which does not fund early-stage technology (although DARPA, NSF, and HHS love early-stage ideas). This lack of understanding about where founders should go leads to frustration and wasted effort by industry and government.

- ▶ **Short, deliverables-oriented public innovation:** For short-term and more outcomes-oriented innovation (such as the SBIR program) commercial innovation practices are applicable and should be followed. The Air Force and Navy are driving towards this with their short, VC-aligned application processes.
- ▶ **Connect end users and funders:** Requests for proposal and other requests for innovation should be crafted collaboratively with end users to ensure their needs are reflected and in ways that ensure that interested applicants understand what the government wants to fund.
- ▶ **Connect acquisitions and innovation:** Publicly funded innovation is typically planned, budgeted, and run by one group. In the DoD these tend to be service research labs like Army Research Lab or the R&D sponsoring organization. In civilian agencies, it

market. However, many innovators don't know that the government could fund them.

- ▶ **Differentiate between long-term R&D and innovation:** As discussed

above, the government is one of the few organizations that still performs long-term research into technologies that won't go to market for decades. This commitment to deep

varies but tends to be in a separate, nonoperational team. Generally, a different group, usually the contracting office, handles procurement of the proposed solutions. If the two are coordinated, this should not be a problem. However, in our experience, the two rarely work closely together. As a result, many government-funded solutions die in this transition. To address this, we recommend:

- Separate multiyear budgets for the acquisition of solutions coming out of innovation programs.
- Requiring end users (program offices) to contribute to seed-stage investments made for them (e.g., SBIR Phases I and II).⁴

- Create an indefinite-delivery-indefinite-quantity vehicle (IDIQ) to buy the solutions generated from innovation programs. The annual funding for the IDIQ could be set by looking at the number of solutions expected to mature in the following 12 months, and by looking at the historic innovation success rates. This would create contracting flexibility and agility so that solutions could rapidly transition to traditional contracting.

- ▶ **Pull-based funding:** Commercial investors typically have an area of interest. For example, they invest in cybersecurity or biotechnology. Their focus areas are sufficiently broad, however, that companies

with a range of good ideas can approach them and potentially get funded. This balance of specificity to create subject matter expertise with breadth to allow flexibility is critical to both funders and inventors. We recommend that public sector organizations follow this model by outlining the outcome they seek or the broad topic they are interested in without being overly prescriptive.

- ▶ **Iterative evaluation:** Federally funded innovation tends to be heavy on compliance and process. This creates transaction costs on both sides and is an area of improvement. The quick fix is to shift to a more iterative evaluation process so that new applicants who have promising solutions can make multiple

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attempts at delivering a compliant application when their innovation has merit. For example, in the application process the government could greenlight applicants, reject applicants, or provide feedback and allow inventors to resubmit for immediate reconsideration.

► **Focus on business solutions:**

Historically, we have seen the government fund substantive technology (e.g., material science, biotechnology) but not business process improvements. The government runs one of the largest bureaucracies in the world and could significantly improve delivery by funding and focusing on process improvement solutions.

The United States is in a challenging moment with historic levels of mistrust and discontent among Americans in their own government⁵ and pressure from near-peer competitors in China and Russia. The best way for the nation to meet these challenges is through innovation and bold leadership. Thankfully, the private sector already has established many best practices that government can adapt and follow. Additionally, the private sector and government could work together much more often if the private sector appreciated how the government funds and manages innovation and the government appreciated how the private sector commercializes successes. National innovation is strengthened when the public and private sectors work in tandem, each playing to their own strengths while complementing the other. **CM**

Geoff Orazem, JD

- Cofounder and managing partner, Eastern Foundry (an incubator for government technology companies)
- Founder of FedScout, a mobile app and platform to make the government market more accessible.
- Frequent speaker and educator on government innovation and funding topics.

Peet van Biljon, MEcon

- Founder, BMNP Strategies, LLC.
- Advises clients on innovation strategy, new product development, R&D transformation.
- Teaches a graduate course on innovation and public policy at McCourt School of Public Policy, Georgetown University.

ENDNOTES

1. The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are federal government seed fund programs run by 13 federal agencies that encourage U.S. small businesses to engage in federal research/research and development (R/R&D) with the potential for commercialization. Funding is awarded based on a competitive process. The STTR requires small businesses to partner with academic and other nonprofit research institutions.

2. Ilene H. Lang and Reggie Van Lee, "Institutional Investors Must Help Close the Race and Gender Gaps in Venture Capital," *Harvard Business Review*, August 27, 2020, <https://hbr.org/2020/08/institutional-investors-must-help-close-the-race-and-gender-gaps-in-venture-capital>.
3. National Bureau of Economic Research, "Use-It-or-Lose-It Budget Rules," *The Digest* No. 3, March 2014, <https://www.nber.org/digest/mar14/use-it-or-lose-it-budget-rules>.
4. <https://www.fedscout.com/blog?hsLang=en>; <https://www.sbir.gov/>.
5. [w.pewresearch.org/politics/2020/09/14/americans-views-of-government-low-trust-but-some-positive-performance-ratings/](https://www.pewresearch.org/politics/2020/09/14/americans-views-of-government-low-trust-but-some-positive-performance-ratings/)

SHARE YOUR STORY

Share Your Stories of Innovation!

NCMA would love to hear about your experiences with contracting innovation and any innovations you would like to share. Please write to Anne Laurent, NCMA Director of Professional Practice and Innovation, at anne.laurent@ncmahq.org.

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CE CREDIT TOWARDS NCMA CERTIFICATION AND RECERTIFICATION

NCMA congratulates those who obtained their NCMA certifications over the last several months. The following list includes newly certified CPCMs, CFCMs, and CCCMs whose official certification dates occurred between November 1, 2020 and January 31, 2021. Learn more about NCMA’s Certification Program at <http://www.ncmahq.org/certification>.

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Verdis Hall	Tyson	11/4/2020
Frank Harvey	Member-At-Large	11/5/2020
Benjamin C. Nieto	Member-At-Large	11/9/2020

NAME	CHAPTER	CERT. DATE
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James Johnson	Atlanta	11/19/2020
Francie Gribble		11/20/2020
Ajmal Khan	Washington DC	11/21/2020
Diego Plaza	NOVA	11/23/2020
Won Chung	Member-At-Large	11/28/2020
William Douglas	Washington DC	11/30/2020
Jodi Varnese	Member At-Large	12/1/2020
Dan Ellis	Member At-Large	12/5/2020
Mark Barela	Denver	12/10/2020
Jennifer Tof	Member At-Large	12/11/2020
Katherine Quesenbery	Member At-Large	12/11/2020
Richard Wilson	Member At-Large	12/15/2020
Jennifer O’dea	Greater Baltimore	12/16/2020
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Stefan Parker	Member-At-Large	11/10/20
Brianna Little	China Lake/ Ridgecrest	11/11/20
Nicole M. Aquilina	San Gabriel Valley	11/15/20
Andrea Smothers	Member-At-Large	11/18/20
Jessica Miller	Twin Cities	11/20/20
Audrey Molinari	Dulles Corridor	11/20/20
Sheiloh Carlos	Member-At-Large	11/28/20
Hussain Atefi	Pentagon	11/28/20
William Faulkner	Washington D.C.	12/10/20
Haseeb Jandula	Tyson	12/14/20
Assale Pawi	Member At-Large	12/15/20
Jesus Hinostroza Moreno	Member At-Large	12/15/20

NAME	CHAPTER	CERT. DATE
Katherine Hall	Dulles Corridor	12/16/20
Peter Adams	Member At-Large	12/16/20
Lisa Litwin	Hampton Road	12/16/20
Wallace Truesdale	Member At-Large	12/20/20
Ryan Roovarrt	Member At-Large	12/21/20
Victor Grigoriens	Dulles Corridor	12/27/20

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NAME	CHAPTER	CERT. DATE
James Gaston	Member-At-Large	11/9/20
Maiin Jarbou	Member-At-Large	11/18/20
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Each issue of *Contract Management* features a number of articles focusing on the issue's topic, as well as other articles on a variety of aspects of contract management.

JAN PROFESSIONAL DEVELOPMENT

Start the New Year off right by planning for professional development—for yourself and for your organization's workforce. Topical coverage:

- Resources to gain knowledge and competence in contract management.
- Assessing knowledge gaps.
- Developing Individual Development Plans (IDPs).
- Professionalism, competency, and certification.

01

FEB OUR MISSION

Spotlighting the varied and important missions contract managers help make happen. Topical coverage:

- The roles contract managers play in successful mission completion.
- Interesting acquisitions.
- Examples of the need for sound business judgment.
- What contract managers buy/sell (and why that's important).

02

MAR THE FUTURE OF CONTRACTING

Envisioning the future of the business of contracting—as well as the contract management profession. Topical coverage:

- What will be the "new normal"?
- Managing a tele-workforce.
- AI, bots, cybersecurity certifications, etc.
- Nontraditional contracting methods.

03

APR SUBCONTRACT MANAGEMENT

(Distributed at SubCon Training Workshops 2021.)
All things related to buying, selling, and administering subcontracts within the supply chain. Topical coverage:

- Sourcing issues.
- Flowdown of terms and conditions.
- Subcontracting plans.
- IP protection, license/data rights.

04

MAY BACK TO BASICS

Better understanding the business of contracting or reinforcing your foundational knowledge are both essential for success. Topical coverage:

- "Contracting 101": The fundamentals.
- Contract management standards and competencies.
- Contract life cycle phases—Pre-Award, Award, and Post-Award.
- Best practices.

05

JUN MARKET INTELLIGENCE

Studying markets reveals whether current suppliers are sufficient to meet demand or whether new vendors—or even new approaches—are needed. Topical coverage:

- Economic/financial, regulatory, and sociopolitical factors affecting suppliers.
- Best practices in market intelligence.
- Methods to widen markets.
- Ensuring high-performing suppliers.

06

JUL THE ACQUISITION TEAM ISSUE

(Distributed at World Congress 2021.)
Examining the roles, responsibilities, and challenges of all those involved in the contracting process and how their "pieces" fit into the puzzle. Topical coverage:

- PM and CM cooperation, government/industry communication, etc.
- Working in teams, communications training.
- Requirements definition and writing effective statements of work.
- Contracting for non-CM team members.

07

AUG BUILDING LEADERS

Effective leadership strategies and advice for emerging leaders on the qualities of great leadership. Topical coverage:

- Lessons learned and stories from leaders in the profession.
- Insights from Contract Management Leadership Development Program (CMLDP) coaches and mentors.
- Leadership transition planning.
- Generational issues.

08

SEP SUPPLY CHAIN MANAGEMENT

Issues relating to the entire network of entities through which an item of supply flows—from its raw form to the finished product delivered to the ultimate end user/customer. Topical coverage:

- Compliance with new rules and standards.
- Supplier relationship management.
- Counterfeit parts/products.
- Cybersecurity compliance within the supply chain.

09

OCT COMPLIANT CONTRACTING

The statutory and regulatory landscape of contracting is not only complex, but ever-changing. Topical coverage:

- Compliance with laws, regulations, and other rules and standards (e.g., the CMMC).
- Audits and accounting.
- Subcontractor flowdown compliance.
- Contractor Purchasing System Reviews (CPSRs).

10

NOV COST AND PRICING

Ensuring fair and reasonable pricing through cost and price analysis. Topical coverage:

- Cost analysis, pricing, and price analysis.
- The FAR's Cost Principles.
- Trade-off, best value, etc.
- Cost Accounting Standards (CAS).

11

DEC YEAR IN REVIEW/2022 OUTLOOK

(Distributed at the Government Contract Management Symposium 2021.)
A review of the year's major events, policy changes, etc., and looking ahead at what next year may bring. Topical coverage:

- Analysis of major legislative, regulatory, case law, and policy updates.
- Success stories, hurdles encountered, etc.
- Recommendations for changes/improvements.
- Looking forward to the 2022 landscape.

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ARTICLE/CONTENT SUBMISSION DEADLINES

For more information on the *Contract Management* submission process, and to access the magazine's Editorial Guidelines, visit www.ncmahq.org/cm-magazine.

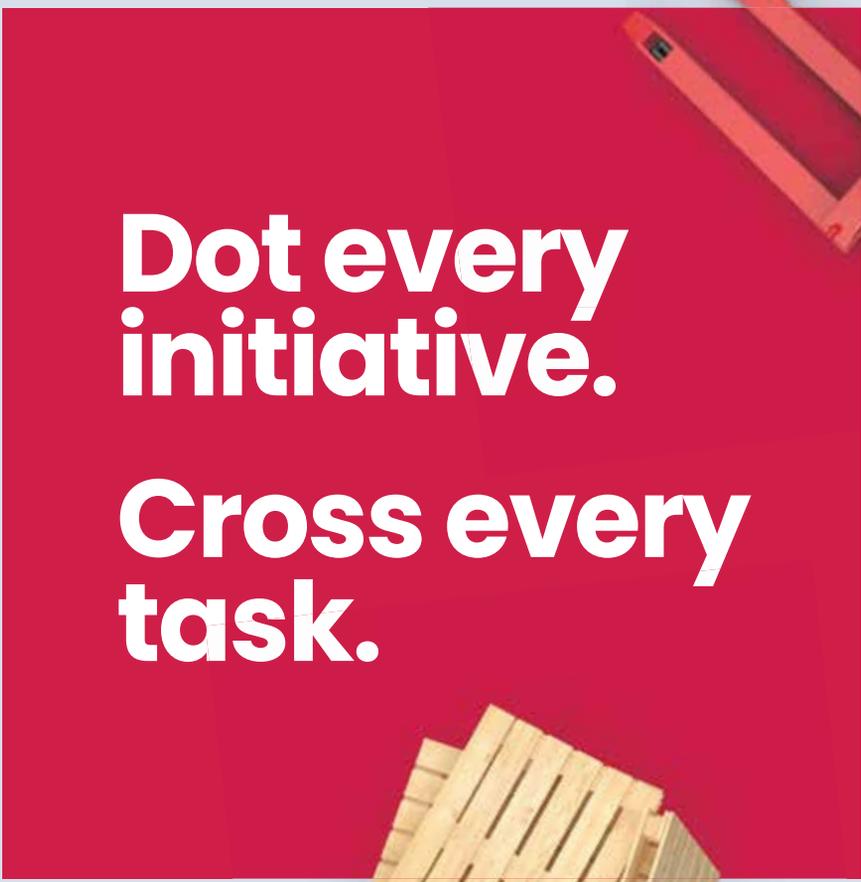
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January 2021	October 2, 2020
February 2021	November 2, 2020
March 2021	December 1, 2020
April 2021	January 4, 2021
May 2021	February 1, 2021
June 2021	March 1, 2021
July 2021	April 1, 2021
August 2021	May 3, 2021
September 2021	June 1, 2021
October 2021	July 1, 2021
November 2021	August 2, 2021
December 2021	September 1, 2021

MONTHLY DEPARTMENTS*

*Department/column lineup subject to change.

SUBMISSIONS FOR THE FOLLOWING DEPARTMENTS AND COLUMNS ARE ACCEPTED YEAR-ROUND.

Clause Corner	Analysis of one common contract clause—its history, purpose(s), and uses; common pitfalls; and proper application.
Counsel Commentary	A deep dive into a recent Court or Board decision; law, regulation, or policy change; or other legal issue.
Innovations	A column designed to help navigate this time of vibrant change by sharing new and inspiring ideas, approaches, methods, and tools.
View from Across the Table	Understanding how the other side does business and their motivations are key to successful acquisitions.
Mile in My Shoes	Sharing personal experiences of working within this diverse profession—a success story, a challenge overcome, an inspiring anecdote, etc.
Faces of NCMA	Spotlighting individual NCMA members, their experiences in the profession, and how the association has helped shape their careers.



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