



INSTITUTE FOR DEFENSE ANALYSES

The Future of Defense Management Reform Symposium

Peter K. Levine, Moderator

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Foreword

Every recent Secretary of Defense has sought to streamline and improve the management of the Department of Defense (DOD). Some reform efforts have been more successful than others, but the consensus is that the Pentagon remains trapped by outdated systems and a culture that make it almost impervious to streamlining and innovation.

On September 21, 2021, the Institute for Defense Analyses (IDA) hosted a symposium on defense management reform that focused on steps that could be taken to make the Department of Defense work better and cost less. This document contains the proceedings of this symposium.

IDA prepared this document under a Central Research Project (CRP) titled “Management Reform Symposium.” It did not undergo a formal technical review. The symposium proceedings were recorded, transcribed, and edited for clarity before they were reviewed by the symposium moderator for accuracy.

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1. IDA Symposium on Defense Management Reform

Symposium Schedule

8:00 - 8:30

Registration and Coffee

8:30 - 8:45

WELCOME AND OPENING REMARKS

IDA President Norton A. Schwartz

8:45 - 9:45

KEYNOTE SPEAKER

The Honorable Robert O. Work, 32nd Deputy Secretary of Defense

9:45 - 11:00

PANEL

The Future of Defense Acquisition Reform

David A. Sparrow, Institute for Defense Analyses
Moderator

Katharina McFarland, former Assistant Secretary
of Defense for Acquisition

Arun Seraphin, Professional Staff Member,
Senate Armed Services Committee

James Woolsey, President,
Defense Acquisition University

11:00 - 11:15

Break

11:15 - 12:30

PANEL

The Future of Civilian Personnel Reform

David R. Graham, Institute for Defense Analyses
Moderator

Veronica Hinton, Principal Director for
Civilian Personnel Policy

Janet Hale, former Under Secretary for
Management, Department of Homeland Security

Howard Risher, Independent Consultant

12:30 - 1:30

Lunch

1:30 - 2:45

PANEL

The Future of Defense Financial Management Reform

James R. Dominy, Institute for Defense Analyses
Moderator

Mark Easton, former Deputy Chief Financial Officer,
Department of Defense

Asif Khan, Director, Financial Management and
Assurance Team, Government Accountability Office

Christopher Hanks, former Research Staff Member,
Institute for Defense Analyses

2:45 - 3:45

KEYNOTE SPEAKER

The Honorable David L. Norquist, 34th Deputy Secretary of Defense

The Institute for Defense Analyses (IDA) is a private, nonprofit corporation headquartered in Alexandria, Virginia, just outside Washington, DC. IDA's mission is to answer the most challenging U.S. security and science policy questions with objective analysis leveraging extraordinary scientific, technical, and analytic expertise.

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2. IDA Symposium on Defense Management Reform

Welcome: Norton Schwartz, President Institute for Defense Analyses

(NORTON SCHWARTZ) Ladies and gentlemen, good morning. Welcome to IDA [Institute for Defense Analyses] and this symposium on defense management reform. Peter Levine, in his typical fashion, has gathered a wonderful collection of formers who know this terrain rather well. He has organized three panels to address the subsets of defense reform in civilian personnel, in acquisition, and in financial management, with keynotes from two remarkable former Deputy Secretaries of Defense: Robert Work and David Norquist.

Today, we will also hear from a number of people who held other key OSD [Office of the Secretary of Defense] staff positions in finance, acquisition, personnel management, and other positions elsewhere in our government. Peter, of course, is a career-long observer and practitioner within and alongside the Department of Defense.



For the next few minutes, please allow me to offer a few thoughts on defense reform and perhaps attempt to provoke a spirited discussion amongst this audience today. Like so many of you, I had the opportunity to serve in a number of Washington-related positions over the years, and, in the years since departing military service, I have had a chance to observe both successful and unsuccessful attempts to alter formerly successful business models.

When I began my unexpected tour as the Air Force Chief of Staff, the Air Force operated eight twenty-four-hour orbits of remotely piloted vehicle capability. At the conclusion of that tour, it possessed fifty-eight. In making that transition, there was a need to move beyond the ad hoc manning of remotely piloted aircraft, aircrew maintenance, and intelligence human capital to something that was far more institutionally sustainable. In some quarters, there was a view that establishing a career path for the RPA [Remotely Piloted Aircraft] discipline was a distraction and that the notion of designating RPA operators as air crew and awarding coveted wings to associated officers and enlisted personnel was an especially unworthy undertaking. The Air Force leadership of the time, nonetheless, persisted, and I enjoyed the privilege of awarding the first pilot wings to newly minted RPA pilots at Creech Air Force Base in Nevada. However, as you can imagine, there was a considerable disturbance in the force as the press accounts of that event circulated through

the Air Force body politic. The reason that I bring this up is not to claim credit, but to highlight that any endeavor that tilts an institution or revises long-held habit patterns, practices, and cultural preferences is subject to something that I will refer to as snapback. In my experience, any initiative



that profoundly offends long-held cultural convictions is subject to snapback when—or even before—the proponents of that change move on. So, questions for this audience today are, how did you deal with or minimize the likelihood of snapback? How did you succeed or fail in ensuring that the change you sought to implement

would stick when you and your immediate team assumed former status? What happened and why?

Allow me now to conclude my remarks with an observation and a suggestion that flows from my time at the Business Executives for National Security. For certain DOD [Department of Defense] missions—crisis or enduring—there are times when it does not matter what they cost. Perhaps, the Afghan evacuation effort is a case in point. However, much of what DOD does is business, and, in those areas, there exists the necessity for accountable financial acquisition and personnel management performance. One of the principles of effective corporate activity is quality governance—internally to meet performance and compliance requirements and externally to accentuate the vital role played by independent, for-profit or non-profit boards of directors. Why is it that the Department of Defense does not have a board of directors? How long would a private sector corporate officer retain his or her position if he or she underperformed or did not meet strategic objectives in the eyes of the chair of the audit committee or the chairman of the board?

Here is an unconventional idea I offer for your consideration. What if the Defense Business Board was not just an advisory body, but also exercised statutory responsibilities for governance, business strategy, and financial execution. You note that I did not include policy in the proposed mission set, as that is clearly the province of appointees and executive-branch-elected officials. However, if one is to make the case for genuine defense reform, there must at least be the promise of process improvement, speed, and, I would suggest, genuine accountability. One might consider a Department board of directors fanciful, but does anyone in this audience have a better idea to improve what, in my experience, is clearly lacking in the conduct of DOD business: genuine accountability for business performance by senior civilian and military leadership?

Ladies and gentlemen, again, welcome to IDA and thank you for participating in this endeavor to assess what all of us know is needed to sustain the hard-earned reputation and public

stature of the Department of Defense and those who serve in the armed forces of the United States—in short, a program of reform that emphasizes accountability and is something that will stick. Thank you very much.

(PETER LEVINE) Thank you General Schwartz for getting us started in your useful, usual thought-provoking way. I have to mention a couple of points you made because, as you said, they were designed to provoke comment. First, I love your concept of snapback. In my book, I use a slightly different term, which is one of my favorite phrases that we used to hear in the Pentagon and one that I am sure many the people in this room have heard: the idea of “what the Building



thinks.” I have always loved the idea that the Building thought something, but, in fact, it is a reference to the same thing you mentioned. As we consider what kinds of actions we can take, we have to take into consideration what the prevailing thought of the institution is, and there often is a prevailing thought. Second, your idea of a board of directors is also thought-provoking and perhaps some variation of might work. As a long-time Congressional staffer, however, I have point out that there are 535 individuals out there who think that they are the board of directors and we would somehow have to deal with them in setting up a separate board of directors.

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3. IDA Symposium on Defense Management Reform

Introduction: Peter Levine

Keynote Speaker: The Honorable Robert O. Work

(PETER LEVINE) Before I introduce our first speaker, I want to thank everybody in our small but vigorous audience for appearing in person in what are difficult circumstances. We really wanted to have a live audience so we could have personal interaction in the room, and I am particularly grateful to those who were able to attend in person. We also have a large virtual audience, and I thank them as well.

When I started to work on the staff of the Senate Governmental Affairs Committee in the late 1980s and early 1990s, Senator John Glenn was chairman of the committee. We used to hold hearings on things such as inventory management, property management, and working capital funds—exciting issues that grabbed most people’s attention. I remember that Senator Glenn used to characterize that work—and he did this publicly at hearings on more than one occasion—as the “grunt work of government.” I think of that today because when you think of grunt work, who better to do it than a Marine. Our first speaker, Bob Work, is a former Under Secretary of the Navy and a former Deputy Secretary of Defense, but I think he would agree that he is first, last, and always a Marine—the perfect Deputy Secretary of Defense.

Those of us who worked in the Department know that the position of the Under Secretary of a service or the Deputy Secretary of Defense is the dumping ground for all the work that the Secretary does not want to do. The rumor was that the inbox of the of the deputy secretary would grow at about a pace of about six feet a day, and it takes a unique kind of person to deal with that kind of workload and to do it with the grace and dignity that Bob Work did.

I did not make Bob’s job any easier when I was on Capitol Hill, in part, because I was instrumental in enacting legislation that made the Under Secretary of the Navy and the Deputy Secretary of Defense the chief management officers of their organizations, giving them even more work to do. As if they did not already have enough to do, we decided to load more work on them. I am sure Bob can tell you about the other ways that I made his life more difficult, but that one certainly stands out.

What I discovered when I got to the Department from Capitol Hill is that Bob Work may have had the biggest inbox in the federal government; however, if he suffered from the burden, he never showed it. He had a perfect management style as far as I was concerned. First, he always

had a smile on his face, and he was always happy to see you no matter what bad news you were about to bring him. The key to dealing with that incredible workload and being so effective was that Bob knew how to delegate and remain engaged, so that he would retain ownership of an issue even when he delegated it. To me, that is the key to successful management in the Department of Defense, where spans of control for senior officials are so great that one really cannot hope to take on issues himself or herself and do them the way I used to do on Capitol Hill (i.e., be a one-person team and think that I was going pursue my issue from start to conclusion). The Deputy Secretary of Defense cannot do that. He has to rely on others, and Bob was a master of that. He delegated, but he remained engaged at all stages, which is the perfect model for senior management, and, in my view, the only workable model for management reform in the Department of Defense. That said, I would like to introduce Bob Work, my former boss and my favorite Deputy Secretary of Defense.

(BOB WORK) Good morning to everyone in the room and to those attending virtually. I must admit that when Peter asked me to give the keynote at a conference on defense reform, I suffered a bad case of PTSD [Post-Traumatic Stress Disorder]. Except for a taking a year off mid-stride, I spent from 2009 to 2017 as a top official in the Pentagon, first as the Under Secretary of the Navy and second as the Deputy Secretary of Defense. In these roles, I served under five different Secretaries of Defense: Bob Gates, Leon Panetta, Chuck Hagel, Ash Carter, and Jim Mattis. Each of these accomplished gentlemen brought his own unique leadership style to the Pentagon as well as priorities of what he wanted to accomplish in the job, but all of them shared a common desire: to pursue efficiencies and to reform the inner workings of the Department while they had the help. These pursuits, quite frankly, were the cause of my PTSD.

My efficiency and reform journey started in 2009 with Bob Gates's efficiency drills. Just as I had assumed the role of under secretary of the Navy, with the withdrawal from Iraq right around the corner and a projected withdrawal from Afghanistan by the end of the FYDP [Future Years Defense Program], Secretary Gates told the politicals that we needed to tighten our belts for the inevitable postwar drawdown. He directed each of the three military departments to find \$40 billion in efficiencies over the FYDP and to redirect those savings from what he referred to as tail to tooth. In other words, he was trying to improve the lethality and the capability of the Department.



To make plain, these savings were not going to be true savings (in other words, we were not dropping the defense top line). The military departments were told that they would retain all the money but that they would simply reallocate it to higher priorities. Most folks, including me, never really thought of this approach as producing true efficiencies. We thought of it as having to hit a budgetary target. Bob Hale, who was the Under Secretary of Defense/Comptroller at the time, explained the process in terms of improved performance, and he stretched the definition of efficiencies to be a more efficient use of defense resources. Under this rubric, we were able to take credit for program cancellations, reductions in planned procurement buys, stretches of programs, and the like. By doing so, and aided by some creative accounting, all three departments ultimately hit their efficiency targets. Creative accounting, for those of you who have worked in the Department of Defense, comes in the form of negative wedges. You project how much savings you think your efficiencies and reforms will accrue over the course of the FYDP, and you lay that in a negative wedge. You are taking the money out and reallocating it to some higher priority. Of course, and this is one of the main challenges of defense reform, if you do not hit your targets, you have to take the money out of something in the program that you have already said is a very high priority and has to be retained. It is always a struggle.

Then came the Budget Control Act of 2011, which reduced expected yearly defense top lines by about \$490 billion over ten years and called for the efficiencies and business reforms to be even more pointed. No one in the Department wanted to cut joint force muscle, so we all went after what we thought was Department fat. These first efforts—I went back and read Under Secretary of Defense Bob Hale’s testimony before Congress that year—led to \$78 billion in projected defense-wide savings from 2012 through 2016. These savings included slowing the growth in military healthcare costs, a freeze on civilian billets, a 30 percent cut in contractors, a reduction in flag and general officer and SES [Senior Executive Service] billets, and additional program reductions. You can argue whether these reductions are efficiencies or not, but they certainly saved a lot of money—\$78 billion across the defense-wide reductions and then another \$100 billion from the military departments, \$35 billion of which came from the Department of the Navy. As I said, some of these savings, such as staff consolidations, qualified as true efficiencies and reforms. We also got rid of the Joint Forces Command. In fact, we got rid of a lot of commands that we did not think were important or were duplicative, and we consolidated as many. Those, I thought, were true efficiencies and could qualify as true reforms, but, in the end, most of us would admit that the majority of the savings came from program cancellations, program slips, and reductions in planned buys. Still, \$178 billion not inconsequential. Now, going back to the negative wedge problem, let’s say that you were off by 10 percent (i.e., you overestimated your savings by 10 percent). In that case, over the term of the FYDP, \$17.8 billion of savings that you expected did not come about, and you would have had pry that money from the program in some other way.

Hot on the heels of the 2011 Budget Control Act was sequestration—mandated spending cuts across all government spending and not one of the best things that has ever happened to the Department of Defense. That requirement reduced planned future yearly defense top lines by

another half trillion dollars through 2021. However, by this time, those affected were not thinking in terms of efficiencies. They were thinking in terms of keeping their program viable. So, everyone was scrambling for any savings wherever these savings might be found, including at least four rounds of efficiency drills covered during this period of time.



I came back as a Deputy Secretary in 2014, and we were deep in the fight to adjust and fit the program to this much smaller defense top line than we had expected in 2012. At that time, our reform agenda was being spearheaded by a Deputy Chief Management Officer, which was what we had in the Department at the time. This individual reported directly to the Deputy Secretary. Our Deputy Chief Management Officer was Dave Tillotson, who had come out of the Department of the Air Force. Dave was a tremendous person. He really knew what the Building thought, so he was quite effective. If we were short on funds when it came time to close the books, I would go to Dave and tell him that we needed to find some efficiencies to close this gap. He always said aye aye, sir, and he always did what was asked of him. Peter replaced Dave in April 2015, and he was the first—no, the second—confirmed Deputy Chief Management Officer. A CMO [Chief Management Officer] was a good idea in principle, but it does not work in the Department because unless the person really driving the reforms or the changes has the direct backing of either the deputy secretary or the Secretary, it is difficult to get traction and get things done. Peter called me the perfect boss, but he was the perfect partner and the perfect DCMO [Deputy Chief Management

Officer]. He would undertake all the bare-knuckle fights with the services and then say that we could do this or that but here is the pushback we are going to get—are you prepared to take it? I would sometimes argue and say that this is not a fight we need to fight right now. Let's fight that fight next year. Let's go for the savings that we can book. However, together, we did decide to enlist the Defense Business Board report to help us pursue true reform agendas.

The first rule of being a senior official in any administration—Republican or Democrat—is to never—and I mean never—be the subject of a story in the *Washington Post*. I am sorry to say I had that honor in a page one story above the fold by Bob Woodward. Basically, the story said that the Department could save \$125 billion over five years by pursuing the efficiencies identified by the Defense Business Board but that the Deputy Secretary—that would be me—refused to move on them. Essentially, the bulk of the savings would come from a 7 percent reduction in the civilian workforce. That is, let's cut the civilian workforce by 7 percent, which is going to save a lot of money, and, if you do it in the first year—in other words, you just have a wholesale RIF [Reduction in Force]—you will accrue a lot of money over the FYDP. The second thing was to renegotiate every service contract in the Department in one year and renegotiate with the purpose of making them less expensive. The DBB [Defense Business Board] did not tell us how to accomplish this. Essentially, they told Peter that we have told you what you have to do—now figure it out and go do it. Lost in the kerfuffle of this *Washington Post* story was that the DBB report was really quite valuable and goes to Norty's point that DBB can really be helpful to the Department of Defense. Until this report, all the efficiency drills that we had conducted were in stove pipes. They were in either a specific agency or a military department. We would give them a budget that they had to hit (e.g., become more efficient by 10 percent). In other words, they needed to cut what they were doing by 10 percent—figure it out. After years of efficiency drills, these efforts were providing ever decreasing returns. All the easy pickings had been taken off the table. Though coming later, the Army's Night Court reform effort showed the limits of going after a stove-piped efficiency. In the Army's Night Court process, its first round was FY [Fiscal Year] 2020. It moved \$22.4 billion over the five-year budget plan, eliminated ninety-three programs, and reduced ninety-three others. In the second round, one year later, it moved \$13.5 billion, eliminated forty-one programs, and reduced thirty-nine others. In the third round, in FY 2022, it moved \$9.1 billion, eliminated just seven programs, and reduce thirty-seven others. Thus, over a three-year period of successive efficiency drills, the Army went from saving \$22.4 billion down to \$9.1 billion. That is what we were finding in all these stove pipes. We were just playing out the vein.

The same thing was happening as we pursued successive rounds of efficiency and reform savings. Quite frankly, the savings were just drying up. The DBB suggested that we curtail that activity and turn our attention to across-enterprise efficiencies. This suggestion was like a gobsmack—of course we should be doing that, but it was the DBB that told us to snap out of it. We were not going to get what we needed by doing these stove-pipe drills. We had to go after cross-departmental efficiencies. The DBB helped us because it forced all the senior decision makers to ask, what are the management processes that cross the entire Department? These senior

decision makers identified acquisition management, IT [Information Technology] management, financial management, human resource management, healthcare management, logistics management, real estate management—we have a tremendous real estate business in the



Department of Defense—and retail management—we also have a tremendous retail operation. Each of these management processes was performed across the Department, so in the DBB's estimation—and we agreed with them—it seemed a safe bet that if we started to consolidate across these processes, we would gain some serious savings. However, to identify true efficiencies and to figure out the savings, we needed to determine the baseline spending across all these processes. We did not track how much we spent in the process itself—it was all in the budget lines of each of the departments. So, we started to do just that [determine the baseline spending], and, in so doing, we concluded that the Department, regardless of what people outside the Department think, was good at financial accounting. We do not spend more money on ships than Congress tells us to spend. It

is actually against the law. However, we are not good in cost accounting. Our cost accounting just did not give senior leaders and the DCMO the data that they would need to admit that we do have a problem and that we can become more efficient. We realized that we had to improve our cost accounting methods. Therefore, we established working groups for each of the processes. Real estate management was the first one that we tackled. We looked at how the Air Force managed real estate and then at how the Army and the Navy managed real estate. We would say that the Department of the Army is doing exactly what the Department of the Navy is doing for 20 percent less and ask ourselves why. What are they doing? Is it just a regional-type thing or is it something because they have cracked the code better?

This work started what I think was the second great wave of defense reform in the Department of Defense. The first wave—again, I'm only talking about my experience, so you would have to make adjustments going all the way back to 2001 when Congress told the Department to get its act together on defense reform—from 2009 to 2016 really focused on these stove pipes. The second wave, from 2016 to the present, has remained focused on defense-wide efficiencies but has expanded this focus to include these cross-enterprise savings. So, I will be perfectly honest—and I probably should not be saying this at a conference on defense reform—but I do not know whether ten years of management reform efforts has made the Department more efficient. The past decade saw a sharp drop in defense spending from the BCA [Budget Control Act] and then sequestration (made much worse by the chaotic way in which it was implemented), which were then followed

by a rapid, short-lived defense build-up—all of which were overlaid by continuing resolutions and two-year budget balance agreements that made long-term planning difficult. What I can say with certainty, however, is that we managed to cram the program into the budgets that we were given, and, although not widely recognized by Congress, that was a heroic achievement. On the other hand, this decade made the Department more budgetarily resilient. We were able to take budget punch after budget punch and were still able to maintain a semblance of program coherence and continuity. However, budget resilience does not buy you much outside the Department of Defense, and, in this regard, we need a reset in our Departmental reform efforts. Now is a great time to do it. This conference is on the leading edge of the reset needed for our reform efforts.

First, the FY 2022 budget process provides a new definition of reform. It is defined as an improvement of processes, systems, policies, and procurement that increases effectiveness, efficiency, or reliability. However, the difficulty is how to best align the Department's resources with its priorities. As a Deputy Secretary of Defense, I love this definition because it gives a concrete aim for Departmental efforts to align resources with its priorities, gives us something to take to Congress and say this is what we accomplished, gets us away from arguing whether or not we save \$10 billion or \$12 billion on reform X, and allows us to ask whether this move of resources makes sense in the framework of our strategy. As far as I am concerned, that is a righteous goal—especially now—as we find ourselves in a long-term strategic competition with two great power rivals. We simply cannot afford to fritter away resources on things that do not contribute materially to winning that competition. Everything else does not matter. The old saying that everything worth doing is not worth doing well is exactly what we are talking about. We need to put things on the cutting room floor that we would like to do if we had the money. If it does not contribute to the long-term strategic competition, it does not count.

Second, we are entering a period of flat budgets. We are projecting flat budgets, and, in my view, that is the only way we can really tackle true efficiencies. If we are coming down by a trillion dollars over a ten-year period, what is an efficiency and what is just trying to survive? However, when we have a flat budget projection, we can say that if we go in and become 15 percent more efficient in this particular process, we are going to be able to put this money back into the strategic competition and so forth. Therefore, having a flat budget is the perfect kind of environment for defense reform efforts to happen.

Third, the first and second waves of reform have run their course. The FY 2022 reforms yielded only modest savings: \$6.1 billion overall. These savings came primarily from divestments, business process improvements, and policy reform. Only \$200 million in savings resulted from business system improvement, which was aimed at eliminating legacy business systems and processes to increase the effectiveness of and reduce duplications in IT business systems. The new team did not have a lot of time to really dig in and go after reform. They came in, and they had a program that was recommended by the outgoing administration. The first thing was to figure out what the outgoing administration did in the program. Does it reflect our priorities? What changes do we have to make? In addition, they are under a time crunch. They have to get that budget to the

Hill as quickly as possible. So, there are probably more reform savings that could have been had, but they just did not have the time to explore them. The possibility of savings found in the FY 2022 budget and the experience of the Army Night Court suggest that these stove-pipe efficiency drills have run their course and that the veins that we have mined for the last decade have played out. Thus, we need to adjust our mining techniques.

Fourth, we now have access to technology that can support such new mining techniques—decision science: the targeted application of artificial intelligence, machine learning, and data at scale. I conceive of decision science as the fracking in the reform business. We went down our veins, and now we can go cross-vein. We can find savings that way, and this decision science can be used to quickly develop comprehensive and indisputable baselines of where and how DOD's [Department of Defense] money is being spent across the enterprise. Armed with this knowledge, the Department can deliberately and systematically ensure that its resources are aligned with its priorities. I will come back to this idea, but one of the biggest problems in the Department for anybody who has worked in this business is that people do not share data. They do not want to give up their data because they have been saying for ten years that they do not want to become an efficiency target. I do not want somebody to come in and say that I need to be 15 percent more efficient because I know they are going to just take my money.

With decision science, you can see where the money is going—down to the penny and the part number if you want to go that far. Decision science is going to be key to the third wave of defense management and reform, and the foundation is good data management and analytics. The Department's first step in supporting these reform efforts is to gather, collate, and make usable all available relevant data inside and—critically—outside the Department. Many of our data efforts just look at data inside the Department of Defense, but a large amount of data exists outside DOD that could help us make decisions. Consider, for instance, supply chain risk management. A lot of information outside the Department would help people on the inside figure out where vulnerabilities in the supply chain really exist.

GAO [Government Accountability Office] contends that DOD's reform efforts are constantly hampered by the lack of reliable data relating to how we perform our business functions. We have already made some strides to use better data to inform decision making. It was being spearheaded by David Norquist and has really been picked up and continued by Deputy Secretary Kathleen Hicks. Thus, in that regard, we are on the right track, and we are building momentum. Deputy Secretary Hicks has been extraordinarily active in this regard. She established the Department's first chief data officer, she issued a series of data decrees mandating that Department data be shared, she has several priority data initiatives that aim to transform DOD into a data-centric organization, and, as she puts it, she is on a mission to create “decision advantage at all echelons, from the battle space to the boardroom.” For the first time, we have the opportunity to know, with precision, where and how money is being spent in every stove pipe and in every agency in the Department of Defense, and, when that site picture is available, we have the basis for a true reform effort.

Data decrees are a necessary step in an organization as hierarchical and stove piped as DOD, but we have to remember that data sharing is an unnatural act in the Pentagon. It is likely that Secretary Austin and Deputy Secretary Hicks are going to have to lean on organizations to cough up their data and punish those that do not, and, when I say punish, I mean take money away. Let's assume that they will be successful. Even if they are, however, initiatives are necessary but not sufficient to yield decision advantage and resource alignment. The amount of data in the Department of Defense defies the imagination. It is enormous, and the amount of data that can be collected is going to be huge and far beyond the ability of any single person—even one as talented as Peter—to try to make sense of it all. In addition, the amount of data is growing exponentially because our systems are becoming smarter and they are generating official and new additional forms of data.

At the current rate, we will be inundated with so much data that we will be just as addled as we were when we did not have enough data. We will have so much data that we will not know what to do with it, and, if the data are not helping us make better resource alignment decisions, then it is not much more helpful than when we were data poor. To achieve decision advantage, DOD must collect management data effectively and make sense of it in a way that allows senior decision makers to make better decisions. Sandy Winnefeld, my battle buddy in the Deputy Management's Action Group, and I were always astounded at the lack of decision-quality data that would come before us in a decision forum that was trying to make the best possible decisions. The data would come in the form of a PowerPoint slide that had stoplight charts, with a lot of red, yellow, and green meatballs. Many times, that was the basis for how we made decisions. Jamie Morin, who was the director of CAPE [Cost Assessment and Program Evaluation] at the time, really tried to start changing this process. We started to get read-aheads that gave us information such as this is how much we think we are spending on hypersonics, this is how much we think we are spending on stealth, this is what our war games tell us, and this is what the payoff is if we spend a marginal extra dollar on stealth or a marginal extra dollar on hypersonics. For the first time, we were getting information that enabled us to say, for example, that we are going to stop this hypersonics program and put more money into sixth-generation fighters.

Machine learning applications, an aspect of artificial intelligence, is the way we crack this code because these applications can process all these data, can make inferences, and can even make predictions about future conditions—all at remarkable speed. If you are running DMAGs [Deputy's Management Action Group] every other day, machine learning can keep pace with you. In fact, it will eventually outrun you.

Deputy Secretary Hicks clearly recognizes the key link between data and AI [Artificial Intelligence], as indicated by her AI and Data Accelerator [ADA] initiative. Again, however, this is all about best aligning the Department's resources with its priorities. The priorities are laid out in the National Defense Strategy, and we, the Deputy Secretary, and the Vice Chairman, with all the Department's help, are trying to make sure that we have a program that best aligns those two. That said, it is not as simple as it sounds. DOD priorities are often stated in strategic and operational

terms, such as modernize the joint force for greater lethality, but that is not something that really translates into budget lines. Judgments have to be made on exactly what it means. So, how do we solve this problem? There is a form of decision science called customized taxonomization of data. You state the objective and ask machine learning how the spend throughout the entire Department will fall out. For example, AI can make a taxonomization for fires. It will tell you, for example, all the things that you are doing in fires that make you more lethal, all the things that you are doing in command control that allow you to control the fires, and all the things that you are doing in logistics. It does this for the decision maker and tells him that the amount of money that has been spent on fires over the last three years has gone up 15 percent. We say that makes sense. We are really trying to improve the quality, the type, and the variety of fires that we can apply on the battlefield. Then, however, you go to another one [taxonomization], and it indicates that we are spending less money on logistics than we did three years ago. We then state that the National Defense Strategy says that we have to get ready for contested logistics, and spending less money on logistics does not make sense based on this requirement, so we better start shifting money back into logistics.

I learned of this capability when I left the Department as the Deputy Secretary of Defense. Sandy Winnefeld had joined this decision science company, and he asked me to pay him a visit. I did not know what to expect. I was told that they were going to show me a taxonomization of the Third Offset Strategy—talk about snapback. Their machine was able show every single contract in effect in the Department of Defense to the penny and to the part number. They told me that they had read one of my speeches and that I said this or that. Then, they told me what the contract said and what the contract was asking for. In many cases, I would just sit there and shake my head and wonder what were they thinking—that does not track at all with my big grand idea. This is the type of thing that these taxonomizations can do. The real magic will come when the Department gathers all its data and applies decision science at scale at the enterprise-wide level.

Many of DOD's current efforts to supply new data and AI are manifesting themselves in pilots. A recent survey by the under secretary of defense for acquisition and sustainment indicates that there are 108 different technology tools to inform decisions on supply chain risk management. Each of the 108 probably has useful but different strengths; however, there are 108 of them, and all of them are processing simultaneously. No one is looking from the top and saying what the best of breed is, and none of these tools talk to each other. Many of these subscale SCRM [Supply Chain Risk Management] tools are duplicative and therefore resource inefficient, and we want efficiency, especially because supply chain risk management is such a high priority for the Department.

We need to start consolidating these things. Perhaps what we need to do is pick a best of breed and say that we are going to do it at scale across the Department so everyone is using exactly the same tool and drawing from exactly the same data. Then, we should start to get a true enterprise-wide picture of what has happened.

We are in the process and have been in the process of supply chain risk management for two years, concentrating on surveillance and investigation instead of deliberate remediation or mitigation, and we need to get to that step. Examples like this are why the National Security Commission on Artificial Intelligence, on which I was privileged to be the co-chair, lamented in its final report that DOD continues to reinvent core infrastructure for each new AI-driven project. Every single project has a unique infrastructure, and it recommended that DOD deploy a modern digital ecosystem—a system that was across the Department, could see all the data, and would be a place to have DevSecOps [Development, Security, Information Technology Operations] and an algorithmic library where data were centralized and from which everyone could draw to train their machine learning algorithms. It could, perhaps, be built on JAIC's [Joint Artificial Intelligence Center] joint common foundation. We did not have enough time to say how far this joint common foundation would be going because it was an emerging idea and had not been fully laid out for the commission. However, we could see that we had to have this ecosystem and that we needed to pursue it with some urgency. If we can get the data right and we had our ecosystem, we would have decision science tools. Now, we would be making very good progress.

We recommended that the Secretary require every single joint and service program to inherit the design of the ecosystem—no exceptions. Maybe, an exception might be valid in an extremely highly classified SAP [Special Access Program] because we needed to protect the data. However, in 99.99999999 percent of the time, everybody would be required to be part of this ecosystem because it is all about efficiency at scale. When we get to scale, we can really start trying to tackle efficiencies.

The Department might also consider another option. The Chief Data Officer, David Spirk, the Director of the JAIC, Lieutenant General Michael Groen, and the Director of the Defense Digital Service, Brett Goldstein, are direct reports to the Deputy Secretary of Defense, and that is just too much for the Deputy to handle. One of the options would be to place them under one chief data analytics officer. Then, data, AI, and software applications would be in one place, coming up with the best ideas to get to scale. They might also be charged with the responsibility of coming up with the defense ecosystem, perhaps co-chaired with the CIO [Chief Information Officer]. Critically, one of the reasons why the CMO failed is because the person could not really be a change agent. The connection had been lost between the person who was battling it out with the services and the Deputy or the Secretary. The CDAO [Chief Digital and Artificial Intelligence Officer] would empower the principal staff assistants, the Under Secretaries, to wield their authority better to make these efficiencies. That is the way to go about this: hold leaders accountable and hold the under secretaries accountable for the processes that are in their lanes. Tell them that we expect them to become more efficient and that we expect to see reforms that better align our resources to the program. Do it and then report on how you are doing.

I have talked about decision science, but AI has all sorts of other applications. In commercial business, AI is being used for business process improvements across the board in a wide variety of areas. I work with one company that has a digital maintenance advisor. In its prototype phase,

it reduced the time to diagnose and fix maintenance issues in an Air Force F-16 squadron by 25 percent. Implementing that across the F-16 fleet would be a start to maximizing fleet availability. It has enhanced inventory forecasting, integrates with the maintenance systems, simplifies the workflows, reduces the number of double data entries and part swaps, and increases the overall process efficiency of maintenance. These improvements happen by allowing AI to help the maintainers do their business. With natural language processing, when an F-16 technician fixes an F-16, he will complete the fix and will then write in the maintenance log “this how the fix was accomplished. I did not really follow the book in this case because the book did not apply. This is how it is fixed.” Also, with natural language processing, the input from all the maintainers plus all the policies and procedures can be gathered. AI then makes sense of it all. I have also seen a digital science supply advisor that improves forecasting, eliminates uncertainty, enhances supply chain resiliency, reduces item waste, and increases savings. A recent deployment of this capability—again a prototype—saved \$100 million annually. These are just two examples of how AI can help business process improvement.

A chief data analytics officer employing data science and business process tools would provide the PSAs [Principal Staff Assistants] with the data advantage they need, give them reliable data about how DOD performs its business functions (theirs, in particular), a clear understanding of the baseline spin of where their money is going, and how close they align with Departmental priorities. It provides sufficient transparency and data lineage to obtain stakeholder buy-in with the baseline. Now, we are not going to get buy-in all the time, but we will be arguing over data that are pretty straightforward and concretely developed, giving us the ability to find efficiencies across the enterprise. I have talked with Deputy Secretary Hicks, and my understanding is that she is considering a position similar to this one. If she decides to do it, my guess is that it would probably come within the next couple weeks. It would provide a material step toward the third wave of defense reform in the Department’s journey.



I wish the Department well on its journey, but I am happy to say I will not accompany it. I will simply sit on the sidelines and say why did it do that or good idea, but my PTSD will not allow me to continue on much farther.

Thank you very much. I look forward to your questions.

(JAMIE MORIN) The spirit of the times seems to be speed, and it is speed to decision as well as speed to execution. It seems to me that that cap is for major decisions for processing resources, requirements, and acquisition. How do you think about that [i.e., speed] as a metric? Metrics are for defense management efficiency. They can be effectiveness, they can be agility. Is that [i.e., speed] a co-equal goal, or is it just instrumental to get to the efficiency?

(BOB WORK) For those who are virtual, this question is being asked by Jamie Morin, former director of CAPE. He was saying that one of the metrics we use right now—kind of the zeitgeist of the times as he described it—is speed. Speed of relevance. This is speed in requirements determination, speed in budgetary formulations, speed and execution. I think he is asking me whether this is a good metric. Injecting AI decision support in the Department of Defense is the only way that you can materially speed up the processes that now exist in the Department. That will at least give you the opportunity to speed things up. I am of two minds on this. Making decisions fast might be a good thing—but not if you are making bad decisions. Making bad decisions fast will simply make things worse. It really is about speed of alignment. How fast do the processes support the alignment of your resources with the Department's priority? Can you make that faster? The faster you make it, the more efficient you become because you are not wasting resources and you are not wasting money on things that really do not count. That is the key metric, and I would have to think about how we would measure it. Perhaps, once the palm guidance is given, along with the defense strategic guidance, you could have quarterly checks. You would have these taxonomizations, and you would be able to see how resources are starting to shift as a result of the guidance from the senior political and military leaders in the Department. I do not think you could do it much faster than a quarter. I do not think the data would really be all that accurate, but that might be a way you could go about it. However, I would have to think about it.

(DAVID CHU) I appreciated your summary of the history of management efficiencies in the Department. I think of two categories of management reforms: top-down and bottom-up. I am struggling with how much of the process has been top down. My question is, what prospects do you see in regards to bottom-up reform of the process? If you see bottom-up reform as an effective alternative, what kind of incentives do you think are needed to ensure that bottom-up ideas and decisions are actually considered and given an opportunity to work?

(BOB WORK) For those off-site, in my history, I more or less described a top-down approach to efficiencies. Would there be an advantage in moving to a more bottom-up approach, and how do I think this would work? Now, the conditions are better set for bottom up. When you are losing a trillion dollars in defense spending, it has to be top down because, left to their own devices, the services will go after priorities that are valuable or very high priority to them. Since you are looking for a unitary Department of Defense program, you have to be heavy-handed—no, you are not going put money in this, you are going to put money over here. However, when the budget is flat, then the services have a high incentive to become more efficient so that they can create top-line space within their own devices. The third wave could actually have a much healthier bottom-up

aspect, but, again, it is a totally different budgetary future that we see and one that provides incentives to everybody to become more efficient and to reform, save money, and move on.

(JENNIFER TAYLOR) My question is about the alignment of your digital ecosystem with the overall innovation system of the Department. Does the digital ecosystem complement the innovation ecosystem, or does it supplant it?

(BOB WORK) The question is about the digital ecosystem that I described. Does it in any way supplant the innovation ecosystem, complement it? I would say that it complements it. The innovation ecosystem relies upon data. For example, the Air Force is now leading the way in an AI-enabled program and budget process. I was just talking to Lisa Disbrow, the former Under Secretary of the Air Force, Secretary of the Air Force, and acting secretary for quite some time. She said that for the first time, the Air Force budget and the program development were totally seamless and were aided by AI. The AI would do war games using data provided by the Department of the Air Force, and it would say that if you want to achieve this objective, this is the best way to deploy your resources. If there were two competing ideas (i.e., should we go after a contested logistics innovation or should we concentrate on fires?), the AI would say that the strategic return on investment on this or that idea, based on the war games provided and so forth, is a better option. That kind of feedback helps the departments. They are getting bombarded by innovation ideas, and there are so many different exciting technologies. Small companies want to suggest that if you deploy this or that, it is going to improve this or that by this much. AI helps sort through these types of suggestions. Machine learning is good at making inferences and making predictions. AI, in many cases, has been described as a prediction machine, and prediction and innovation are absolutely central because of the many competing ideas. You have to have some way to help sort it out. It is totally complementary and not in any way, shape, or form trying to supplant it.

(CHRIS HANKS) I want to follow up on what Mr. Morin said and what David has found because I think it has to do with speed and with bottom up. How would you describe or what do you think the prospects are of being able to do the kinds of things you are talking about in the context of the PPBE [Planning, Programming, Budgeting, and Execution] process, the system that the Department uses to allocate its resources? It builds it from the bottom up, and it takes a long time for the PPBE process to react to changing security conditions. Is it going to be important for it to be incorporated into the way PPBE process decisions are made?

(BOB WORK) The question is following up on the idea of bottom up, doing more bottom-up reform initiatives as well as more speed in getting to them. Is it consistent with the current PPBE process? I would say probably not. Some reform is going to be necessary. One of the dumbest things we did between 2009 and about 2017 was to rip the guts out of CAPE. The DOD lost a lot of the analytical capability that it had. However, if we rebuild that capability with a core of people who really understand these decision science tools, I believe that we can meld them relatively easier. Obviously, some adjustments will be necessary, but I cannot tell you just what those adjustments might be right now.

Do we have any [questions] from the outside?

(PETER LEVINE) A question from the virtual audience. As described, Supply Chain Risk Management analytical tools are used across the Department, but has Congress provided the funding necessary to do this at scale?

(BOB WORK) The question asks whether Congress has provided the funding for SCRM to do it at scale. Congress is very interested in SCRM. They had a task force on this subject and are ready to provide support. However, the Department will have to shift some resources into this area and demonstrate that they are serious about pursuing a cross-enterprise SCRM solution. If the Department does, Congress will provide funds to support it, but the Department has to make the first step. Congress is saying that DOD has 108 prototypes, but what is that doing for them. Are we getting more secure? What type of metrics are you measuring this against? If the Department makes that first step, my estimation is Congress is ready to push go.



(PETER LEVINE) One more question from our virtual audience. The questioner has heard that DOD is looking at data brokering service or data mesh approaches that could be set instead of the data lakes being pursued currently, like ADVANA. Are you familiar with data brokering and data mesh approaches?

(BOB WORK) The question asks whether I am familiar with data brokering and data mesh approach as opposed to data lakes. Quite frankly, I do not know where the Department is in this regard. If I had to bet, I am pretty sure that Deputy Secretary Kathleen Hicks is thinking about this along with Chief Data Officer Dave Spirk, but no I do not know.

(PETER LEVINE) We have time for one more.

(UNIDENTIFIED QUESTIONER) The long-term trend of the budget has been the migration from R&D [Research and Development] to O&S [Operating and Support]. We spend more of our money on sustaining what we have, which cuts against modernization. What is the long-term fix for that?

(BOB WORK) We are seeing a lot of money migrate from innovation into O&S, and I will say what I said when I was the deputy secretary. The U.S Air Force is the poster child of this problem. They are the most over regulated entity on the planet, bar none. For instance, we would

like to get rid of some of these old aircraft so we can buy new aircraft. Nope, we have to keep them. We would like to shift money from here to there because this capability just does not provide us what we need against a high-end great power competitor. Nope, we cannot do this. The Department of Defense recognizes this problem. They struggle with it every day. O&S and personnel costs go up faster than the rate of inflation. That is an objective fact proven by years of data, and unless you can handle that, you just have a problem each year. In fact, your efficiency and reform efforts might just be focused on that problem alone. Solve the problem of increasing personnel and O&S costs. Make up for the money we are losing. On the Navy side, same thing. If you talk with most Navy officers, the Navy just pushes money into O&S. You ask the DMAG what is causing this, and it is fact-of-life increases and so forth. AI might help us figure out what is causing this O&S shift and the steps that we can take to stop it. We have to solve that problem. It is a perennial problem in the Department of Defense and is something that I hope the Department will solve on their reform journey.

I thank you all. All of you are on the front line of what is happening in the Department of Defense. This is a consequential time for us. We are in a knock-down, drag-out strategic competition. China is the pacing competitor, but Russia has capability in many areas, such as space, nuclear weapons, and undersea capabilities. We are being pushed to the limit, so we have to rethink the way that we are approaching reforms. This is the time to do it. Thank you all for your interest in what you are doing to help us, and I wish you the best of luck.

4. IDA Symposium on Defense Management Reform

The Future of Defense Acquisition Reform Panel

Introduction: Peter Levine

Moderator: David A. Sparrow

Panelists: Katharina McFarland, Arun Seraphin, James Woolsey

(PETER LEVINE) I am pleased that we are joined today by Katharina McFarland, who served as Assistant Secretary of Defense for Acquisition, Acting Army Acquisition Executive, and Director of Acquisition for the Missile Defense Agency, among other positions in the Department. Katharina is a civil servant who rose to become a political appointee. Rising to that level on merit alone is always an achievement and something that deserves to be celebrated. When I was on Capitol Hill, all kinds of people came up to brief—people who would crouch in a position of fear or people who would forcefully repeat their talking points but not have anything to say beyond that. However, there were also people like Katharina, who was a breath of fresh air when she came to the Hill. She did not come to cower, browbeat, or repeat mindless talking points. She came to engage. She would communicate, but she would also listen and learn. It was truly a privilege to speak with her when she came to brief for the executive branch.

We also have with us Arun Seraphin, a professional staff member of the Senate Armed Services Committee, a former IDA [Institute for Defense Analyses] employee, and a Principal Assistant Director for National Security and International Affairs at the White House Office of Science and Technology Policy. I also like to say that he is the only staff member I ever hired to the Senate Armed Services Committee, and I liked him so much I that I did it twice. However, I want mention one of the last things that I got to do as staff director. I had to decide who was going to take over my treasured portfolio on acquisition reform. I decided that Arun was the smartest person in the room and the one I would trust to do that, and I have never regretted that decision, even as I have seen him reverse so much of my legislation over the years.

Finally, we have Jim Woolsey, President of Defense Acquisition University, former Deputy Director of Performance Assessments at PARCA [Performance Assessments and Root Cause Analyses], and former IDA Research Staff Member who worked on a number of high-profile acquisition review reviews, including the joint strike fighter and the tanker lease. What I particularly appreciate about Jim is that I know he shares my devotion to the acquisition workforce

and gets up every morning thinking about what he can do to make the acquisition workforce better. That mindset is absolutely critical to everything we are talking about on this panel.

The panel moderator is Dave Sparrow, an IDA Research Staff Member and a winner of the Andrew J. Goodpaster Award for Excellence in Research. I will just read some of his core areas of research: systems evaluation technology assessment, S&T [Science and Technology] planning, planning and strategy, acquisition planning, resource management, logistics and business practices, and organization management practices. If you want to get depressed about how little you have accomplished in life, just read Dave's list of publications.

(DAVE SPARROW) Maybe it is a lot of publications, but I am not sure how much it all accomplished. There was a rules and engagement issue, and the comments that I prepared for our distinguished speakers are almost the same as Peter's. Any time I am thinking along the same the lines as Peter, I am feeling good about myself.



I want to tell a little story that many of you know. Some of you are deeply engaged in the fact that IDA is moving. When I was cleaning out my office, I came across a publication from twenty years ago. I had been on loan to DOT&E [Director, Operational Test & Evaluation], and, when I came back to IDA, I gave a talk to the staff about my two years in the Pentagon. A section of the talk was entitled “Fixing Acquisition Will Be Hard.” I looked through those charts as I was cleaning out my office in preparation for our move, and I discovered three points that seem not to have changed very much: (1) the ongoing changes in OSD [Office of the Secretary of

Defense], (2) opposition to any quality control effort as being inefficient, and (3) the process is changing every eighteen months (something that the Building always thinks). That makes the challenges enduring, even while there are dramatic changes in the national security environment and everything else that is happening.

I will skip the introduction, but I do want to tell one story about Arun, not unrelated to Katharina's talents. There was a Congressionally mandated study that the Department was late on—and by late, I mean they did not come to us to help execute the study until after it was due. The penalty for this miscalculation was that they had brief the staff and three OSD officials, and they dragged me along to brief mostly Senator Levin's staff members on this particular issue. I have never seen such three talented individuals so filled with terror in my life. As we are going to brief them, everyone was concerned about the verbal floggings that were about to take place. We got to the briefing room, and Arun answers the door. Arun not only had worked at IDA, but he also worked with me at IDA. He greets me, and then he looks at the three other guys and says,

“Wow, you guys must be important if you got Dave Sparrow to wear a tie.” So, the meeting that had been scheduled for a half hour turned into a two-hour wide-ranging discussion on technical issues, the future of legislative engagement and constraints on the Department in this area, and so forth. On display was an absolutely marvelous set of Arun’s interpersonal skills that has not showed up in his biography. I am happy to wear a tie today out of respect for the panelists, who are extraordinary individuals, and out of respect for our guests in the room and those online. Thank you very much.

(PETER LEVINE) Arun is up first.

(ARUN SERAPHIN) Thank you. I want to start by thanking IDA for launching me on this defense technology and research journey and for putting me on my one-year fellowship to Congress, which I am renewing again for another year. An important caveat before I begin: as a Hill staffer, nothing I am going to say represents the views of Congress, my boss Jack Reed, the Senate Armed Services Committee, or any other people. That said, however, most of the things I am going to say are not my views. They are probably ideas that I borrowed from some of you. This is a room filled with smart people—a good group on which to try out ideas.

I am going to talk a little bit about two frontiers in acquisition reform that some staffers, including me, have our heads wrapped around right now. We are also looking for ideas on how to make progress in in these two areas.

First, I want to talk about a theme called oversight over overseers. We are in a world where we all understand the need for oversight in and at various levels of detail. This oversight is needed to push back on the natural tendencies of companies, government organizations, services, and individuals to do the right thing locally but often to do the wrong thing on a more macro level. No one is arguing that we do not need oversight. We are just arguing about the need to tweak oversight in some way. Oversight is important for going after waste, fraud, and abuse, which do exist in some form, and is also important because the system we are defending is based on transparency, on democracy. It is not a secrecy-based society that we are trying to defend here. Transparency and oversight by lots of eyes should be considered a strength. We just need to figure out how to optimize it and weaponize it for our advantage. Thus, we know that oversight is important, but oversight unchallenged is also dangerous because it clearly creates systems that are risk averse, can freeze in place, and can slow down processes at a time when Jamie [Jamie Morin, former director of CAPE [Cost Assessment and Program



Evaluation]] is pointing out that speed is important. We need to make sure that we figure out how to optimize oversight with the speed and the innovations that are necessary in the system, and that is where I am stuck now. I do not know what to do after saying all those things that may be obvious to everyone.

One thing that we believe—and we have tried to talk to all the standard oversight bodies (i.e., the test community, CAPE, GAO [Government Accountability Office], the IGs [Inspectors General], and the Hill staffs of the world)—is that oversight needs to be more cooperative and engaged and less gotcha. It needs to be conducted earlier in processes. Think, for instance, about acquisition processes. GAO's Paul Francis always used to say that you guys pay attention too late and to the wrong things. Therefore, we need to think about ways that oversight officials—whether in OSD or the Congress—can become involved in acquisition programs earlier in their cycles, maybe even before these programs become part of the budget request, which is the natural trigger for oversight. This early oversight is important so that we can ask important questions—using our independent voice or GAO's independent voice or the equivalent of DOT&E's independent voice—about these programs early in the process before mistakes are made that will haunt us for twenty or thirty years. I do not know how to do that because I do not even know when a program is first manifesting itself as someone's idea. I do not get to see what goes on in the AOs [Analysis of Alternatives]. I do not get to see much of anything that happens before Milestone A, but then I am told that “it is too late. You should have been paying attention then and you should have been asking these difficult questions earlier in the process.” We need someone to help us think about more timely oversight.

The other part of this process, especially in this era of reversing Peter's acquisition reforms with our own acquisition reforms, is that we have tried to move to a place of more risk tolerance: let's place a lot more bets, let's move a little faster. However, no one—including us—ever bothered to tell the oversight community that we were doing this. So, we give you the candy of streamlined acquisition, middle tier, and more use of other transactions, but we reserve the right to yell at you and beat on you if you do anything wrong. That is no way to encourage innovation and risk tolerance. We need to figure out ways to talk to my bosses and other oversight officials about how to consider what type of failure is okay and how to think about at least judging peoples' programs by taking into consideration that they are thinking about all the right things, that their approach is competent, and, if things do not work out, that is okay. They have at least laid out a reasonable strategy of how they are going to handle the risks and challenges of the program. That requires more transparency on the part of the overseen to admit possibly that we do not actually have all the answers but here is what we are going to try. This is our best effort, and, with your support and some tolerance, we think we can get there. I have not seen how we can do that well. I am happy to try to develop pilot programs, which I like personally even if Mr. Work says there are too many, to establish a new way of doing this.

The other aspect of oversight that is neglected is that oversight should also result in finding good news stories—telling people that they did a good job and honoring success. We do a terrible

job of this on the Hill, and the Department does a terrible job of spreading its good news stories but does a remarkable job of spreading its bad news stories. For me to find out who won the latest set of acquisition awards means that I have to actually dig through the paper copy that was mailed to me in a mailbox that I rarely go to, find it, and look to see who won these awards. Honestly, when we find out that someone won something, senators are usually happy to hear about it, and the awardee often gets a congratulatory note. So, how can we establish a system where we can actually commend and support people who succeeded in developing mechanisms that honor success, whether it is recognition through awards, money, or other means? That is an important part of oversight that we have missed.

Second, I want to talk about handling of money budget reform. It is all the rage right now, and, as a new tenant in acquisition reform, we are for it. In our press release, the committee talked about establishing a commission to address financial management reform, budget reform, and the issues beyond just acquisition. Our aim is to look more broadly at everything from the PPBE [Planning, Programming, Budgeting, and Execution] process to the use of working capital funds, the colors of money, and the sharing of money between the public and private sectors—all the things that we would like to do but cannot figure out how to do because of rules, financial management regulations, scoring rules, and so forth. All these are good issues for us to work on. Where I work, the members understand—especially because so many of them now are entering with private sector experience—that money and fast-moving technologically changing environments are handled differently in the private sector vs. the public sector. They are open to hearing about these ideas. My boss, Senator Reed, is fond of saying that the PPBE process is the finest thing that was produced in the 1950s and 1960s. We proudly use it like an antique car, but maybe it is time to try something new.

The piece of it that I would focus on—sitting where I sit—is that I feel that there is a period of time when like-minded people can work together to get things right but that we just completely waste this time. The budget is locked sometime in a previous calendar year, big books are printed, information is posted online, and, in a normal year, a budget is delivered to Capitol Hill in February. Then, lots of other people and I sit through meetings called staffer days appropriations. Staffers do it. There are hearings on the Hill, and there is a process by which Congress reviews the budget request that was locked into place many months earlier. It ends up taking us about ten months to produce the actual budget—the appropriations law, which is the actual budget of the Department of Defense—despite what the executive branch thinks. Since I was a child, this process has happened almost every year between Thanksgiving and Christmas. In my opinion, however, all that time between February and Thanksgiving is wasted. Despite the fact that the technology and the threat are changing every day during that time, otherwise very intelligent people in the executive branch come to us daily and tell us that they support the president's budget—even though they know that in building that budget, they lost a lot of internal battles concerning the allocation of resources and they know that changes in the technology, the threat, and program progress have happened all along the way. I would argue that if we could make better use of that

time on the Hill to work together to adjust the budget request so that the actual budget appropriations are as close to right as possible, we have done a better thing for the capabilities that we are trying to deliver and we have done the right thing for the public because that day of appropriations is the day of maximum transparency to the people—the taxpayers—who actually pay the bills. Much of what goes on post appropriations is opaque to the public, but there is something special about that day of appropriations. Finally, that year of interaction buys good will from the Hill. When those inevitable changes have to be made, you have more buy-in from the Hill. The reality is that we have skin in the game and will be more sympathetic to the changes that naturally have to happen.

Again, I would love the help to figure out how we could do that, even on a pilot basis, to make better use of that time on the Hill to get the dollars right on that day of appropriation.

(DAVE SPARROW) Jim Woolsey is up next.

(JIM WOOLSEY) I want to thank IDA for putting this symposium together and for welcoming me home. I see some familiar faces from back in the day. It was a great part of my career to be here, and it is good to see everyone.

I want to talk about the future of acquisition reform and what we should do next. The number of priorities on which we decide has to be a small number—I would say no more than three—so that we can focus our attention efficiently. We need, first, to focus on what we want to do next, and I am going to make a case for one particular aspect of acquisition reform.

I want to start by telling a couple of stories. First, I was talking to a business executive who works in China, and I asked him about the things that make it hard to work in China. I expected that he was going to talk about the restrictions on joint ventures, the 49 percent share, and so forth. Instead, he told me that his biggest problem was retention. As soon as people in the company got good at something, they disappeared. He was not sure where they went, but he had a strong suspicion that they went to a factory that did similar work for the military. I want to contrast that scenario with how we get people in the Department of Defense. The AI commission that Mr. Work lead and Katharina was part of talked about the importance of acquiring skills in AI, and I want to compare how China does it and how we do it when we think about moving forward

on those processes. It is a daunting comparison. Second, a long-time friend and mentor, Joe Dyer, was the commander of NAVAIR [Naval Air Systems Command] and went on to do well at iRobot.



He also was in China when he was with iRobot, and they showed him a field where they wanted to build a factory. He came back less than a year later, and the factory was up and about to begin operation. I understand that IDA has some experience with erecting a building and occupying it, and my guess is that it took more than a year. I just want to offer that as another point of comparison.

There are more important stories than those in the technology area. Since my involvement with DAU [Defense Acquisition University], I have not been intimately involved in those areas. I know, however, that a lot of people are, and they are not comfortable. People say things like inside our OODA [Observe, Orient, Decide, and Act] loop, and you do not want to hear that about a near-peer potential adversary. All that gets to the point that my vote is going to be for speed. Speed is what we need to pay attention to and to give more attention than we have, and that means making tradeoffs, changing policy, and doing the big things.

That said, I want to narrow it down to just one part of it, and I want to narrow it further to something that I can actually do something about. I want to narrow it down by using a term that I heard from Aaron Dignan, an author and consultant I met at a conference. He used a term called organizational debt. He said that all of us are familiar with financial debt. We borrow too much money—whether it is a person, a company, or a country. It catches up with us, and we are not able to do things later. It limits our choices, and it bogs us down. The same applies to technical debt, for instance, if we buy a lot of IT [Information Technology]. He said that organizational debt is about the way we add things to our processes all the time, and the reason I like the metaphor so much is that it has a couple of qualities that make sense to me. One of them is that financial debt can be an insidious thing. It is not one thing we bought or one decision we made. It is how they all add up until the debt becomes overwhelming, either for a person, a country, or a company, and so it is with organizational debt. It is not that a certain check and balance was a problem, and it is not that a new organization created to take care of something caused a problem. It is the way that it all adds up. That insidious quality to it is attractive to me as a way to think about it. For instance, we start thinking about the things we do in terms of speed, and then we think about debt. Mr. Work talked about efficiencies in terms of money. I want to talk about that, but I also want to address efficiencies in terms of speed. People who work in the Pentagon know the organizational debt. Organizational debt is a problem everywhere, but we are especially good at it. For instance, someone knows the 2,000 pages in the FAR [Federal Acquisition Regulation] and the 1,500 pages in the DFAR [Defense Acquisition Regulation System], and so forth. I recently had an experience where it took three weeks to get permission to start coordinating a document—it took three weeks to get the approval to get approval. This sort of thing just happens every day, and it adds up to the goo that we live with every day.

So, what are we going to do about it? I want to talk about what I can do in my little part of the world and hopefully how that might extrapolate to other parts of the world. At DAU, we decided to look at all the portfolio of training that people do. We decided to make a lot less of this training required and a lot more of it optional. People said that you need to get training on this,

you need to get training on that, and you need to get more training on this as well. Organizational debt—it just built up. We decided that one person in OSD knew what everybody in contracting needed to know, and the answer was that everybody needs to know everything. Whether you are going to be a major program contractor or a contingency contractor, you are going to learn it all. We had 650 hours of required training to get to level three in contract. That is a lot of training, and most of it was specialized. Another aspect of getting rid of organizational debt is giving people control, so I gave it away. I had DAU work with the services to shrink it down, and they overachieved. The contracting curriculum that was 655 required hours is now less than 200 required hours—a huge amount of training is no longer a requirement.

The next step is to make sure that people are able to get the training that they actually need at the time that they actually need it. In this scenario, they will get the training when they are about to start contingency contracting instead of in their first three years in acquisition. There are 185,000 people in the workforce. This change is going to save millions of hours every year for the workforce. For DAU, we are going to take the resources that we were using to teach people things they did not need to creating what we call credentials: packages of learning that people can get at the time they need them, so it is not just a free-for-all. For example, a person is about to go to a major defense acquisition program, here is the credential that will get her the things she needs. We are actually creating more work for ourselves because we have to create all these credentials. Demand is already exceeding supply, but it is all good because we are creating more content of different kinds for people at the time that they actually need it. So, we have done our little part within to reduce organizational debt by taking away this required training and making more of it optional.

We also have the opportunity to work with organizations and leaders while they are young and not yet set in their ways about this idea of speed and how to think about their jobs. I have changed how I view my job. It is difficult. I regress almost every day, but I am trying to give up control and give people the power to create the things that they want to create. Sometimes, they mess up, and I have to catch spears, apologize for them, and fix it. However, I actually do not have to do it that often, and the energy it is creating within DAU has been remarkable. I have lost control. Things are happening every day. I have no idea what people are doing, and it is marvelous, but I am an engineer, and I have to fight it every day because control is what engineers do. That said, I want to start building that idea in the workforce as part of their training—that checking for the sake of checking is not an accomplishment, that speed does matter, that getting things done quickly can make a difference. I am trying to do that in my little part of the world, and I want to ask everybody to also take it seriously. We are in a situation in which we have never been before. I know people have talked about this a lot, but what strikes me the most about the current environment is that China's GDP [Gross Domestic Product] is either equal to ours or soon will be, and there is no question that it is going to grow larger. We have not faced that situation in any of our lifetimes. We have to do it better, and that means going faster. Speed is something that we

need to be able to compete in this environment, and I am going to make my case for that being a point of emphasis going forward.

(KATHARINA McFARLAND) I am going to wind up this session up and give you some things to think about. We have talked about relative speed, efficient oversight, and trained, valued, and adequate numbers of personnel. How do we take a budget that was process-wise built many years ago and put it into today's environment? I am also going to add requirements, and I am going to talk about what this means in the world's environment today.

We are seeing a decline or a neutral budget and that would be nice, but we also have a different type of war going on. I had the fortune of working with the Secretary Work and many technocrats on the commission. What was interesting is that it took us a year to get the commissioners who were not part of the federal government to understand the threat to the point where they removed their assets from China. So, if we do not have a public that understands the nature of what is going on in the world, how will we harness that? This world is not in a kinetic battle, and we are not positioned to know how to react to a non-kinetic battle. That means that we have to think differently. The good news is that this country has technologies and innovation that we can leverage. We have other levers to pull. We can improve our positioning with respect to the pillars that Eisenhower spoke about at the end of World War II—economic, political, and so forth. The war is a broad context: procurement, acquisition. This term reform, which I, in my own career, have discussed many times, can and should change.



Let's talk about a tool. The people who think about technology space and about the threat and the informed decisions that we need to make to prioritize where our resources are going have some familiarity and certainly an interest in the technology. I will use artificial intelligence because that was a term that Secretary Work spoke about briefly. We have the ability to make faster and more informed decisions, creating transparency, to educate just in time. We went through revolution with the pandemic. How many of you worked as much virtually before the pandemic? How many of you trusted a virtual environment to work in? Look where we are today. We have created productivity in an area where, two years ago, I would never have seen the activity played out. What does that mean? It means that we should recognize that our assessment of risk is imbalanced. I am going to talk broadly about three areas to just give you a way to think through

this. Let's look at how we address biology, how we address chemistry, and how we address material science.

There are different risk profiles. In biology, if three frogs do it, we consider it done. It is what frogs do, and that is the way it is. In chemistry, we want to see something more detailed in our assessment of risk. It could be that when we add the chemicals together, the color is exposed, or it could be that we would want to have a repetitive demonstration of our hypotheses in terms of experimentation. However, once we have demonstrated it to a certain level, and, usually, it is about a half to a sigma of confidence, we move on. When it comes to material science, we want it to the two sigma or beyond confidence level. We need to literally map out the ones and zeros of our software. We want to have tested every element of the tensile strength of the elevons in the aircraft. Those systems—biology, chemistry, and material science—are now intersecting, and, in the S&T environment, we are seeing a bunch of freaked out people trying to work together. We should be learning from this because the new environment and our ability at machine speed, which with quantum is almost to the level of human (but non-linear processing is still human domain), we are going to have the ability to leverage that technology space and human capacity expansion to allow us to reform how we do the business and to be able to be current and maintain our position of freedom and stability that we so desire. Therefore, if we take a look at what that technology space can afford us—to Jim's comment about making training real time—it does not have a number system that limits how many people can participate in real-time learning online. We can help people find the knowledge that they need by having triggers in the system through analytics to know what they need because of what they are doing on their computer. That concept is not that far off. We do that in the financial world. For example, how many of you have spoken to your husband or your wife about purchasing a new car and suddenly see a car advertisement pop up on Facebook? We should be harnessing it to our biases and to our value system, and we can.

If we take a look at financial, to Arun's comments, we have a budgetary system that is built along a certain material science. I will call it methodology. We have to fuss over a requirement and, hopefully, enough of the threat is forecasted so we can project what that requirement should be in the future because it is going to be the future before we get the money (i.e., write your requirements, two years; budget for it, two years; contract for it, two years). In this world, especially the commercial world, we are way past what that requirement as written needs or can do. So, let's compress that timeline. Let's use data tying the threat to S&TI [Science and Technology Intelligence] to forecasting, predicting what we might need to help us write requirements in real time and adjust them. The system can afford that with transparency. If Congress knew objectively what we wanted to achieve and could see the information flow that is going on in the Department that is allowing for changes in the decision making (i.e., the threat or that the technology opportunity space is just as important as defensive and offensive posture), this knowledge would improve the process. Opportunity gives you overmatch. It would be nice to be able to leverage that information. I used to say that if somebody would write me a capability that would allow them to demonstrate they would have anti-gravity paint for me, I could not buy it

because I did not have a requirement and they did not budget. Would it not be awesome if I could say my threat, effects-based outcomes, might be able to take out a grid square or float ship in the air? I could have a general outcome that I could meet with a near-term, real-time capability.

Let's think about those things that we have in front of us that we would want to do: risk, opportunity space, technology, human space, education. The number of people who feel that could contribute if they could have real, hands-on opportunity space and that would conclude with industry innovation—having visibility to be able to comb our own assets and understand what we have available to us and where that is trending real time for decision makers—is not fantastical. We have ability to do that, and we should leverage it.

So, how do we take that ownership? We create incentives. We build out confidence by starting small, gaining momentum, and putting this momentum into areas of higher import. We keep reducing the layers of inefficient oversight. We actually demonstrated it during the Obama Administration. We had an automated decision-making process—certainly not with the levels of advanced technology right now—where everybody would be sent the documents at the same time, given a very specific time to make comments, and, at the end of that, the decision was moved forward. It cut 120 days out of just one set of decision-making processes. Why can we not do that today? We can and just have to.

I am going to stop because every one of you has more to offer and some questions that we could leverage. I am heavily engaged in the ability to look at intelligence information as a contributor to requirements generation and advances in acquisition execution. The budget could be as informed, which could allow us to do things more rigorously and more quickly. Also, the training avenues for which we should be having an education renaissance are right in front of us. We just have to move. The good news is that Congress has made a substantial investment into trying to make improvements. I am very heartened because we are the very best of all countries, and our people have a combination of all that intellect and have demonstrated that we can lead and can continue to lead. We should lead, but the world will not wait for us. The world is what it is. It has more people than we have, and we have to be informed and position ourselves quickly and be informed.

(DAVE SPARROW) Let me use this opportunity to pose the first question, which will be for anyone who wants to answer it. We have been swirling around these issues of speed and risk tolerance, and the first thing I want to do is make a distinction. We talked about risk tolerance from a technology point of view, which is done differently in biology, chemistry, and material science, but the bureaucratic component to this risk tolerance is also worth breaking out and is more related to the processes of the Department than the actual material developments. I would argue that the risk intolerance of the Department is actually more bureaucratic than technical. The Department is often willing to take horrendous technical risks, not always at the component level but certainly at the system and program level, if these risks mitigate bureaucratic risk. I want to tie this risk tolerance and the desire for speed back together. The risk tolerance in technology can cost us time because ill-conceived programs are launched. The risk intolerance bureaucratically can cost us

time because processes are set up to prevent mistakes—not to prevent mistakes from happening, but to prevent mistakes from happening for which someone can get blamed. Do the panel members have thoughts? Are there things that can be done at the nexus of these things? Is this a worthwhile distinction between our different tolerance for a technical and bureaucratic risk?

(ARUN SERAPHIN) Congress can help with bureaucratic risk. We can provide waivers to laws and regulations as needed to mitigate the perception of that bureaucratic risk. Again, if there is sharing of data, transparency, requests for that kind of waiver—that is kind of what OTs (Other Transactions) are, that is what personnel flexibilities are. On the other hand, despite the many requests, I have never been able to provide a waiver to the laws of physics. We cannot help with that kind of risk. That is where we are going say, “How could you be so stupid?” My tool set allows me to fix the law. It is just a shared word processing document in my world. Do you need something changed? We can do that. I completely agree that we need of think about where we are afraid of things.



(JAMES WOOLSEY) I would like to build on the word distinction. One of the problems that we have is distinguishing big risks from small ones and treating them all as if they were big ones. I was able to do the things I did because the risk of going wrong is that a course is lousy. In the big scheme of things, that is not going to cause a lot of problems. However, it is amazing how difficult even a simple thing like that is to do because everyone treats small risks like they are aircraft carriers. We still have a lot of work to do as an organization and as individuals to think about what the risks are. Pete Modigliani, software acquisition lead at MITRE and a former Air Force program manager and advisor to DOD [Department of Defense] and intelligence acquisition executives, put something on LinkedIn the other day. He said that before we put a check or a process in place, we should ask ourselves whether anything bad happens if there if there is no check. What is the bad thing? What would a bad thing have been if I had gotten my document in a coordination three weeks earlier? Nothing. We treat all risks the same, and that is a real danger.

I want to be clear that I am an engineer. I worked at IDA, and I understand the importance of checking and oversight. That is a good. Concerning the metaphor about financial risk, the problem of getting into financial debt with credit cards is that the good is separated from the cost. I want the bobble, and the cost will come later. When we put our checks and balances in place and add them, we do not think about the cost in the big picture, about what it adds to the goo. If we would differentiate and think about the costs as well as the benefits, we can make progress. It is going to be a culture adjustment. There is going to be a big process, and it is going to take a long time. It has been hard enough for me to get DAU's culture to change. It has been gratifying, but it requires hard work. All of us have been raised in this risk-averse culture. For example, the person who wanted to make sure that the document was in the right font before it advanced to community coordination—that was his job and that is what he cared about because that is how we taught him. It is going to take a long time to get that goo out, but it adds up. So, differentiating and looking at costs as well as goods would be useful.

(KATHARINA McFARLAND) I like that conversation of distinction, and I am going to add incentives to discussion. We do not necessarily have the right incentive structure to create an understanding of what risk is important and what risk is not important. We are very good—at least above average—in doing contracts with incentives or at least having a dialogue about incentives, but we have an organizational incentive structure that we should be working on. The incentive should not be if I take away more people, they will have to focus on what is important. One of the problems is that people think because the organization is large, trimming it back will reduce the amount of stepping stones, and that is not correct. One of the biggest challenges I had in the positions that I held was having time to think. That is why I get excited about artificial intelligence. I can feed it all the math I am trying to struggle with and do the data collection and get information so I can get faster in my decision-making process for thinking. Incentives are a huge player in this whole concept about risks, at the lower level and at the top level. If I see nothing but that a mountain of people above me are going to make decisions, what incentive do I have to put in front of them information or a decision that is clear-cut. I will share an anecdote. When I was a GS-9, I had to write a letter. At that time, I was working for the Marine Corps, and I knew that the Assistant Commandant of the Marine Corps was going to see this letter. As I was drafting the letter, I received some advice from the chief warrant officer sitting next to me. He told me to make sure that I have some mistakes in the letter, When I asked why, he said that it gives them the chance to feel powerful. They will move it along more quickly because they made a correction and they will feel valuable. What was also interesting is that I did as I was told, but I had my original letter that I wrote. When it finally came back a couple months later, it was my original letter.

This issue of incentives has to be explored. How do you create incentives that allow people time? Positions are important, but what is important to the second question is also of interest to me. We have wonderful tools in our toolbox, both kinetic and non-kinetic, but I will use a kinetic example because it is easier to understand. We have wonderful missile systems. They can do a lot, but, if you cannot launch the missiles because you do not have command and control and you do

not have communication, what good are they? Yet, the investment was small in command control, until recently when we saw the real face of a peer and we started to focus on it. Do you see the momentum and the energy behind it? No. A little voice came up to me one day when I was challenged for the fifth time in my career to try to do a joint command and control system. The problem was that the guy in command does not want to fire on somebody else's data because he will get held accountable and blamed. Until we remove that stumbling block, like we do with industry when we indemnify them when they build a missile system, we are not going to get many people running to the table to get that joint command and control capability to network systems to make them more efficient or effective. Incentives!

(DAVE SPARROW) I would encourage questions from the audience. I have had a week to think of questions, so you are going to get lame questions from me if you guys do not step up.

(UNIDENTIFIED QUESTIONER) As someone who has spent his whole career with FFRDCs [Federally Funded Research and Development Centers] or places that used to be FFRDCs, along the lines of LMI, RAND, and IDA, if you wanted more cooperation and engagement between the Congress and the Department of Defense, particularly in acquisition, you have a resource, the FFRDC community, which is not in it for the money. They are in a position to speak truth to power on both sides—whether it be the Congress or the Department of Defense. I have never understood why they are not more heavily used to improve the dialogue. Maybe you are having FFRDC people over, and FFRDC people have to talk and make sure that they are not saying something that DOD really does not want them to say, but FFRDCs might be a way to normalize some sort of lines of communication between the Department and Congress and the Congressional staff, where you are going to get new thinking, new ideas, and new questions that will help to get the engaged cooperation that you are talking about. What do you think of that idea?

(ARUN SERAPHIN) Intermediaries in any form—whether they are from FFRDCs or are other trusted agents (e.g., in the non-profit think-tank world—LMI as opposed to IDA)—are helpful. It would be helpful if someone could create those shared spaces where people who are working on the same problems as I am can sit together, trade ideas, and also have in their midst a smart person who understands what everyone is saying and turns it into something actionable for both sides of the table. The other thing to which you are alluding is that we need more people who go back and forth between both sides—to the FFRDC side, to the executive branch side, and then back to the legislative branch side or any oversight side just to see what life is like and what the constraints are. I visited the executive branch once. The different between the cultures of the two branches are amazing. Anyone who can help bridge that difference and let us speak each other's language would be helpful.

(KATHARINA McFARLAND) The FFRDCs were started after World War II when we had a group of talented people who had contributed to missions like the Cincinnati Project. When I was on the government side, I found that the FFRDCs had evolved to look too much like the government. Their role has been slowly graduated to have to hire the way that the government hired, to have the oversight, to retain people forever. There was supposed to be a broader context

of independence. They were supposed to be more like what they were when they had originally been stood up. I would encourage a real look at that. Personally, I am now close to dating myself, aging out. I have been out of the government for four or five years now, and, if I do not go in, I should probably retire because I am not necessarily as relevant and as valuable as I should be. So, we might want to think about the character of the FFRDCs when they were stood up and see if we are in that image or not. That help was and is very important not just to the Department of Defense, but to the federal government writ large.

(DAVID CHU) You have all spoken about issues with the budget, so perhaps I could comment on specific reforms that might be considered. I believe it is the 100th anniversary of the object expenditure accounting system by which budgets are appropriated. It creates all sorts of issues. Perhaps we could consider a system that funds by mission, by function, or by outcome. Maybe impossible, but something to think about. Another is a two-year or multi-year budget cycle, which was tried but never got off the ground during the 1980s. The VA [Veterans Administration] has, for a period of time, enjoyed a two-year budget. So, right now, rather than completing FY [Fiscal Year] 22, it gets revisions for FY 22 and advanced appropriations for FY 23, so that the delay in getting money can be executed quickly and if circumstances change by the time you get to the next cycle, you can amend the fiscal year at that point. Two possibilities for consideration.

(ARUN SERAPHIN) These are exactly the kinds of things that a commission should address, and it should balance the needs of all interested parties: what does industry need out of this system, what does the executive branch official need out of this system, and what does the Congressional staffer need out of this system. We could devise something that gives the system what all of us want, which is moving dollars to where we want them, for what we want, and at the right time. The challenge, though, is that these conversations usually turn into vilifying someone and wondering why they cannot just give us no-color, no-year money and trust us. So, we have to talk about it in a different way, but those are those are two great ideas.

(DAVE SPARROW) Mr. Morin, can I make one comment first? I want to thank you for the talk you gave at IDA a number of years ago. The polite interactions between IDA and the government, wherein each side pretends that the other is perfect, do not lead to the improvements that, at times, are needed. When you gave your talk, you were diplomatic but pointed enough in your criticism; however, I remember that because I still had projects with PA&E [Program Analysis and Evaluation] at the time, I felt that I had to defend how I handled myself. IDA needs that feedback from senior government sponsors. We also need you to be aware of what we do, and we need you to tell us forthrightly when we are not meeting your needs. Your talk was one of the few things that led to a much reformed and embedded engagement between IDA and CAPE, which is still, I think fair to say, a work in progress.

(JAMIE MORIN) Speaking of uncomfortable, I wondered if our panel members could talk a little bit about whether you see our system of resource and acquisition control as being founded on comfortable illusions of control rather than real control. We slice and dice our money into a tiny

matrix of appropriations and fiscal years' activities, and we tie hands. What we have done, in essence, is created an industry. When I was Air Force Comptroller, Air Force managers wanted O&M [Operations and Maintenance] funding and military personnel. We avoided the boxes by the type of funding. It might not be as efficient for the financial system to use military personnel or private contractors for some processes, but it was easier for the managers. Are we kidding ourselves and if so, do we recognize that?

(KATHARINA MCFARLAND) I have worked for the Marine Corps for twenty-four years, and my best remembered activity was finding a way to beat the system. I beat the system in multiple ways. One of my favorite ways was other people's money. As soon as other people's money was in my background, I could use it in whatever color I needed it because it was washed.



Later, things got a little bit tighter, but I did find other ways.

Let me use software as an example. If I have R&D [Research and Development] money, I will state that I am having to develop upgrades to the system to match the threat. If I have O&M money, I will state that I have to maintain my software against the threat. If I have procurement money, I will state that I have to do the work for multiple end-items so that I can procure it. It does not match. It is not the nature, to the earlier conversation, of priority and import. So, if I was to say importance, where the spend is in volume is not necessarily as important as where the spend is to capability, to the C2 analogy. We do not have any mechanisms for the next Jamie [Jamie Morin,

former director of CAPE] to find out the true important part. There was a comment about the Air Force using some tools now to try to find out, like a rheostat, if I spend here, what the outcomes are and so forth. We need to further those types of tools so that we have visibility into what is important and then give the transparency to the Hill so that we understand immediately why we need to adjust.

(JAMES WOOLSEY) I certainly agree. The illusion of control. One of the things that creates organizational goo is elevating too many things to decision levels where, rather than getting smarter, the decision is actually getting dumber in the sense of knowing the all the details. We confuse the importance of strategic thinking. This is an appropriate way to raise decisions to the people who are higher or smarter, but they are going to have less information, less knowledge. When Mr. Work was talking about decision quality information, it is difficult in an enterprise this large to get decisions about these complicated, nuanced, detailed subjects in a form that can be handled at that level, and that gives the illusion of control. They cannot possibly understand all the

nuances of what they are deciding because we elevate too many things. If we made better choices about elevating what is strategic, we could make progress.

(DAVID TATE) I would like to ask about a specific concrete example that I suspect combines the worst features of incentives and organizations. Everybody has wanted DOD to use modular open architectures in their systems for more than a decade. Congress has written the laws encouraging them to do so. Policies have been passed requiring them unless you get a waiver, and yet we do not. We simply do not do this. Services do not procure across the enterprise modular open architectures that anyone can update or contribute to for easy sustainment down the road. What is the fix for that? Why do we not do that, and how could we get to a place where we do?



(KATHARINA McFARLAND) Sunken costs.

(ARUN SERAPHIN) I will say more laws.

(KATHARINA McFARLAND) When I was at the ASDA [Assistant Secretary of Defense for Acquisition] position, I received waiver after waiver after waiver to the laws that said I was supposed to use open architect in communications. It was anything from a (1) a D&F [Determination and Findings], (2) a very important need to do today, (3) the financial sunken cost, or the technology is not there, or (4) we do not have the time or the money to be able to buy the new technology. This issue of making a system open has some fallacy in it, and, when things are constantly pushed in front of you by operators who are talking about why they are waiving it, I start wondering what the underpinnings are. The conversations that I have had about open architectures is that we have victory, we have all these architectures that are presumably open in a department. When you choose that type of an architecture, you have forecasted your future, and innovation is blocked. What you want to have when you design is the ability to have an understanding of the interface control document or the interface exchange requirements at the engineering level to allow somebody to come in and take a capability out and replace it with a new

capability. We do not seem to have that area of engineering necessarily correct. This is an area that FFRDCs can contribute to by focusing on the objective outcome, which is allowing for components and elements within a system to be able to be upgraded and changed out appropriate to the threat. A lot of thought goes into that.

(ARUN SERAPHIN) Where we work, it would help if someone could get a sounding from the defense industry about what kind of reforms and what structure of programs they would actually support that make some business case to them. In doing this, a single company would not feel like the way forward is for it to control, for example, all of JADC2 [Joint All-Domain Command and Control] because it makes business sense for them to be part of this open system. When we hear that from that set of constituents, it gives us something more concrete to push on. I have never heard that from their side. It gets into these issues of what kind of tech data you have, what kind of interface controls you have, what do you even understand about the systems you are buying, and when does your contractor let you understand these issues. That is the missing element. We get a set of voices from executive branch side, and we get a very different set of voices from the defense industry.



(UNIDENTIFIED QUESTIONER) I want to make a comment about acquisition speed. There are lots of stories about how efforts to speed the process led to delays that cost more than an entire dividend, so there is something wrong there. I want to ask why that happens and whether you can actually go faster in the long-run if you take the time to get things right up front.

(DAVE SPARROW) The people online might not have heard the question, but the summary line at the end—getting it right up front—is a critical issue. It is partly requirements. It is partly other things as well. It is probably the threat changing the threat forecast. The two important points were getting it right up front and, if you do get it right up front, you will get the speed as a byproduct.

(JAMES WOOLSEY) I was the speed guy. I agree that there is no contradiction between getting it right up front and doing the speed things I talked about. I do want to talk about differentiation again. The amount of effort and the amount of horsepower you put on getting it right for an aircraft carrier or a bomber is different and then even within a system Hondo Geurts [James “Hondo” Geurts, former Navy Acquisition Chief] had a great quote about submarines. He said that we need to treat the wet parts and the dry parts differently. What he meant was that we were going to own the wet parts a really long time, and it is a point that Arun has made. We talk

about how long it takes to acquire something. The real differentiator is how long we are going to own it. We are going to have these submarines a long time. The do-we-have-it-right question is different for that and for some of the systems within it that are going to change constantly. So, it comes down to differentiation again, which is not an easy out. It is a hard out. It means that we have to think about it all the time—in individual cases and in the processes themselves. I am a cost guy. That is fundamental part of getting it right, and I believe in that. However, how you do it should depend on the system you are talking about and what the risks are.

(ARUN SERAPHIN) I mentioned this a little bit, and, from a legislative branch perspective, the processes that you are talking about are opaque tests. We do not see them. On the other hand, if someone can teach us what signatures we should be looking for in a program that is inevitably going to fail, we will start looking for those things. However, our only recourse, as far as I can conceive, is to designate some important person at OSD to look over the shoulder of the services and check on whatever it is—TRL 6 [Technology Readiness Level 6] at Milestone B—something important prior to milestone. Did you do the appropriate business process reengineering before you spent money on your business system? I am not sure what we, as an outside group, can do to get that deep into the process. Then, if we turn it over to OSD in all those different forms, we have to resign ourselves, given the way we use data and technologies, that we could create this horrible bureaucratic risk-averse process. So, what we are all hoping for is that when you are addressing the issues, you are talking about it in a much more streamlined and rational way.

(KATHARINA McFARLAND) I will say that one of the most important things I had—whether I was a GS-7, an SES [Senior Executive Service], or a political position—was the availability of time to do that thing called thinking. I am interested in furthering the analytical capacities that could help people improve their decision making, and I am working to help that hope become reality. We need to start adopting and adapting those tools to help us be informed as we make these types of decisions.

(DAVE SPARROW) And with that, we can go to break.

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5. IDA Symposium on Defense Management Reform

The Future of Civilian Personnel Reform Panel

Introduction: Peter Levine

Moderator: David R. Graham

Panelists: Veronica Hinton, Janet Hale, Howard Risher

(PETER LEVINE) Our next panel will address civilian personnel reform, and we have an extremely distinguished panel. I am going to start by introducing Veronica Hinton, whom I have had the pleasure of knowing and working with for several years now. Veronica serves as the Principal Director for Civilian Personnel Policy, and, at times, has served as the acting ASD [Assistant Secretary of Defense] for Civilian Personnel Policy at the Department of Defense. She previously served in similar roles in the Department of the Treasury and the Department of the Air Force. Not only have I enjoyed working with Veronica, but I particularly appreciate that in a Department that often overlooks its civilian employees and the critical contributions that they make to the national defense, she is fighting for them and has their best interests in mind.

Next, we have Howard Risher. He is an independent consultant who has served as compensation practice leader for national consulting companies. He is also a senior fellow with the Wharton School's Center for Human Resources. I first became aware of Howard's work when he helped write a NAPA [National Academy of Public Administration] report on employee compensation that helped justify the National Security Personnel System, with which I was engaged from the Congressional side. Howard is our designated bomb thrower on the panel, and we are looking forward to his contribution. He has never been afraid to pull his punches when he thinks that something is wrong with the federal civil service system.

Finally, we have Janet Hale. She served as the first Under Secretary for Management at the Department of Homeland Security before becoming a director and senior advisor on government policy and operations at Deloitte and Touche. She has also served in senior positions at HHS [U.S. Department of Health and Human Services], HUD [U.S. Department of Housing and Urban Development], DOT [U.S. Department of Transportation], and OMB [Office of Management and Budget]. I am not sure how Janet found time to squeeze all that into a single career, but she has seen government management from more angles than just about anybody I know. I particularly enjoyed serving with her on the recent panel of the National Academy of Public Administration

on the future of OPM [Office of Personnel Management], where she impressed me with her deep understanding of the civil service system and the federal workforce.

Our moderator for this panel is David Graham. Dave is an IDA [Institute for Defense Analyses] Research Staff Member and another winner of the Andrew J. Goodpaster Award for Excellence in Research. He is an expert on DOD [Department of Defense] organization and management processes. He has also contributed to a number of important papers on the DOD workforce. I have been privileged to have had the opportunity to work with him on a number of projects in my short career at IDA and look forward to hearing more from him in this forum.

(DAVID GRAHAM) Thank you very much, Peter, and thank you for organizing this today's session on three very important topics. I must say that the civilian workforce is near and dear to my heart. I am very excited to be part of this panel, and I want to thank you for inviting me to be involved in this effort.

Next year, we will be celebrating the 50th anniversary of the all-volunteer force, which has been an amazing public policy success, and one of the topics that we will address concerns the future success of this force. The American economy and society are changing, and the challenges of building the all-volunteer force should be apparent to all of us.



DOD's all-volunteer force comprises on the order of 3 million people, and, of those, about 20 percent are civilians and another 20 percent are what we call service contractors. These service contractors work closely with the government. In thinking about the success of the all-volunteer force going forward, it is imperative that we consider the success our civilian workforce and how it interacts with our service contractors. This area is a central topic for the future of the Department. Since we are talking about management reform today, I

want to echo the points that Dr. Chu and others have made. There is a grassroots element of reform and that effort requires that everyone in this 3-million-person force have the proper incentives. It also requires that individuals be developed to have the competence required to act independently and with authority and that their careers be developed and managed appropriately.

With us today, we have three interesting experts, who are accomplished professionals in this field. I am very excited to hear what they have to say. Veronica will talk about DOD and DOD's priorities in this area going forward, Howard has a briefing on general issues, particularly

compensation, and Janet will talk about her management experiences and what that means for reform going forward.

(VERONICA HINTON) Thank you, David, and thank you to the IDA team for this important discussion. I am honored to be here to talk about the work that we have been doing in the area of civilian human resources reform—not only what we have done, but what we are doing. I am also honored to be here with Janet Hale, whose career I have followed in enterprise management functions, and Howard Risher, who is a leading and influential voice in this discussion.

In my role as Principal Director for Civilian Personal Policy, I help lead and strategize on civilian human resource management reform for the Department's 930,000 civilian employees, a significant proportion of the Department's overall workforce. What I would like to do today is share information about the reforms that we have made, particularly in hiring, and about our advancements in outreach and recruitment. We attract talent not just in ways that we have done historically and traditionally, but also through the modernization of reforming and hiring. Peter has been a great partner in contributing to that discussion and shaping our thoughts. I will also talk about the role of analytics. On the last panel, many of the members talked about the importance of data analytics as a decision support tool, and certainly that is front and center in our thoughts in terms of human capital management, human capital strategies, and managing the civilian workforce.

However, before I do that, I want to expand on some of David's thoughts around the challenges associated with the demographics of the civilian workforce. Many people talk about the complexity and the scope of the Department and what that means in terms of trying to bring some order to how we manage our various business functions. As I mentioned, we have about 945,000 employees in 22 countries worldwide and 64 percent of them are appropriated fund, general schedule, 17 percent are in the wage system, our blue-collar system, and the rest are in other alternative personnel systems. Forty-six percent of the civilian workforce are also veterans, and I mention that because one of the questions I am frequently asked is what reform means in terms of traditional hiring authorities, traditional ways of honoring veteran's preference, and our veterans in the civil service, and I will talk about veteran's representation rates in our conversation today. To manage this broad, sweeping workforce that comprises over 500 different occupational series, we organize it into functional communities. Functional communities are wide mission areas, and we work with those mission owners as our partners to help them understand the skills and the talent that they need, how they need to manage and develop this talent, and how the human capital community works with them to identify the right solutions and the right levers to make sure that they are getting the talent they need to have an effective mission. There is no one-size-fits-all solution. We have a multitude of hiring authorities and personnel systems and a lot of flexibility in the Department to make sure that we are positioned to continually revitalize the workforce and improve the resiliency of all segments of that workforce. We also work in partnership with our human capital partners to give us a strategic and integrated perspective in managing that workforce. That is something that is done naturally on the military side and is something that we

are growing on the civilian side to make sure that it is not an ad hoc management of that civilian workforce, but a deliberate, integrated approach to bring in the most effective and modern strategies, policies, and processes in that particular area.

So, today I am going to focus on hiring, but I am also going to mention data analytics and what we are doing to transform the HR (Human Resources) community because we also work in partnership with a human capital community that needs to be effective business partners. However, before we do any of that, we have to figure out where we want to go and then develop a plan so we will know when we have gotten there and how we will measure it. It is part of this idea of pivoting from what has historically been a compliance-enforcement human capital function to a performance-outcome function. Central to this effort over the past several years has been the development of our human capital operating plan. This plan includes strategies and initiatives to deliver talent, to maximize employee performance, and to transform HR, and it has been aligned to the outcomes in the National Defense Strategy and in the National Defense Business Operations Plan. We look at everything before us, take a step back, and ask ourselves about the human capital needs that will be required to achieve those strategic outcomes and about the particular initiatives that we are going to pursue and the actions necessary to get there. We have identified over 150 metrics to support that plan as we do that performance pivot to make sure that the actions that we are taking actually have the intended outcomes. When we think about delivering talent, we think about the actual act of talent acquisition, about strategic outreach and partnerships, and about our force renewal programs, our internships, our scholarships, and our fellowships. We have made a lot of progress.



I will focus first on hiring authorities because, at symposiums such as this one, the first comments that I get are that the hiring system is broken: “I cannot get the talent I need, it takes too long, and so forth.” Over the last several years, we have made a concerted effort to simplify, streamline, and standardize the hiring process to make sure that it is useful and usable and that it is used. We have been very fortunate. Congress has given the Department many different hiring authorities and flexibilities to recruit the talent we need. We have competed with private industry, particularly in our innovation workforce and our digital workforce. However, the outcome of all those authorities has been an increasingly complex hiring system. People do not know how to engage it. For example, are they going use this authority or that authority, and how do those

authorities intersect? This situation has been difficult not only for the HR community, but also for our hiring managers to be able to articulate their employee requirements so that we can help them find the talent that they need. Therefore, we made an effort to streamline twenty standalone, different direct hiring authorities and worked not only within the Department, but also with Congress to identify opportunities to streamline those authorities into one consolidation. In the National Defense Authorization Act for Fiscal Year 2020, we were granted one streamlined hiring authority that covered our science and technology workforce, our acquisition workforce, and many of our critical skills areas and mission priorities, and that streamlined hiring authority enabled us to simplify our hiring process. Why is that important? I am going to give you some metrics just to drive home how effective these authorities have been.

One of the questions I am frequently asked is whether these authorities are effective and efficient and whether we are actually using them. As a community, we have been measuring our performance so that we can articulate to our customers and to DOD leadership what we see happening. Over the past five years, we have driven down overall time to hire from 111 days in FY 17 to 83 days in FY 20, which is a significant drop in the overall average. As of July 2021, we were close to achieving our target for FY 21, which is seventy-four days. However, it is not just the transactional act. It is the importance of measuring and making sure that the work we are doing is achieving our desired outcomes. We have also been looking at our direct hiring authorities to determine whether they are having the impact that we want. We are seeing that same trend in timeliness. We also measure to make sure that these authorities and these reforms are not negatively affecting or disparately affecting specific segments of the population. As I mentioned, our veteran's representation rate has remained consistent over these last several years—at 46 to 47 percent. Thus, even though we are using these reforms—to fill our positions, on average, the Department completes about 300,000 hiring actions per year, of which a 100,000 are new hires that renew and refresh the workforce—we want to make sure that we are still maintaining and honoring our commitment to veterans, that we are preserving merit, and that we are keeping track of all the different trends, behaviors, and dynamics.

As we look to what is next in this particular space, we are focusing on the artificial intelligence innovation workforce. Whether gleaned from reports of the National Security Commission on Artificial Intelligence or just from the thought leaders in this space, we recognize that we need to focus our attention specifically on making sure that we can acquire this exquisite talent and that we are developing them, looking at our current models, and figuring out whether those are the right models for management development. We are also thinking about how we assess those particular candidates' qualities. Can we introduce things like ePortfolio reviews and subject matter expert panels to assess candidate qualifications? We are taking that next step toward a more modern process to find, assess, and onboard talent.

I now want to turn from hiring and hiring authorities to my next priority area in this space: outreach and partnership. Over the last couple years, we have allowed our civilian recruitment capability to atrophy—not that it was a robust active recruitment capability to begin with. We were

in the habit of saying post and pray, put it on USAJOBS, and hopefully we will get the people we want; however, these new hiring authorities have enabled us to change that focus and rapidly get the talent once we have identified it. The catch is that we have to be able to identify our talent needs. So, we have focused on getting the word out. In one of the studies that we conducted recently, we discovered that 27 percent of college students are not even thinking about DOD as a potential employer and only 34 percent think of the government as an employer. When they think of DOD, they think about uniform service. Therefore, one of our priorities in the coming years is not only to increase awareness of all the different opportunities that would allow them to make an impact—a global impact—as a civilian in the Department, but also to make sure that we use research marketing surveys to understand the trends, the behaviors, and the thoughts of potential employees. Then, we can actually build a robust recruitment capability that targets, for example, critical skills and underserved communities. We will also talk about lessons learned from the pandemic that will feed into these efforts because our traditional thoughts about where we find talent has evolved over the last eighteen months.

We have launched a new website: dodciviliancareers.com. I am very proud of the work that we have done—in a modern dynamic medium and method—to explain what it means to work as a civilian in DOD. The website features all the different areas in which we have positions available and enables potential applicants to figure out where they fit based on their skill sets.

That is an overview of what we have done. We will look next at the many different career pathways by which a person can enter DOD (e.g., student programs, internships, and traditional hiring). We are working to expand the functionality of our new website in terms of interfacing with other job boards, consolidating vacancy lists, and bringing all our different scholarship and employment programs together in one place. If someone is interested in working for the Department, he or she can go to dodciviliancareers.com and find a central repository, whether it is a program in research engineering, a program in acquisition and sustainment, or a program in a military department. These are areas that we should be highlighting as an employer, and we are bringing that to bear in a more modern and dynamic way.

The other area I wanted to address in terms of hiring reform is our variety of scholarship programs. We have very specific scholarship and fellowship programs, whether it is the SMART [Science, Mathematics, and Research for Transformation] program that the Office of the USD(R&E) [Under Secretary of Defense, Research and Engineering] manages, the new John S. McCain Strategic Defense Fellows Program, where our inaugural cohort graduated this past year with twenty-two fellows, or the Boren Fellowship, which is targeted to language and national security and where students can earn scholarships in exchange for service at the end of those scholarships. We are trying to bring to bear an integrated strategy on how those particular fellowship and development areas work together in a broader student-capital strategy to (1) make sure that we can identify the resources that we need and entice our students into federal service and (2) build out those networks, those partnerships, and the outreach with our universities to ensure that the prospective talent thinks about us as an employer of choice and finds a pathway to

service, particularly for our underserved communities where unpaid internships and unpaid employment opportunities may be barriers to enter the government. One of the things that we are looking at is revitalizing the workforce and the pipeline to ensure that we are offering paid internships so that no one has to worry about coming to Washington, a high cost of living area, as an intern.

The other piece before I pause is this idea of data analytics. We are looking at how well we understand talent-demand tools and making sure that we have the tools that help us understand trends in the broader labor force. I will use as an example the Army Futures Command in Austin, Texas. It is looking to recruit into a high cost of living area. One of the things that we can do with this new talent-development tool is build capabilities that enable us to understand with whom we are competing from a salary and a talent perspective. Are there competencies that we need in the workforce in that particular local area? As we think about recruitment strategies, how do we make sure that we are bringing in data into that conversation? This is an area that we had not necessarily put a lot of effort into, but now we are incorporating those competencies for our human resource professionals more broadly to be more effective in the higher end.

That is a good pivot to think about what we are doing to transform HR. One of the things that has been critical for us is the notion that personnel are a treasure trove of uncertainty. We have a lot of data in our personnel databases, but we have to drill down, find it, and understand what we are looking for from a manual perspective. We have been working closely with our chief data officer and our comptroller to build out the data visual tools in the data analytics tools so that we can incorporate predictive analysis in AI to understand what is going on—whether it is in hiring, whether it is in performance, whether it is in a time to hire direct hire—across all the dynamics of the portfolio. Once we know what the data is telling us, we can use this information to inform policy and decisions. I will give a specific example. As we have worked through the pandemic, we have looked at lessons learned and at what our workforce has been doing in terms of the types of leave that they have been taking and the type of telework in which they are engaging. We have been able to incorporate our payroll data with our personal data to actually see down to the installation level, down to the occupational level the types of leave that people are using. For example, consider weather and safety leave—the leave where people remain at home for safety protocol. They are not working. They are not teleworking. We want to understand that so we know where their loss of productivity is so that can search resources. That is an example of how we are using data analytic tools to drive policy.

I will close with lessons learned from the pandemic because it is critical as we think about the last eighteen months. Before the pandemic, the civilian workforce teleworked about 3 percent of the time. At the height of the pandemic, we were up to 60 percent. The Department experienced a lot of cultural hesitancy in embracing telework as a talent management strategy, but what we have found from a cultural perspective is that people are embracing it. We now understand the value of using telework as a flexibility tool, and we have settled at about 35 percent of the workforce teleworking. As we think about it from a civilian hiring perspective (i.e., go to where

the talent is), now we can focus on the role of telework in attracting talent to the Department. That is that work-life flexibility and that work-life alignment, but it also amplifies the role of remote work. If we cannot attract talent to come to Austin or to Washington or if we have people who need to stay where they are, maybe now, depending on the type of position and mission, we can actually find the talent we want in places that we do not necessarily think about in public service. It has opened up a whole new way of thinking about talent acquisition and identifying our candidate pool. We are very excited about the opportunity that teleworking has provided us in reforming a hiring area.

(DAVID GRAHAM) Thank you, Veronica. Howard has some slides that he wants to share with us.

(HOWARD RISHER) Let me start by saying that I have just heard a useful and instructive presentation, but never at any point did Veronica mention pay. It is just incredible to me. Pay is biggest single expense in the civilian personnel area, but nobody ever talks about it. It is the sacrosanct system that has existed for almost seventy years without any significant change. Nobody talks about it. If you went to any other sector, that would not be true. The GS [General Schedule] system is broken. There is nothing about it that is working well. That system could not be defended for any reason whatsoever. It is incredibly bureaucratic. The idea that you have to come up with all these mechanisms to be able to work around the idea that you need competitive pay but nobody talks about it is just unbelievable to me.

(VERNICA HINTON) It is resignation, Howard. It is not that we do not talk about it.

(HOWARD RISHER) A quick story. I was the guy who managed the project for pay reform back in 1990s. There was a NAPA study about that same time [*Modernizing Federal Classification: An Excellent Opportunity*], and I was involved with a guy named David “Doc” Cooke. I was working on a team that had two other people on it. These people had been directors of personnel in the Army and the Navy—they did not use the term human capital officer at that point. We had tried to get interviews with people about the NSPS [National Security Personnel System], but DOD refused to talk to NAPA. That said a lot to me. The other issue with that same report is that, to my knowledge, I was never able to identify anyone involved in that project at DOD who had any real expertise in compensation management. To this day, and again to my knowledge, OPM does not have anyone who has any real expertise in compensation management. The single biggest expense on civilian personnel is pay, but nobody at OPM knows anything about it. It is incredible to me.

Veronica was talking about hiring. I find it appalling that it takes eighty days to hire somebody, but the real issues are those of seasoned people and new hires quitting early. If there is any red flag that this agency and any department across government should address immediately



is that of why are people quitting early. Work experience should be—absolutely has to be—the focus of reform. If an organization cannot create a good environment in which young employee can work, it has a real serious problem down the road. I remember reading that a lot of people are going to retire soon, and this is an issue that goes hand-in-hand with creating an appealing work environment. It is a complex issue, and, if you read the literature about Gen Z workers these days, the government is failing badly in this area. NAPA has talked about establishing career ladders. That was one of its recommendations in the aforementioned report—create occupational career ladders

because knowledge jobs are going to be the wave of the future. The competencies are key to that. Somehow, the present government classification system has ignored performance and competencies. The classification system is the serious problem here.

The government needs career ladders for knowledge jobs, which are those jobs where peoples' value is defined not by their duties, but by the value of their knowledge at that point. The government can have career ladders. Some years ago, research concluded that career ladders have four stages—entry, developmental, full performance, and world-class expert—and that expected competency levels had to be defined for each stage. I do not remember exactly what NSPS had, but one of the criticisms of NSPS was that people could not get promotions along the way. It was just one single band, and that has to be overcome. Expected competency profiles are going to have to be developed for every occupation and in every career stage within those occupations.

This idea [of career ladders] is basic but is something that government does not seem to do at all. Every organization in this country spends a lot of time following market pay levels. Thousands of surveys are available. I am one of the biggest critics of BLS [Bureau of Labor Statistics] surveys. These BLS surveys do not produce good data by job level or by occupation. They have been focused on looking at employee salary increases over time but not actually at salary levels at any point. Solid wage system research is standard in every other sector. This research is based on local pay surveys that enable organizations to align the market data with current salaries by job and location. DOD should place more emphasis on these local pay surveys.

What I am leading up to is that we should have salary bands. These bands have been proven across many different agencies and go way back to the Naval Air Weapons Station at China Lake. At China Lake, two labs were merged, and, when the two labs were brought together, a Navy commander was running the labs. HR said that it was going to take two years to reclassify all these jobs. The commander told HR that a two-year time frame was not acceptable and that a better solution had to be found. In that context, a lot of people would have been coming from the academic world with PhDs, master's degrees, and so forth. These people were accustomed to what is essentially a faculty salary schedule, where they rise from assistant professor, to full professor, and so forth. That is a banded salary program. A banded salary program was a good fit for that environment and has been proven in other demonstration labs. It is the basis for the NGA [National Geospatial-Intelligence Agency] pay system if I am not mistaken. It is an answer, a far better answer than the classification system as it exists now.

The other issue that also is somehow never addressed in these conversations is why companies in every other sector that rely on pay have managed to reinforce what is important and what goals have to be established. Performance management, one of the biggest single failures in government, goes back to the idea that an employee should be able to specify what he or she needs to accomplish in a certain year. Every employee and every manager should be able to say what great performance would be. If a person meets certain goals, he or she has had a great year. Employees can also specify what would be failure in a job. Once that has been done, three levels of performance have been automatically defined: outstanding performance, acceptable performance that is expected, and failure. As soon as that has been done, some rating scales have been established that can be used to manage performance.

Over the last couple years, there was a big story in the state of Tennessee. The state invested three years in preparing managers to manage performance. Pay has to be related [to performance]. I will return to this story, but I want to digress for a moment and say that the other piece that should be added here is this: if the culture is going to be changed from a culture of compliance to a culture of performance, instrumental in that change is using pay to reinforce new behaviors. People usually behave and change only when their behavior is being reinforced. Employees want—need—their value to be recognized. The other issue, which I am again going to emphasize, is that every time I hear this conversation in the government about performance, the focus is on poor performers. Conversations like that are never heard in the private sector. The government's focus on poor performers sends the wrong message. It focuses on the negative. A different strategy is needed. Clearly, poor performers populate every sector, but, realistically, they are something between 2 percent and, at most, 5 percent. Nobody ever starts his or her career expecting to be a failure. All of us want to be successes. The reason that people fail is usually because of a poor manager. Sometimes, they may have problems outside the job (e.g., family) that affect their performance, but the other reasons that they fail are usually because they are in the wrong job with the wrong fit of their skill set. The people who are taking those jobs need some coaching. Gallup research confirms that managers are the key to good performance. The focus of these managers needs to

shift from control to ongoing feedback and coaching. Shifting from poor performers to the outstanding employees would be enormously valuable. Valid and credible rating scales are needed.

Pay for performance can be successful in the government. It is a universal practice in other sectors. The best performers are recognized. A suggested starting point may be bonuses for the best performers, but some of that money also has to be set aside for salary increases. The NSPS had a slight problem with that, but I cannot begin to explain why because, as I mentioned earlier, we were not able to speak with anybody in DOD at that point. Somehow, however, the pay in every other sector has an element of pay for performance. However, the pay side is a relatively minor part. The real issue is performance management—how well the manager handles performance management. As mentioned previously, the state of Tennessee invested three years in changing the behavior of managers before they made any changes in the pay program. Under the leadership various state officials, the state brought in coaches from the outside and provided management leadership training. Tennessee's success story is important and should be considered as the government searches for answers.

Finally, if any changes are going to be made, we have to start with the managers—not just training for the managers, but pay for performance for managing. If anyone needs pay for performance, it is managers. They should be held accountable, and the accountability should be defined by the goals that they are expected to accomplish. If you do not change their behavior, true reform is not going to take place. Thank you.

(DAVID GRAHAM) Janet.

(JANET HALE) First of all, I want to compliment Veronica on the work that she does. What a gift to have somebody who has the passion and the enthusiasm to make the changes that we all agree with. Howard, I agree and disagree with you. I do think people are talking about pay for performance. The problem is we that we do not have agreed upon path. David and I were in the government at the same time and spent a lot of time on paper performance, and, when DHS [Department of Homeland Security] was set up, I spent three years trying to figure out how to get it through. We thought we had the golden opportunity to do it because we had just come out of 9/11. The Pentagon was still in ashes, we had Shanksville, and we had New York. We also had some level of agreement on the Hill until we started to implement it. We thought we had a process for implementation. We thought that if we had a consolidation of government expertise, union expertise, and academic expertise, we would be able to drive it through to consensus. We did not get those three entities to agree, and we did not get agreement on the Hill. When those kinds of fundamental changes are being made, a fundamental reason is needed, and broken for seventy years is not a reason. It would be great if it was, but I sort of think about it in the ashes of 9/11—if we were not able to get it done then, that says a little bit about the resignation factor.

That said, it has to then be cut off in slivers. Peter and I spent a lot of time on how OPM should be reformed. Reform has to come out of the agencies. Howard talked about performance management and how we train that. There is nothing more important than getting those front-end goals agreed to. How do we get middle management to understand it and implement it? Then, how do we account for it? Non-monetary ways have been used successfully, but, in fact, if it cannot all be done in pay, we are going to have to find other creative ways around a pretty rigorous, rigid, and unworkable system.

Veronica spoke about recruitment. I hear that changes are taking place, but we have to do even more. Veronica asked about how we can brand the federal government. It is so easy if you are Elon Musk and you go to Stanford say, “I want to hire a young kid, and I am going to make him the manager of the Mars program. I am going to pay him \$10 trillion, I am going to give him a Tesla, and I am going to give him the responsibility of getting a



manned mission to Mars.” That is easy. So, how then do I recruit a front-line border patrol agent because I care about the mission or how is it that I get an agriculture What is that branding. We used to be able to tell applicants that they have longevity, they have certainty, and they have retirement. Those were some of the early words that we used, were they not? What, then, is it now? I would say that one of the major tools that we have is a post-pandemic telework-based and flexible environment, but, if we do not, we have to figure out the mission for the brand and then what makes the difference. How do we engage with that? How do we get the best branding people in the country to sit with the research to figure out how we can recruit for FEMA [Federal Emergency Management Agency] or HUD or other government agencies? It is about the branding and understanding what the jobs are and how we can compete with the Elon Musks. It is easier if we recognize the fundamental changes that are needed and if we understand the particular jobs that we are involved with.

What I used to talk a lot about was recruit and retain, and somebody earlier spoke about the fact the we are losing so many people. I actually think that losing people is okay. Turnover is good. The result is fresher faces, newer ideas, and variety. I did worry a lot about it at DHS because I did not want to pay to replace all those unhappy TSA [Transportation Security Administration] workers. There is a cost to that, but is it not more important to consider how we get fresh faces and how we change the job to retain those whom we need? For some, it is okay if they want to leave because, for instance, they may be getting more responsibility, but we then have to think about

how we can give them more responsibility and opportunities in their current jobs. One of the things that we started at DHS and that they are working hard on is rotation programs, and it is not just when someone is an SES [Senior Executive Service] candidate. How do we get a border patrol agent to speak with a TSA agent and then come to headquarters and understand why we have come up with these wacky ideas? In-house rotation can have some job satisfaction, but I would also encourage rotating to the private sector as part of a government program and bringing the private sector to the government.

There are some stories about when DHS was being set up—actually it was TSA before I even got to DHS. We asked ourselves about the problem that we were trying to solve and then agreed that we should find the best expert in the country to help us. So, TSA thought, how are we going to set up? What is our most pressing problem? Our biggest problem was lines at airports, so where did we go? We went to Disney World because they had to deal constantly with lines of people. The Disney people agreed to help because it was post 9/11 and there was a reason to come. What can we do now to recruit the private sector? We did numerous exchanges at DHS, and I have been involved bringing people in both directions—to the government from the private sector and to the private sector from the government. When I was with Deloitte, we brought in former and current leaders from the Departments of Justice, Treasury, and Transportation as a six-month rotation into the company. The ethics people then got involved, and we had to sign off on both sides. We had to assure the government that these recruits were not going to work on any government procurements that Deloitte might be interested in. We wanted to show them how a world-class consulting firm operated. One of the government people involved was an SAC [Special Agent in Charge] in Baltimore out of the Bureau of Alcohol, Tobacco, and Firearms. She told us [at Deloitte] that she learned important strategies about how to lead and manage because she was at a consulting firm that could actually work through those issues. If I were going back in, I would spend more time on the leadership training and the opportunities to expand.

One other important issue that Howard referenced is the management leadership training that we need for the middle managers. I keep using DHS examples, but we promoted the leaders of border patrol because they had experience in a sector and they knew how to stop the immigration flow. That said, however, did we give them the tools they needed to grow on the way? For management training, a person should have a stint in the finance office, a stint in the procurement office, and a stint in the HR office as part of his or her training—become familiar with different aspects of the organization. Most people do not want to come out of the field because that is where their passion is; however, if they are going to grow, those mandatory rotations are important in honing the management skills that develop the leaders who can make a difference.

For the past two years, I have been engaged with mentor coaching, something I did not know about when I was in government. It is for middle managers, and it is interesting. Young SESs need a voice and somebody to listen to them. Because they were struggling with the new appointee coming in, they may ask, “How do I get past this or that problem? How do I help get somebody confirmed?” Well, I have had a little experience in those situations. With my experience, I was a

seasoned, outside voice that would listen to them and provide feedback. Peter, you were saying that DOD has a mentor coach but that they assign a mentor coach. Have they assigned a retired mentor coach—somebody from the civilian or private sector or defense—to give those identified leaders opportunities to grow? I am a big advocate of diversified training skills, but, unfortunately, it is not on the front-line mission. It is much more about the management.

We have talked a long time. Should we let people ask some questions?

(VERONICA HINTON) If I could jump in first. I do not want to give the impression that I am not thinking about all that has been said. While I focused on hiring initially, if I were asked about the things that keep me up at night or the things we have to focus on, it is all the things that you and Howard spoke about. I would offer that for compensation broadly—and we have tried the big bang, whether it is through the National Security Personnel System or China Lake or Acquisition Demo—what we have found and what we are thinking about is that not every position and not every occupation or function needs pay for performance. So, what are the right systems that we need for the right functional areas, and, if we are thinking about future work—modernization, artificial intelligence, digital—are those areas where pay for performance makes sense? If I am turning winches, maybe not so much.

(JANET HALE) However, people who turn winches still need to have some job satisfaction, and how do you talk about that?

(VERONICA HINTON) From an engagement and resiliency perspective, we have found over the pandemic that our engagement numbers increased. So, that is something to look at. However, we find the Gen Zers and the other people coming into the government are always the most engaged on their first day at work. They are excited to be there, and they want to make a difference. We need to ensure culturally and institutionally that we know about environment that they are walking into. If a person who is an exquisite data scientist or a coder comes into an overly bureaucratic, antiquated environment that does not actually let him or her code or may have him or her working in an area that is totally unrelated to his or her expertise, we are going to lose that engagement. We are going to lose that retention.

Those are the things that we thinking about holistically—not just the hiring. It is the performance, the engagement. I agree with Janet on pathways to service. Longevity and a retirement are not necessarily what motivates entry-level people—they might motivate mid-level. So, I focus on hiring to make it easier for people who want to serve the country, and we need to make it easier for them to come in and out of government so that they can bring their private-sector skills into government. In our current system, in some instances, they are still in the back of the line as if they have never served before. I am very passionate about those particular areas because we have to figure this out for the 2040 workforce.

(JANET HALE) We are going to see it more when they have experienced the post-pandemic environment. They will learn so much by rotations going out and coming in, but they will get

blocked often. You also talked about how to modernize veteran preference. You also have to figure out a way to let those people go out and come back in and not be hindered.

(DAVID GRAHAM) We have about fifteen minutes for questions. Let me ask for questions from the audience first and then see if any pop up on my monitor [from the virtual audience]. Anyone?

(PETER LEVINE) I was going to try to avoid asking questions to give others a chance, but you raised something that gets at an interesting distinction that I feel is important. Howard, you put up a slide on markets and market pay, and that is important, but, as far as most of us are concerned, market-based pay is different from performance-based pay. Market-based pay is about getting people with the skills that you want. So, if we are offering \$60,000 for coders and someone else is offering \$170,000 for coders and we want the same people, we are not even in the same market and we are not going to get the people we want. Performance-based pay is something different. It is about incentivizing and rewarding performance by the people you have. To do that, you have to set the right objectives, which is really hard to do for a lot of management positions, and then measure how well people meet those objectives. Then, there is how hard individuals work to do that. I think that confusing the two is not helpful because we need to decide what our objectives are in our pay system. It may be easier to do market-based pay, and that may give us more bang for the buck compared to performance-based pay. I'm wondering if you can comment on this.

(HOWARD RISHER) Starting salaries for STEM [Science, Technology, Engineering, and Mathematics] jobs are clearly deficient—way too low probably. However, more importantly—and it goes to the issue of not pay for performance, but what I am going to call fair pay—over a course of peoples' careers, they need to think that they are going to be treated fairly, that the pay increases are going to reflect their value to the organization, and that somehow these increases going to be roughly in line with what they could be earning someplace else. That is the issue, and it is not happening right now. It is not just pay for performance. It is how the pay is administered so that people think they are going to be paid fairly, and, at the moment, I do not think they do.

(VERONICA HINTON) It is both here. We are focused on market pay for the skills that need market pay and getting the authorities to secure that. We have had some success, for example, whether in our intel community or in our cyber community in dealing with some pay flexibilities. On the performance side, as we consider pay for performance, we are still recovering from NSPS if you think of a broad application of pay for performance. However, opportunity still exists in our defense performance management and appraisal program that drives that discussion to the point around what the objectives are and what we can accomplish. We have focused on making sure that we recognize the high performers—not just the poor performers—and not just having an annual discussion, but having an annual bonus. How can we do real-time recognition—monetary or non-monetary—for our highest performers? We have been trying to drive our components to think about spreading that use across the year to maintain motivation and engagement throughout the year. I do not know whether we would ever pivot—at least from a strategy perspective—to

big-bang pay for performance, but there are certainly levers we have that can get at that compensation motivational factor.



(JANET HALE) I agree. One of the issues that I saw from my management lens is that we may want to get more money into the pay line. For example, I go up to see the appropriators, and they want to hire ten more border patrol agents. However, they do not want to pay them more. It is not “sexy” to pay them more. They want to have the higher number. The question then becomes, what is the motivating factor that gets both ends of Pennsylvania Avenue done—the authorizers and appropriators? We need to get more dollars into that pay line. We are going to have to work on our rhetoric and our stakeholder evaluation about how it does make a difference. I cannot just go out to the district where the appropriator sits and say, “You can pay Joe more.” We are going to have to have leaders on both ends.

(DAVID GRAHAM) I think Dr. Chu had his hand up first and then you sir.

(DAVID CHU) You have all touched on a variety of what I call supply side issues. How does the Department get the talent it needs? I was wondering if you can comment on the demand side issue. How does the Department decide where it needs more civilians should be in a way that would be consistent with cohort hiring for practical purposes? Maybe there should be more civilians in some areas and not in others. If so, what is the process by which the Department would decide this?

(VERONICA HINTON) That is a great question. We have talked about workforce rationalization for many years. It is totally part of the National Defense Strategy. What is the right mix on the civilian side—not just as mission enablers, which is typically what we are thought of and which is certainly our role. We see civilians in a mission-centric, mission-provision focused area. So, from a demand side, that is exactly what we are grappling with—finding the right balance, particularly in areas where we could have civilian or military personnel. How do we make the

decision whether to invest in the civilian resources? Certainly, signals from the Hill have expressed concern about any attempts to reduce the size of the civilian workforce, making sure that it is tied to mission essentiality and so forth. So, from a demand side, we are having conversations on the staffing requirements that we need. Earlier, I spoke about data analytics. Part of the challenge is that we have a variety of disparate systems. We need to understand where our talent is and where our needs are so that we can adequately articulate from a data perspective the skills and the staffing requirements that we need. That is certainly an area that we are focusing on. It ties into the demand side (i.e., the size of the civilian workforce) and the particular areas that we invest in.

(JANET HALE) On the other side of the river, we went through that balance between it being more desirable to get a new border patrol agent than it is to get an HR specialist. It is much easier to get those numbers through to increase the agents, but then those mission-focused people are made to do management functions they do not want to do. Is it more effective and efficient to let those guys go do their mission job? We spent a lot of time saying that we can increase productivity by 10 or 20 percent if we get them out of the management mission support functions. That idea had some success on the Hill, but it then takes them out of learning the management process. So, we had to weigh both. We want more on the support side, but we want these people to learn and to understand what it is that will make them more efficient. Getting them out of doing somebody else's job was our first step in that process.

(DAVID CHU) If I could get your thoughts either on the military or civilian on the British experience with so called sponsored reserves to build specific capability areas. You could have civilian reserve appointments such that for cyber, for example, where there is a cohort in which a military person can go back and forth between civilian and military positions. You could have a civilian reserve appointments that upon administrative decision can be converted overnight to military status. I would urge the Department's thinking about how this could be leveraged.

(VERONICA HINTON) We have had several conversations about permeability—and what you said exactly goes to that—and the notion of reserve corps. Those are certainly the signals that we are getting from the Hill as well. So, what are non-traditional ways of thinking about talent and bringing folks into government and out of government? Reserve corps is another potential avenue.

(JANET HALE) I agree with you. I would just caution and you might want to spend some time understanding the history of FEMA's reserve: two-year corps, four-year corps. You may have a problem where you do not have enough here on the permanent side. If I get them over here as temporary reserves, how hard is it to convert to permanent positions? So, there is a lesson learned.

(VERONICA HINTON) Or a one-month corps. I have a finite need for the right expertise to come in and solve a specific issue. How do we keep them primed to be able to do that, with the right clearance, and so forth? So, again, there are a lot of different ways to tackle it.

(DAVID GRAHAM) Yes sir.

(UNIDENTIFIED QUESTIONER) When you look beyond pay for performance, is there an opportunity for promotion for performance? Now, this is a three-part ... (the audio recording of the remainder of question was incomprehensible).

(VERONICA HINTON) The question was how to make performance a central tenet of promotion opportunities if you have been a proven performer. We have “rank in position,” and your rank and your ability to be promoted is tied to your ability to go to a position that has a higher level of expertise or skills or responsibility. We have systems in the Department that are “rank in person.” To your point, you have proven competency skills expertise and have delivered results. We see that in the intelligence community as an area where we have rank in person and, quite frankly, the military is another area. It does not matter where you are sitting, you carry the rank because of who you are and where you are in your career. Those are areas that we are exploring. We understand that this notion that a person must spend twelve months in a time and grade before he or she can be promoted to the next level is not a model that should be the primary model for the future. So, those are conversations that we are having not only within the Department, but also with the national security community as part of our revitalization of the national workforce and more broadly across the interagency with OPM because there is a role to having a merit but rank-in-person-based system. However, we also have to be able to do that in a way that preserves merit. So, finding that right balance and—then to Janet’s point—bringing all the stakeholders together because that is a radically different approach. We need to get alignment from all the communities that would have a voice in that and then know what are we solving for. It is certainly an idea that we have been thinking about.

(HOWARD RISHER) One of the things about the OPM and pay reform in 1990 was that we needed to get people on board. One of the things that is always true of reform is that we need to get people to buy into what we are trying to accomplish. All the stakeholders need to be involved in the process. John Sturdivant, President of AFGE [American Federation of Government Employees], and Robert Tobias, President of the National Treasury Employees Union, were on board. It was a relatively modest change at that point—it was just going to affect locality pay—but we needed to get people to buy into the changes. That is not the way—and I could be wrong—that the military works normally. Also, this is like ground-floor kind of people who need to get into that job and into the process so they all understand why. In the academic world, they always have a committee involved in that process. If the change process is going to involve secretaries, there are secretaries on that committee. If it is going to involve engineers, there are engineers on that committee. These committees are always involved in the process. They make the decisions and own the decisions at that point. The people on these committees go back home, talk to their co-workers, and tell them what is going on. They are taken very seriously. They communicate the process. This is an example of integrated teamwork, and it works very well when it is done that way. Every organization should do that.

(JANET HALE) I worry a little bit. I could not agree with Howard more about getting the communities together, especially in this more much more partisan world than most of us experienced when we were in government. Those involved have to be able to give up something so that stakeholders are engaged, and the ability to give something up in this present environment is much more difficult. We have to be able to get consensus, tone down the rhetoric, secure an agreement, and move forward. The politics—the “small p” politics—is what needs more time than the actual substantive answers. Come up with the goal and then figure out the process to get there. For example, who needs a bridge in West Virginia, or how many more miles do we need to pave in New York? What is the tradeoff? It may have nothing to do with what you are doing.

We have time for one more question.

(UNIDENTIFIED QUESTIONNER) I wanted to personally thank Veronica. We got to work together at the Pentagon. The 2017 to 2021 time frame was one of the best for the office, and I was a user of some of the hiring authorities. Through the course of the questions, we have talked a little about the GS system. My question pertains to the SES tiering approach at DOD. We talked a lot about incentives and efficiencies and finding opportunities to strengthen programs, budgets, or forces. The structure of the SES tiering system seems to be reversed. We are asking SES to reduce their expenditure of programs and reduce the people on the workforce and spend less, but the tiering system rewards SESs who lead larger programs with more employees. Is the tiering structure outdated or in conflict with some of the budgetary outcomes we would like to see? Or if not obsolete, how can it be structured to provide better incentives? Another example is the idea of pushing decisions down. The Department actively limits the ability to do so. Things flow to the top. How can we create a system that creates the right incentives?

(VERONICA HINTON) That is a lot to unpack. The question was on SES reform, particularly the tiers, and the cultural decision making of the Department. On the tiering, we went through that under the previous administration.



We conducted a year and a half study on the tiers, in particular, for senior executives. I have worked in an agency that does not have tiers and in DOD, which is sort of my home agency. This issue is mixed across government. What we found and what we recommitted to under leadership is that there is a place for tiers. We operate in a Department that has a hierarchical nature as its culture. So, there is a role for tiers to help civilians integrate into the broader military construct. However, we also recognize that having hard barriers did not necessarily enable retention of our executives who were looking for pay acceleration across the executive pay spectrum, and we

realized that we needed the ability to recognize our highest executives whether they were Tier-1, Tier-2 or Tier-3. If they were achieving the results and the outcomes that the Department asked them to achieve, hitting an artificial pay cap was not and is not necessarily the right answer in terms of retention. So, last year, we actually put policy changes in place that enable individuals and leadership to exceed tier caps. It is a recognition that we need a flexible system and that there is value for the tiers, but we need to be able to move people through them if they are high performers and not necessarily set boundaries. We recognized that as a challenge, and we took steps to address it. The data has proven that folks are using it across the tiers.

To the second part of your question, pushing decisions down to Tier-1, Tier-2 or Tier-3 I am a Tier-1 executive in DOD, but I have outsized influence in terms of what I have engaged in and in what I have been able to work on in the interagency. Also, I have been able to have an influence on the broader interagency conversation and the conversation within the Department at the most senior levels. Some of it is making sure that our executives feel empowered, equipped, and comfortable in their expertise and to bring that conversation to the table to drive decisions. However, I also recognize that we operate in a hierarchical environment where the most senior-level decision makers, whether they are executives or other military, will weigh in on the most critical decisions. It is my job in my role—I am also the senior executive functional manager for the Department—to think about competencies for our [civilian] executives to make sure that we are developing and grooming executives who feel comfortable operating in that [DOD] environment and can be vocal in what they bring to the table.

(HOWARD RISHER) Could I make a quick comment? One of the things that I absolutely believe in is delegating down to the lowest possible level. In the private sector, an enormous number of people are basically self-managed. They do not have a boss anymore. They operate and function on their own. The government does not seem to buy into that idea, and I do not understand why.

(DAVID GRAHAM) Let me thank Janet, Howard, and Veronica for an informative session. I realize that some questions did not get answered, but, in the interest of time, we need to move on. Thank you very much.

6. IDA Symposium on Defense Management Reform

The Future of Defense Financial Management Reform Panel

Introduction: Peter Levine

Moderator: James R. Dominy

Panelists: Mark Easton, Asif Khan, Christopher Hanks

(PETER LEVINE) We have another distinguished panel, our panel on financial management. I am going to start by introducing Mark Easton. He served as Deputy Chief Financial Officer of the Department of Defense from 2009 to 2020. Before that, he served as Deputy Assistant Secretary of the Navy for financial operations and as the Director of DFAS [Defense Finance Accounting Service] Cleveland, among other positions. On a personal note, over the course of his career, Mark went from being one of my favorite punching bags when he would meet with me on Capitol Hill to explain how the Department was handling financial management, to the person on whom I relied most heavily when I was in the Department and trying to avoid failures and keep the reform effort on track. Thank you for that Mark. You made a great transition.

Next, I would like to introduce Asif Khan, Director of the Financial Management Insurance Team at GAO [Government Accountability Office]. Previously, he spent almost twenty years at major accounting firms auditing and advising U.S. government agencies. I had the privilege of working closely with Asif when I was a staffer for defense management issues. His work and the work of his teams remain the critical foundation for any Congressional understanding of defense audit issues. I am never quite sure how deep the Congressional understanding of these issues is, but I at least know that Asif has a deep understanding of them.

Finally, I would like to introduce Chris Hanks. He had a thirty-year career as a defense analyst researcher at LMI, RAND, and IDA [Institute for Defense Analyses], working in the areas of logistics, working capital fund operations, and defense business transformation. He is also the author of several of the best informed and most clearly articulated papers on defense management and defense audit. Of course, I say that because Chris is also one of the few people who seems to share my view of the defense audit, so I am not completely impartial on this issue.

Jim Dominy has graciously agreed to be the moderator of this panel. He is an IDA Research Staff Member specializing in resource management issues. He served for over thirty years in

financial management positions at DOD [Department of Defense], including as the senior official in the Office of the DOD Comptroller responsible for managing the Department's budget development and execution processes. He is perhaps the person at IDA to whom we turn most when we want to understand how the arcane budget process works. Thank you for agreeing to moderate, and I look forward to the panel.

(JIM DOMINY) Thanks for joining us this afternoon for this session on financial management reform. The Department has been engaged in and struggling with financial management reform since the 1990s. There were a couple of what Peter would call grand design efforts and a whole series of business process reforms and system implementations that arguably may have been more productive in the long run for this process. While progress has been made,



lot of work still has to be done. Too often, people think of the end state of financial management reform as an unqualified audit opinion, but financial management data is a critical input into the Department's decision-making processes. Not only does it have to satisfy Treasury's financial flow information requirements, but it is a critical input—as Mr. Work said this morning—into the senior decision-making processes. The ability of the financial management process to actually provide accurate, timely, and relevant information depends on all the other functions in the Department. The logistics system and the personnel system, for example, have critical feeds into the financial management system. Therefore, financial management becomes very much a multi-dimensional problem.

As Peter said, our distinguished panel has a variety of experience in the financial management world. Chris Hanks is going to lead off and talk about whether a clean audit opinion is the right metric to measure progress in financial management reform, Asif Khan is going to talk about financial management reform from the perspective of an independent oversight agency, and Mark Easton will talk about how financial reform impacts the Department's PPBE [Planning, Programming, Budgeting, and Execution] processes, including some of the key enablers. Hopefully, their insights will generate some discussion based on your questions.

(CHRIS HANKS) Thank you Jim. Having been stimulated by the morning sessions, I want to say that however the Department proceeds with reform, it will be important for people to have a good view of the Department. The Department's reputation—its brand—has suffered because of the criticism it has received about not being able to achieve a clean audit opinion on the CFO Act

[Chief Financial Officers Act of 1990] financial statements. That is a shame, and it is going to complicate reform efforts.

Part of what I will be talking about today.... In fact, I will cut to the chase and back the details in. It would be helpful for the Department to obtain permission from the Congress to stop trying to produce private-sector-style financial statements, which is what the CFO Act requires, and to focus its attention on getting a clean statement of budgetary resources, which is based on budgetary accounting, not financial accounting. Focusing on budgetary accounting would help to improve faster the accumulation of the kind of data that Mark is going to be talking about.

So, with that foresight about the beginning and the end, I would like a show of hands to know how many of you are accountants. We do not have any accountants in the audience. I am not an accountant either. I am a mathematician by training, but I have spent a lot of time studying logistics and working capital fund operations. DOD budget submissions are cast in the form of the financial statements called for by the CFO Act, and I have spent a lot of time studying those budgets to understand what was going on in logistics and trying to quantify things and how much they cost. I began to focus on logistics in my career when General George Babbitt, the four-star commander of Air Force Material Command, issued to all his commanders the book called *Accounting for Dummies*. That is when it began to dawn on me that this was going to be something important and was going to influence the way logistics operations worked. So, I started to think about it. Then, before I left RAND, I led a study on the future of the auditing profession—the private sector auditing profession, the big four—sponsored, unusual for RAND, by the U.S. Chamber of Commerce. I learned a lot during that study about what auditors and financial statement auditors do, and those experiences are why I continue to be interested in the subject and explain why I am here today. I published three papers on the subject.



I am going to start by just quoting from Peter's book, *Defense Management Reform*, because he and I are in agreement. In the assessment section at the end of Chapter 3, "Auditing the Pentagon," he makes this statement: "DOD still does not have a good rationale for why it is trying to achieve a clean audit opinion on its financial statements—at all." What I am going to do today is give you five reasons—compelling reasons—why the production of private-sector-style financial statements, as required by the CFO Act, has never made sense for the Department of Defense. In the private sector, the standard financial statements are the balance sheet, the income

statement, and cash flow. The focus in the CFO Act has been on the balance sheet and the income statement, and the income statement has two parts: statement of net cost and statement of changes in that position. The balance sheet is the assets minus liabilities equals equity. That is the way it works in the private sector. A fourth financial statement required by the CFO Act is the statement of budgetary resources, and that is the statement, subject to audit, which says that this is the obligation authority that was given and this is how it was executed. How do those two things match up? That is the matching principle for budgetary accounting and for the statement of budgetary resources. An audit of the statement of budgetary resources will be a check to make sure that it fairly presents the financial position and results of operations of the Department of Defense. The audit is confirming that the obligation authority permitted by law in the authorization and appropriation legislation and the obligation that was executed are a match and that we can trust that the DOD is spending the money in the way it was given permission to spend the money. That statement of budgetary resources is where the focus should be in auditing the Pentagon.

Reason #1. DOD's mission is to provide national security (i.e., the DOD's mission is not to make profits or to build equity for its investors). However, the financial statements that I just described—private-sector-style financial statements—are designed to inform investors or creditors or other interested people about whether a business is making money and building equity. Thus, the idea of financial statements—accrual accounting—has never made sense for the Department of Defense. It does make sense for the government to do accrual accounting for Social Security, Medicare, and other long-range programs that have interesting unfunded liability issues, but the Department of Defense does not need this type of accounting procedure. Even the Department's working capital fund activities, which ostensibly are set up to be business-like in behavior, are not businesses either. They are centrally planned support activities controlled by the comptroller's office, and the proof of that is how their prices are set each year. It is true that they know their costs because that cost goes into the prices that they charge their customers, but the customers do not have much choice. When it is time to overhaul the aircraft or order a spare part to keep it flying, a customer goes to the supply window. The supply window is supplied by—in the Air Force's case—the Air Force Material Command. It is the wholesaler. So, the customer does not have much choice, and, inside the logistics command, the managers know what their costs are overall because it went into the price-setting process. However, they do not have any incentive to try to reduce the costs of those processes because of the revolving fund, which is being replenished by the sales that they are making to those warfighting customers. If the net operating result is negative, the comptroller will direct the prices to increase next year to make up for the loss, and, if the net operating result is positive, then prices will be reduced. Working capital fund activities are centrally planned businesses. They are not operating in a competitive marketplace, but they use private sector accounting. DOD is not a business. That is the first reason why private-sector-style financial statements have never made sense to the DOD.

Reason #2. In the private sector, the financial statements [required by the CFO Act]—whenever I use the term financial statements, think private sector financial statements—tell

nothing about how effectively or efficiently a company is operating. A lot of poorly run companies—poorly run refers to companies that are not operating as efficiently as their competitors are operating—are getting clean auditor opinions on their financial statements. In addition, financial statements do not indicate anything about the cost of internal processes. The cost of internal processes (i.e., what managers need to know if they are going to understand the cost of their processes) is crucial. If they are going to do anything to make those processes more efficient, they need to be able to measure that process; otherwise, they would not be able to ascertain whether the business is becoming more efficient. If financial statements contained information about the internal costs of a business, in the private sector, competitors could scrutinize the financial statements of other businesses to understand the internal process costs, which could give them a tremendous competitive advantage. Financial statements do not describe internal costs. Even in the DWCF [Defense Working Capital Fund] activities, as I mentioned before, the cost information collected, customers have no choice, and the managers inside the DWCF have no incentive to try and reduce those costs even to the extent that they understand them. Depot maintenance activities do have good internal cost accounting measures, for example; however, I am going to argue, even though I been away from it for a while, that based on the research that I have done in the past, the depots did not become any more efficient after they became industrially funded, which was the term used for their revolving fund.

Reason #3. Financial statements are not designed to detect FWA [Fraud, Waste, and Abuse]. That is true, even in the private sector. Accountants and auditors talk about something called the expectation gap. I learned about this term in the auditing study at RAND. Investors and the public think that if an auditing firm has signed off on the financial statements, giving a clean opinion, that means that no fraud was detected. Sometimes, however, that turns out not to be true, and the company management and the accounting firms get sued. The auditors will say that they are watchdogs, not bloodhounds. In business, fraud means not telling the truth in the company's financial statements. Either the company has not followed generally accepted accounting principles or it has pushed the envelope so hard that it is basically lying to the people who are trying to use its financial statements in deciding where to put their money. That said, what does fraud mean in the government? Contractors hired by the Department of Defense can commit fraud, but it is the IGs [Inspectors General] in the DCAA [Defense Contract Audit Agency] who are supposed to monitor that, not the financial statement auditors. Fraud could mean obligating funds without having the obligational authority to do so, but, as Peter points out in his book and Robert Hale, former DOD Comptroller, once pointed out in a committee hearing, any deficiency act violations of the DOD run on the order of about 3 cents for every \$100 of obligation. Fraud is not occurring in the Department of Defense. Even that 3 cents on every \$100, the financial statements and the financial accounting are not going to help to detect it.

Reason #4. Financial statements are backward looking. How did we do this past year? DOD's national security mission calls for—and I would argue requires—a forward-looking financial management system, which is what the planning, programming, budgeting, and execution system

is. Granted, it is old and creaky, but it is at least forward looking. Looking backward to discover how much money the Department did not make because it did not have that charge in the first place is not going to help to achieve the national security mission. Budgetary accounting is what makes sense for DOD, and OMB [Office of Management and Budget] realized that when eight years after the CFO Act was passed, it added to the CFO Act the requirement to produce an auditable statement of budgetary resources. Budgetary accounting is what provides the transparency, which makes sense for the DOD, and is what Congress should want.

Reason #5. Congress is never going to give up its power of the purse, and the power of the purse is contained in the budgeting process. As long as DOD is required to produce private-sector-style financial statements, it is going to have to continue to do budgeting. That means it is going to have to continue to have two sets of books and two completely different accounting systems. Part of the reason that DOD has never been able to get a clean opinion is because it is hard enough to manage one accounting system for a \$750-billion operation, but to run two systems would be impossible. In fact, I will make a prediction here: DOD will never achieve a clean opinion—not only on its consolidated financial statements, but also on the agency financial statements for the big operations. DOD has done it for some small operations, but some of those have backslid. For instance, the Marine Corps had a clean opinion, and they had to withdraw it. The consolidated financial statements are another reason to rethink the working capital funds. Why has DOD not been able to get a clean opinion on the statement of budgetary resources? One of the reasons is if the intergovernmental transactions that take place inside the Department of Defense are examined, the DWCF activities represent something like 20 percent of the total DOD budget spending each year. That is funding that DOD is consuming. Trying to get down to transaction-level data so that the auditors can initiate audit trails in something where there is a spaghetti of intergovernmental transactions makes that virtually impossible. Thank you.

(ASIF KHAN) Thank you, Peter, for inviting me here. I miss working with you on the Hill. This perspective that Chris has mentioned is something that is more common than just one more thing. People begin to question the value of an audit or a financial statement audit within the federal arena, not necessarily the DOD, but the sound gets louder and louder when the focus is on DOD because of the time and expenses necessary for some of the long-standing issues to be resolved. However, let me back up a little bit. The CFO Act that Chris mentioned was the result of a great deal of mismanagement, not only within the federal government, but also within the state and local governments before the 1990s. That mismanagement created an impetus within the federal government to modernize the way that federal programs were being managed and, specifically, how the federal programs were funded. Before the 1990s and similar to what Chris is advocating for now, the budget was pretty much the way that programs were managed. One of the major issues with how programs are managed through the budget is that it is very single-dimensional. It is focused much more on the burn rate—how quickly the money is being spent—as opposed to what we are getting at the other end. Various arguments can be made (e.g., we can put other processes and systems in place to capture the results). The idea of the CFO Act was to centralize management

within each agency and then centralize it within the federal government at OMB so a consensus could be formed on how these federal programs could be managed from a financial perspective. The common thread was central management of these programs and internal control structures. This process would promote more efficiency, which, in turn, would create more transparency and a common understanding of what good results looked like.

The idea of the CFO Act was not to end getting an opinion on the financial statement. That was one of the early elements, one of the early requirements. However, it goes much beyond that, and some of the legislation that came after the CFO Act—the GPRA [Government Performance



and Results Act of 1993], GMRA [Government Management Reform Act of 1994], and the other companion legislation—encouraged agencies to develop performance measures that were related to their programs. In an ideal state, the budgetary information, the financial information, and the performance information would be able to be matched up, and this process would be specific to each agency. So, depending on the user’s need, whether it is agency management or the stakeholders, we would be able to say this is the appropriation and this is the budget authority for a particular program (i.e., what was spent and what the results were). I fully understand that this process

may not lend itself to the warfighting mission, but there are several other programs within DOD where performance measures could be applied. In essence, that was the emphasis of the CFO Act, and it is thirty years on now.

The CFO Act, based on the work that we have done at GAO, has achieved a great deal of its original objectives. Twenty-three of the twenty-four CFO-Act agencies have received an opinion at one time with the other. These agencies are not as large as DOD, so DOD has several additional challenges, primarily because of its size, complexity, and mission. The CFO Act also helped to centralize the governance of the federal government’s management. It highlighted the need for good financial management systems and the need for auditable financial statements. Unfortunately, some of the goals have not been met. Most of these agencies—twenty-three of the twenty-four—have been able to get an unqualified opinion, but they have not gone much beyond that. They have not been able to develop mature performance management systems or performance measures with which to manage the programs, as were envisaged by the CFO Act. So, this is still work in progress. The lack of progress has to do with insufficient funding in some cases and not

having adequate staffing to be able to move through the reforms that were envisaged by the CFO Act in other cases.

Now, I would like to discuss DOD financial management reform. I have been tracking the story of the CFO Act since the early 1990s. I started in public accounting in the early 1990s. First, I was in the private sector and then came to the federal sector of the public accounting firms, and this was exciting. In Washington—with the federal government being the big organization—if a person was involved in public accounting, much of the tone that was set in the federal government was also followed by the state and local governments. The state and local governments were able to progress much further and much more quickly soon after the CFO Act and some before that because they need to have the financial statements to be able to get their bonds and the other debt that they have to incur. However, just coming to DOD, I have seen a great deal of progress in the last dozen or so years. Peter has done a great job in outlining a lot of the financial management reforms at the Department. The reform that, in my view, has stood the test of time is the FIAR [Financial Improvement and Audit Readiness] plan, which was initiated around 2005. This plan achieved many of the objectives that were also in the CFO Act and has also achieved a culture of change. The management at DOD truly views financial management as a priority—not *the* priority—because DOD’s main mission is warfighting, but it has heightened the fact that financial management is very important.

In our analysis, financial management has become institutionalized within DOD, very much so within the financial management community but also within other functions. That new focus has happened through the hard work of the DOD comptrollers, the CFOs [Chief Financial Officers] of the different components, and also at the behest of Congress because Congress wanted to make sure that there was stewardship of taxpayers’ money. After all, Congress was appropriating the money and directing where the money was going to be spent, so it felt responsible and directed the Department to make those changes. The FIAR plan and the reform also established a Department-wide leadership structure. In the last administration, we saw the emphasis move up to the deputy secretary level, and I think it is also going to continue in this administration. It has given financial management much needed visibility within the Department, and there is a consensus within the other functions that financial management is important. For me, it was personally fulfilling to see that financial management was one of the three pillars of the National Defense Strategy (i.e., as part of reforming the Department’s business practices for greater performance and affordability). There is now a greater recognition within the Department—and not only the DOD financial management community—that financial management is an important area and that this condition is important for the forward movement of financial management reform. If it is abstract or simply viewed as a canned exercise, it will just become a compliance exercise (i.e., we are doing this because of the CFO Act; check the box; we have issued the financial managed financial statements; yes, we got an opinion, and move on), but not much else will be done with the information. There will not be any value added. So, this institutionalization is the right condition for the financial management information to be used for decision making.

The other part of the Financial Improvement and Audit Readiness plan—preparing the financial statements and putting them out as they are ready for an audit—was a big step. When I started in the federal space in the mid-1990s, there was little consensus as to which statement—this is within DOD—should be audited first: the SBR [Statement of Budgetary Resources] or the balance sheet, which are the two main statements. In the early 2000s, there was a consensus to move forward with the budgetary statement, and that was wise because the budgetary information is used in the day-to-day business. It was important to have credibility (i.e., to make sure that the budgetary information was reliable), and it also helped to promote a buy-in within the Department to move forward with this exercise of the financial statement audits.

One of the other things that the Department did was not to wait for all the issues to be fixed. The Financial Improvement and Audit Readiness plan encouraged the departments to identify the impediments and the challenges to producing good financial statements, but the leadership, somewhere around 2015, made a decision to put this out to audit. The first year the audit took place was 2018—whether the Department was ready or not. To put the financial statements out for an audit, management needs to assert that these statements are ready; however, management was able to get around this requirement by being clear that these statements were not ready to receive an unqualified opinion. Management’s key point was that it wanted to get input. It wanted feedback from an independent third party about the fixes and the challenges that it faced in reaching an auditable opinion. In my view, that was a smart move because getting a third party to come in stopped some of the bickering between the different parties as to what was right or wrong. Somebody came from the outside and objectively tested the systems, told management what the issues were, and actually quantified and provided the findings that enabled management to effect remediation.

As an aside, I know that many of you are not accountants, but financial statements are not a tool on which to make a decision. It is an exercise that proves that the information within the financial system of an organization is reliable. It is a retrospective look. It is a look back, but it proves to the stakeholders that the management of this organization is making decisions based on the right information. The financial statements alone are not going to give useful information to analysts or to other stakeholders, apart from showing that the decisions made during the year were based on reliable information. In the private sector, there are quarterly statements and a lot of ongoing intelligence that the analysts pick up. They can get the information from the suppliers and from trading partners. This information gives them a good idea of how a business is performing during the year. Getting an audited financial statement just confirms the information that they already have. In my view, a similar situation exists with the federal government. The financial statements are a set of control accounts. These statements summarize that millions—if not billions—of transactions that have occurred during the year. So, the idea of an independent audit at year end is to prove that the information within the financial system—it could be multiple systems—is reliable and is what the management has used to make decisions during the year.

The other benefit of these audits has been that, as of today, the auditor has identified over 3,000 findings. These are real issues that the Department needs to fix. The number one finding that comes to mind—and these are financial and non-financial findings—is IT [Information Technology] security. That is a top finding, and it links with access controls and cyber security controls. These types of vulnerabilities impact everything—not just financial management. They impact operation and, potentially, the warfighting mission. So, going back to the financial statement audit, it is expensive, and it is intrusive. It goes to the guts of the Department's operations, but, based on the external private sector and other agencies, it is a useful exercise to have a third party come through an organization and tell it what the vulnerabilities are. These 3,000-plus findings are pretty daunting, but the good news is that the Department is fixing them. In 2019, the Department fixed over 20 percent of these findings, but the rate of the corrective action is going decrease somewhat for a couple of reasons (e.g., these findings are going to get more and more complex). So, maybe the low-hanging fruit was addressed earlier on (i.e., the 20 percent of the findings that have been addressed), but the rate of findings is going to decrease. Still, 20 percent is a lot, but maybe it will decrease to 19, 18, or 15 percent; however, eventually, over time, it proves that these issues, once identified, can be fixed. DOD's goal is to reach auditability within ten years, and that ten-year goal started in 2018. DOD is in the best position to be able to tell whether it will be able to meet that milestone, but the results are encouraging. The key thing for the Department will be that it continues this rigor of the audit and continues to prioritize the corrective actions because it will be difficult to address the thousands of corrective actions that have to be reconciled. The Department has to look at these corrective action findings and devise a plan to address these actions. Again, cyber security and IT controls are going to be key, and the Department has to prioritize the findings that it wants address. Eventually, it will be able to get the opinion.

Just one last point. These audits are costly. The audit fee that is being paid to the CPA [Certified Public Accounting] firms is about \$200 million a year; however, if we look at the benefits—and I am looking at DOD's own numbers—they are two or three times the number that they are paying to the auditors. In a way, the investment in the audits is paying for the audits and much more, and the added benefit for the Department, if it implements all the corrective actions, will be stronger controls, better processes, and good systems. These benefits will help DOD's financial management operations and its business operations, which, in turn, will help make DOD much more ready for its warfighting mission. Thank you.

(JIM DOMINY) Thank you Asif.

(MARK EASTON) Good afternoon. I want to thank Peter for the opportunity to participate in the discussion today. I am no longer at OSD [Office of the Secretary of Defense]. As Peter said, I was the CFO [Chief Financial Officer] for nearly a decade, and, as Bob Work mentioned this morning, I sometimes still feel the PTSD [Post-Traumatic Stress Disorder] from those ten years. Kidding, Peter and I have had a lot of back and forth. We have also tried, as Arun mentioned this morning, to be very transparent, so I tried to engage heavily on the Hill. For a lot of that time,

I would walk out of his office and say, “You know, if he is so damn smart, why did he not come over here.” However, he fooled me. He did come back here and was a great partner as the DCMO [Deputy Chief Management Officer], so I wanted to thank him for that.



During my forty-plus year career, I spent a good portion of it outside the financial management community, and, talking about financial management reform with David Norquist and Jamie Morin in the audience, I have to recognize that they probably should be up here talking. I worked in the logistics area. I actually worked for George Babbitt, and I read that book [*Accounting for Dummies*] because he thought it was important. The vision of high-quality information that could be used for decision making—whether it is inventory management, personnel management, or any number of areas—is the key. Asif made the point, and Chris was very articulate, and we have

gone back and forth about the pros and cons of the audit.

I want to highlight three key points as a way to try to tie things together. Chris made some excellent points, and Asif followed up, so I will not dwell on the mechanics of the audit. The first thing is PPBE. A commission is coming to look at how we can reform PPBE, and I want to focus on the “E” part. A lot of times, the programming and budgeting parts get a lot of attention, and the “E” tends to be a silent “E” in several regards. So, that is an area that might be the focus of financial management reform, and we will tie a little bit of audit and enablers into that.

I also want to look at the pros and cons of the audit very quickly. Chris and Asif have covered that topic, but I wanted to go back and give a little bit of back and forth and then talk a little bit about the future of financial management reform, focusing on data. The theme of data and data analytics has come up in all the discussions. It is critical and is something that David, when he was comptroller and carried forward as a deputy, drove home to be able to sort of tie this together.

Talking about financial management reform, we have to use PPBE, which is obviously an old process. I would make a case that it is fundamentally a sound process, but it has been criticized for a lack of agility in the front end, particularly as things are changing so quickly (i.e., technological changes). The “E” part—the “E” refers to execution—offers some significant opportunities for efficiencies. The audit has brought out some of those things. Peter’s book, at least the way I read it, aside from cost and some of the other points that Chris made, focuses on the question of prioritization. We need to focus on a couple of the key issues that the audit brings to

light. Cyber security is one of them, and systems is another. A lot of times, the systems drive variability and process and data standards that we need to go after. Then, it is just a question of enterprise visibility. The audit first and foremost requires enterprise visibility, whether it is financial visibility or visibility of material. That kind of visibility is important. The audit provides a consistent way to come back year in and year out. When speaking to groups who say that DOD has not been audited, I have made the point that we have auditors crawling all over us for any number of audits, but that is more often than not a program audit. It could be a contract audit, and those kinds of audits come up periodically. This audit process provides the impetus and a consistent way of gaining a high-level view of our business when we think about how large an entity some of those financial statements represent.

The case for financial audits can go either way. When Chris began to correspond with me and focus on cost accounting, that clearly is something that is very important. We have a basis to be able to move forward, and, this morning, Bob Work mentioned starting that trail. We still have a long way to go, but, at least, we have a fundamental basis for that. I have always said that the financial audit is foundational for reform, as distinguished from *that is* the reform. It is foundational because it highlights many of the impediments embedded in the 3,000 findings that we are going to have to solve. So, I have become somewhat of a convert, and I give a lot of credit to David Norquist, when he was my boss, in terms of being able to connect the dots between operations and the audit and not just the audit for the audit itself. Chris did a good job of trying to make a case against the audit and if he and Peter had been more successful, maybe I would have been able to focus on something else for the last ten years

All those things are true, and we can point to specific areas in the audit. One thing that I have to say, as Chris was talking about the audit, is that it is difficult to pick pieces because the audit is being conducted using a particular set of standards. One of the things we found is that we tried to go after things that we thought were the most important—statement of budgetary resources, existence and completeness, do you know where your stuff is—which is critically important. Some of those things are so tied together, it is difficult to pick them out. We can look at valuing military equipment or valuing environmental liability and property and make a case that maybe we do not need to do all those things relative to the mission. However, when we look at the case for it, we have been historically decentralized, stove piped and, in many cases, that is where our problems have been—between those stove pipes, whether it is trying to improve the quality of information or having us break into tribes and functional communities to be able to do business a particular way so we can show examples of the audit—the data behind the audit—in terms of making significant progress to be able to identify dollars that can be taken in terms of dormant obligations, material that we can reapply rather than buy. Those are the kinds of things that make the case for it [the audit]. So, in general, the key element that that supports the audit and business reform is data, and that is the last thing that I wanted to talk about.

As part of bringing the audit together, we had to identify a universe of transactions. To have the auditor be able to make a decision relative to having captured all of this, how do we know that

we have the right transactions included, how do we know that we have right the material included, and how do we know that it is in the right time frame? Therefore, we built a view of that, and, then, with that view, we found that we could do a lot of other things. We were able to tie different business areas together. We changed the name—we have to change the name of organizations several times in DOD. The latest name that we came up with was ADVANA—not an acronym but sort of a mix of two kinds of words in terms of advanced analytics. Using the universe of transactions that provided a financial picture, we were able to leverage the cost accounting work that Peter and Bob Work had begun in partnering with the DCMO [Office of the Deputy Chief Management Officer] and later the CMO in the cost accounting area. That is still an emergent area. At the same time, when the pandemic came along, there were reasons to be able to do different things with the supply chain, there were reasons to be able ask questions about the facilities implications (i.e., where do we have material, where do we have beds?). That information became critically important. Readiness in the previous administration, early on, was a very important by-product, and we were able to try to—this is difficult because readiness means a lot of different things to different people—be able to use that financial picture to get a better relationship between resources and readiness.

One thing that that has recently happened is that we have been able to give the COCOMs [Combatant Commands] a picture of their view in terms of the business that is taking place in their area of responsibility. Picturing it as a Venn Diagram, on one side, there is a circle—the back-office functions, the budget, and material personnel, acquisition. On the other side is another circle—the operational domain. With data, we are trying to join those two areas because, for example, if we are looking at an NEO [Noncombatant Evacuation Operation] in Afghanistan, we need to know what material is available to support that operation, which takes place at the intersection [of the two circles]. That is the kind of partnership being forged now, whereas, previously, the financial management community was in its own stove pipe in many regards. There was a budgetary process, and there was a compliance-related process. With data, the financial management community can become much more of a partner. The audit serves as developing the requirement for that kind of enterprise visibility, given that we have to put it to actionable use, but the data is foundational to a new role for the financial manager as a business partner. Again, we talked a little bit about acceptance of risk. We can do a lot of things to be able to accept more risks, but using data and trying to move forward in the areas of standardization and simplifying processes (e.g., cyber security) are going to be driven and reinforced by the audit.

We can agree that there is a public confidence aspect to the audit. People look at all the rest of the federal agencies, and they see that DOD does not have a clean opinion. In terms of how long as has taken, Peter makes some good points in his book about the process that we use. Was it the right process? Did it prioritize properly many of the areas that we have to address? In retrospect, we could have done it a lot better. We did not have a good feel for it up front to be able to do it. That said, however, the financial audit provides an impetus. Can we do it with less resources? Can

we prioritize differently? The opinion will be important from a public confidence perspective, and, over the past several years, this notion of public confidence has become much more important.

I am going to leave it there, and, Jim, we will see if we can get some questions from the audience to talk about financial management reform.



(CHRIS HANKS) I just want to make a comment. This is a credit where credit is due. Bob Hale, when he was comptroller, cleverly and successfully shifted—they were trying to value assets for the balance sheet and were trying to do it in dollar terms—the conversation to what he called existence and completeness. That is shorthand in financial management: Is everything that is in the warehouse on the property books (i.e., the existence part)? Is everything on the property books in the warehouse (i.e., the completeness part)? Getting that information has paid off in many cases. Articles about what is happening in financial management quite often cite how the savings have been a result of the existence and completeness effort. However, that is not what a balance sheet is about. The balance sheet is in terms of dollars. The other thing that Bob Hale did was to focus attention and get everybody to agree. Let's get the SBR done, let's get a clean statement of budgetary resources as our incremental step on the way to a financial audit. As I said before, SBR is about budgetary accounting, and much of the data that managers need will be obligation data coming out of the budgetary accounting system.

One final comment. I hope the data effort succeeds because the Department of Defense badly needs good managerial cost accounting information, and the ADVANA effort is an example of that. It is doing it with obligation data, at least initially. My worry is that as long as the requirement to produce private-sector-style financial statements remains in place, is not achieved, and is announced every year and trumpeted by the media, Congress will lose patience and ignore

whatever progress DOD can make on using data to make itself more efficient. A senator—Republican or Democrat—will pound the table and say, “You still have not got a clean opinion on your financial statements, and you do not know where you are spending your money.” It is not true, but the Congress will go there every time.

(JIM DOMINY) Thank you. I would like to start the question and answer with an online question from Phil Candreva, a senior lecturer at the Naval Postgraduate School. It is a question for Chris. Budgetary accounting only captures legal events, promises made which we call obligations or promises-kept expenditures. Cost accounting captures cost of internal processes as you stated. Financial accounting captures data on what is owned and what is owed. Each captures different information about the same sequence of events. Why is having that additional information a problem?

(CHRIS HANKS) I will answer that question by saying that when pressed or woken up in the middle of the night or surveyed by Grant Thornton, we cannot find an example of managers anywhere in DOD who say that they are using the results of the financial accounting to make decisions about how they run their operation. So, if nobody is using it, why are we doing it? These DOD managers are using budgetary data, and they pay a lot of attention to that but they are not using It is true that, in the end, the financial management regulation goes on at great length to make the distinction between obligation and cost. In the long run, more or less, obligations and costs are going to match, but who cares if they do not match up at the end of this year at the cutoff for the financial statement. The Department only needs good budgetary accounting, and there is no need to spend whatever it is we are spending on private sector accountants to audit and try to force all our data systems to do two kinds of accounting.

(JIM DOMINY) Okay. Questions from the room. Yes sir.

(UNIDENTIFIED QUESTIONER) As we know, public opinion can be skewed by what they see and hear from the media. After an event like the one here today, one can imagine what the media coverage might be like. The headlines tend to be conveyed as something like “The Department doesn’t have its act together.” What can or should we do to communicate success better or should it not bother us and we should just keep doing what is that we are doing and ignore the noise, with the understanding that there might be some negative connotations conveyed to the public?

(MARK EASTON) We need to continue to beat the drum and emphasize Secretary Norquist, in his last or at least one of his testimonies to the Senate Armed Service Committee, tried to put it in plain English in terms of why this is important and how it relates to things. At the end of the day, however, regardless of how much time is spent, many people do not understand what a financial audit represents in terms of mechanics. They understand that the financial audit represents the health and integrity of their company or their mutual funds. So, we are going to constantly be subjected to that kind of shorthand. We just need to continue to beat the drum and make those relationships. I spoke with Arun this morning. We have tried to make sure that the

committees on the Hill understand the value proposition. As we are looking at PPBE reform, they are within reason to be able to use that as a more effective means to make the communication for the president's budget over to the Hill. There are more opportunities, but the use of the data is something that we need to continue to put in layman's terms so that people can understand because there are fewer people who understand accrual accounting in financial reporting.

(ASIF KHAN) Educating other people about the process is very important. The results are not binary—getting a clean opinion, not getting a clean opinion. There is an intermediate stage that DOD is going through right now to demonstrate progress, and that is why it is important to emphasize that we started with 3,000-plus findings and that we have reduced them by 20 percent. We are going to get additional findings, but here is the progress that we are making. Be very transparent about that. Lay out a timeline to indicate that resolving the findings is going to take “X” number of years and that this situation is similar to that in some of the other agencies so people have an understanding and there is the setting of a realistic expectation of what they can expect. That will help them understand where the process is.

(JIM DOMINY) Yes sir.

(DAVID CHU) One of the issues that economists have raised from time to time regarding financial reporting is the issue of whether you should separate a capital budget from an operating expense budget. One of the reasons for wanting a capital budget is because if shown in combination with the operating budget, you do not really know what you are consuming in terms of resources. Would a capital budget for DOD be an interesting idea from a material perspective if only because it would provide a more accurate picture of what the Department is actually consuming?

(MARK EASTON) It is a very interesting idea. When we were trying to deal with the issue of valuing military equipment, as an example, you can make a case that it does not make any sense at all. We toyed with the idea of looking at military equipment through the lens of a capital budget. We did not pursue it, but instead decided say, “Let's audit the exhibits that we are sending to Congress as part of the budget.” It is something that we discounted because of some of the feedback that we got from GAO. Some of the people internally did not like it, but it is something that we could seriously pursue.

(ASIF KHAN) It is something that I have not tracked, Dr. Chu, but I will address it. The more transparency, the better. How much money is being consumed? What I said earlier about it might be on it. It is going to help strengthen the process with which we can track that type of information.

(JIM DOMINY) As an anecdote, at one point in time, an analyst at OMB proposed that each program—each acquisition program—in the Department go to Treasury separately to borrow the money for the program. She was trying to get the capital cost into the cost of the program. Talking through the practicalities, it quickly fell apart because I said, “You are going to have program managers trying to do arbitrage on do I borrow now, do I borrow next year.” It was an attempt to try to get the capital cost of this equipment into the budget because it would have to be appropriated to pay it back. However, it fell apart because of the intricacies.

(JIM DOMINY) Yes.

(UNIDENTIFIED QUESTIONER) I am interested in the issue of data. In my mind, I think of OPLANs [Operation Plans]. Most people today would argue that they are building plans that are not going to last long. They are going to be redone next year and over and over again because they are not based on realistic foundations. Part of this [concern] is that they spend all their time building the plan and very little of the time doing the actual data analysis that would push some value back into the planning. Instead, we are constantly paying bills. So, a lot more focus is needed on what is today's reality, which would be a major reform.

(MARK EASTON) The anecdote that Bob Hale talks about is spending all the time getting ready for the horse race and then going home, not watching the race. There is a lot of potential for the data in terms of being able to focus and use it as a feedback loop. There is a lot of organizational inertia to change. We were trying to get the budget analysts to spend more time using the data to be able to do that, but they are too busy with too many other different issues to be able to make that change. Hopefully, as part of reform, we are going to have that data available to support more efficient mid-year and year-end reviews. We worked hard to use that data to eat away at money left on the table, or, for example, if we find that we have obligated a 100 percent obligation for the year only to find out that we need to de-obligate in the first two months of the year. We need that kind of feedback loop, and we need it quickly. That is going to be the heart of financial management reform.



(UNIDENTIFIED QUESTIONER) If you could have the data, there is the idea that you could use it to look at very valuable programs and see in five minutes whether the program is in trouble, even if everyone is assuring us that everything is fine. The data could be used to stay on top of how things are going.

(MARK EASTON) That is why we tried it. Another option is to go back and take a look at audits. Another value proposition for audits is that we are trying to go back to those source systems that are audited to make sure that the data that is being fed into some of those systems is credible and accurate. So yes, your points are good ones.

(ASIF KHAN) Data is going to become very important—especially the integrity of the data—given where technology is going. We have the data warehouse and data lakes, but, with the

availability of analytics and business intelligence tools—something like ADVANA that Chris and Mark had mentioned—we can do a great deal with data that we were not able to do even five years ago. The more reliable the data, the more we can do with it. Also, our discussions and our decisions are going to be more credible based on that data. We can run different type of reports to come up with different analytical information that we were not able to do even five years ago. That is why the focus on audits—just because of data integrity—increases the value that they can provide.

(MARK EASTON) We did not spend a lot of time talking about the technology and the ability to ingest and deal with the volume of data. Fifteen or twenty years ago, when we were trying to match the obligation data coming out of the accounting systems with the contract data, we would run the report with the mismatches because they would be keeping a separate accounting for dollars. However, we would have so many mismatches that we would never be able to deal with the exceptions. So, we would never get around to actually fixing the things that need to be fixed. The technology advances make a big difference

(JIM DOMINY) In the back, yes.

(JENNIFER TAYLOR) It occurs to me that the value-added is less the data than the ability to interpret the data. So, it is the experience of what the earned value means that creates more value-added overall. You have mentioned a few times PPBE reform. I am hoping you can elaborate more on what is on the horizon, what we should be looking for on the horizon, or what we might propose in terms of that set of issues? In particular, portfolio management is something that comes up. Are there other topical areas we should be looking into?

(MARK EASTON) We have talked about this a little bit, and some of the people in the room might have even better insights than those of us on the panel. I do not know how much of PPBE reform would focus on the execution things. Portfolio management is one. Dr. Chu mentioned the biennial budgeting. There are a lot of things, at least as I understand it, from a Congressional perspective, and Arun mentioned the need for transparency back and forth to be able to gain confidence to make some of the changes needed from a legislative perspective on that. I do not have a whole lot more to add.

(CHRIS HANKS) My naive answer to that question would be that in an ideal world, a mid-level manager who is working on coming up with his piece of the budget request for his activity would use ADVANA data and think about his operations and say, “I needed \$2 million in obligational authority last year. I think I can do it with \$1.5 million, and so that is what I am going to put into my budget.” Then, if he does that, going back to what we heard from the personnel panel, he should get rewarded. That would be just a small example of how PPBE does not need to change. The way people use it and approach it, using data to make their input to it—that is what could make things better.

(JIM DOMINY) Peter.

(PETER LEVINE) Mark, when I was in the Department, one of the issues that we saw as an impediment—a major impediment—to financial auditability was the issue of intergovernmental transfers. I was frankly astonished that twenty-five years after the CFO Act, the Department did not have an effective mechanism for accounting for them. If that was a major hurdle, it seemed like somebody would have gotten to that problem within a twenty-five-year period. Has it gotten better in the last five years? Dave Norquist is coming up next. He is an expert on this issue, and there is nobody more dedicated to it and or who understands the problem better. However, have we gotten any closer with that with that particular issue?

(MARK EASTON) I do not have the timing on what we did. Unfortunately, like many big problems (e.g., intergovernmental transfers)—and DOD does a significant amount of transactional business—we were in a position that many people use against me many times: we have to wait for a system to be able to do that. Between some of the data work to help prep the battlefield and the implementation of what is a government-wide system—at least at the level of doing business with GSA [General Services Administration] or the VA [Veterans Administration]—we need that kind of standardization. That is the solution. However, it is a large problem. It was one that we were trying to the implementation of a system, which is never—often not—a good strategy, but that was the approach. So, I do not know that we have made significant progress in that regard.

(PETER LEVINE) If I could just add one more note. My recollection was that the intra-DOD intergovernmental transfers were on the order of \$100 billion a year and that intergovernmental transfers between agencies were some fraction of that. So, one reason that DOD has a greater problem than the rest of the government is that its transfers costs are of a magnitude that is much greater than that which any other agency has to deal with.

(MARK EASTON) Absolutely.

(CHRIS HANKS) Peter, there is an easy solution to solving the intergovernmental transfer problem in the Department of Defense. Stop doing revolving-funded operations and mandate that all the support activities make these operations appropriated again. They will still have to defend themselves in the budget battles inside the Pentagon, but there are tools to do that.

(JIM DOMINY) Thank you all for participating today, and hopefully this was a good set up for our next speaker.

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7. IDA Symposium on Defense Management Reform

Keynote Speaker: David L. Norquist

(DAVID NORQUIST) Thank you for being here today, those present in this audience and those who are joining us online. We listened to Bob Work’s comments earlier in the day, and then we had three interesting panels address the different types of reforms. I am going to bat clean up. I am going to walk through some of the issues. When we get to the question-and-answer portion at the end of my talk, feel free to ask me if I think the audit is a good idea—throw the pitch over the plate and I will be happy to take a swing at it. I will also answer questions about some of the other discussions that took place today.



In closing this seminar, I want to focus on three questions and then talk about the way ahead. The first question is, why is this so hard? Why is it so hard to drive change in a federal bureaucracy or inside the Department of Defense? Once you understand how hard it is, the next question then becomes, why is it worth the effort? Why should we spend our time and energy rolling the rock up the hill as Sisyphus did or tilting at windmills like Don Quixote? The last question is, what changes are going to create new opportunities for us to make DOD [Department of Defense] more efficient? If we are going to undertake reform, I will, during my talk, give my recommendations as

to how to go about doing that to maximize our chance of success.

The answer to the first question—the difficulty in driving change—is actually built into the system. The two attributes that are the strength of a federal bureaucracy—stability and compliance—are also the two features that make it difficult to change; however, that is what the bureaucracies are created for. That is why we stand them up. People do not say, “We want to innovate something, so give us the bureaucracy.” However, if they say, “I want to make sure this happens every day the same way it did yesterday,” that is what the bureaucracy does for them. When organizations have this tension in the private sector, they recognize that they can go out of business; therefore, organizations—even when their own bureaucracies want to move in a certain

direction—always make an effort to change, else they die. Inside the United States Government, the changes and pressures are very different because the values that come to some of these issues actually reinforce the nature of the bureaucracy to resist change. For example, when a private sector organization awards a contract or hires a person, it is thinking how it can do this in a way that maximizes the success and the profitability of the firm. In the federal government, when we award a contract or hire a person, we ask these questions: As we give out this money, how do we make sure that every firm has a fair chance to compete for it? If we are going to open this job, how do we make sure that every potential employee has a fair chance to compete for it? Those values are different than simply trying to maximize the benefit for a company. When these values clash, what loses is speed.

When an employee applies for a job in the private sector, the firm may need the person on board in a week or two to do the mission. So, it opens the announcement up for a couple of days, screens the applicants, conducts the interviews, and hires. In the federal government, we open the announcement window long enough to give everyone a chance to review it and apply. This process sometimes take several months. Now, this process is not in the best interest of the government, and, frequently, it is not in the best interest of the employee; however, it is a fair process that is compliant with the procedures that were put in place to emphasize the maximum chance of compliance with the process.

The federal government does the same thing with contracting. Contracts get protested over process, and they get investigated by GAO [Government Accountability Office] over process. We do not get someone who says, “We are unhappy with the process because it took so long to award the contract.” The vendors sometimes do, but that is not a process violation. The other challenge that we have is accountability, which comes into play when procedures are not followed. When this happens, the recommendation is additional procedures or for an organization to conduct oversight to determine whether the procedures could be complied with fully the next time around. GAO is often criticized when it holds someone to tough standards. It says, “We are not being unreasonable. We got a copy of the manual with your procedures, and we judged you against these procedures. You are not following all your procedures.” People do not always like that, but it is true. Many of the procedures we have in government are not within our control to change. Many of them are in legislation, which creates an exceptional set of additional wrinkles that I will address.

Another problem is that the Department of Defense is a legitimately large and complex organization. If you think that you can just grab out this Jenga piece and have no consequences, we have seen what happens when people try and do that. The consequences are pretty ugly. Think of the scale. Delta is the third largest airline. It has 800 planes. DOD has more attack helicopters than that. It has three to four times more fighter aircraft than that, in addition to its tankers, refuelers, bombers, and so forth. Imagine the DLA’s [Defense Logistics Agency] supply problem when it tries to make sure that it has enough of the right spare part for the wheels that are needed for those planes and the variety of platforms it has to deal with. Consider the millions of paid

transactions, like the 137 million that DFAS [Defense Finance Accounting Service] executes every year to pay vendors, contractors, and so forth, and the complicated rules that come with these transactions because we keep adjusting the formulas or because they are sometimes difficult to change because they are often part of the law.

So, let me ask you, what makes DOD so impressive? A missionary was captured in northern Nigeria in October 2020. DOD sent a Navy Seal Team across the ocean and pulled him out. Think of all the training, planning, and logistics that were necessary to get the team and its equipment there—and someone wants to tinker with that process. People become legitimately concerned. If someone does not understand what he is touching, he is like the person who reaches into an old-style watch and says, “I am going to make it more efficient by pulling out 5 percent of the parts. That would be my savings.” And then wondering why it did not quite work the way he had hoped when he set it up.

The last challenge is that everyone gets to play. If you have read Peter Levine’s guide, you will notice the notion that you do not actually get to make a decision in the Department of Defense. This is quite true. Everyone else gets to decide whether he likes your opinion and, because we are democracy, find sixteen different ways from OMB [Office of Management and Budget] to the Hill to see if he can adjust, advise, or require further study on your decision before it goes forward. You may think that the cost-benefit calculation is quite clear, but the cost-benefit calculation from other peoples’ perspective may be very different. Therefore, people who are going to lose out know who they are and will speak up, and those like the general taxpayer who benefit do not necessarily see it or speak about it, so you are always going into headwind. It is not like you are trying to walk down the street. It is like you are trying to gain five yards and there are eleven people on the field whose job is to tackle you. This process makes it much more challenging to drive reform. So, keep in mind the system that we are trying to change—any bureaucracy left to its own devices, when it makes a mistake, will develop more controls, become more rigid, create a more complicated process, and tend to move more slowly unless you change it.

The last part about the reform—as I have talked about all the hurdles—keep in mind that if you were to come into a new administration, say this administration, let’s suppose you were confirmed by June or July, which would be pretty fast. This would mean that you are one of the few people who got in. You then see this reform you want to do, and you realize that it needs a legislative change. So, you work out the legislative change, and you manage to get it to the people inside General Counsel. It is now September. It goes through their vetting. It goes to OMB, which loves it for some reason. It then goes to the Hill. You go up to the Hill, and you explain it to the authorizers and the appropriators—the Republicans and the Democrats, the House and the Senate. Everyone thinks that it is a wonderful idea, and it goes into whichever is the appropriate vehicle and, given the current cycle, it gets enacted around December. Fast forward, you have now been in your job eighteen months, and you finally have the legislative change that you need to implement the reform you want—except the average political appointee’s tenure is eighteen months. So, you have pretty much set up the person coming in after you, assuming that he or she

cares about the same things you do and is willing to dedicate his or her life to the reform that you thought of.

With all this wonderful headwind coming at you, it begs the question, why does anybody attempt to reform, and, to our second question posed at the beginning of this talk, why is it worth the effort? You know that you are going to get a beating. There is an old Caribbean t-shirt that has a guy lying in the hammock, with the phrase “nobody moves, nobody gets hurt.” There is some advantage to that in politics.

Here are a couple reasons why anybody attempts to reform. The first reason is that it is the taxpayers’ money, and there is no other way to look at this without understanding the obligation that we have to treat that money seriously. When I was in the Department of Defense and we would get to year-end close, I used to remind people that if you are going to post those last obligations at year-end with the money that did not get spent—assume it was \$250,000 which would be a relatively small transaction—think of what you are about to buy. Imagine walking down the street of your hometown, eight houses on the left and seven houses on the right. You say to the occupants, “Here is what I did with everything that you are going to pay in taxes for the next year.” Are they going to like your decision? Are they going to be enthusiastic about that expenditure? We need to remember that when we talk about some of these savings. We say that it is just a million dollars—but it is a million dollars, and, to the taxpayer, that is a pretty significant saving. We need to push on those savings.

The second reason that anybody attempts to reform is that it is rewarding. If you have ever been in government and you have had the chance to reform something and it becomes more efficient, it is gratifying. This is why I was in government. Most of my life, I was a civil servant. Later, at the end, I was political appointee. In between, I took two steps to private sector: eight years with a CPA [Certified Public Accounting] firm (Carney) and currently with a law firm (Covington). Just so we are clear, I am neither an accountant nor a lawyer. On my statements, I have to say that I am a non-lawyer. However, I get to see things from a different perspective. When I came into the government in 1989, I was hired by the Army to be a budget analyst in its intelligence community. The Army had a cumbersome process for deciding how to allocate the budget. I was young and did not know better, and I wrote a memo to the leadership telling them that I did an analysis and here is how the process could be made more efficient. To my surprise, they said, “Okay. Good idea. Put it in.” So, we did. We speeded it up, changed some things, and reduced the workload. At the end of it, the SES [Senior Executive Service] officer took me aside and said, “You have saved us a million dollars a year on an IT [Information Technology] contract that we got to end.” I was making \$24,000 a year, and somebody told me that I saved a million—forty times what I earned. I was hooked. So, when you go out on this limb, keep in mind that the consequences of reform—even the small ones—are savings and that it is exciting to be part of. To recap why anybody attempts reform: you have moral obligation to do it, and it is fun when you do get to do it.

The third reason that anybody attempts to reform is actually much more time sensitive. The national security environment is changing, the threat is changing, the technology is changing, and the character of warfare is changing. Speed and innovation matter. Now, one can say that this has always been true, and, to some extent, that is the case. The U.S. economy in World War II was



significantly larger than those of Germany or Japan. During the Soviet Union era and the Cold War, it was significantly larger than that of Russia. At the end of the day, we could spend more and beat them in the end. Now, however, that is not the case with China. Its population is several times the size of ours. While China's GDP [Gross Domestic Product] is not the same as ours, according to the World Bank, when purchasing power, inflation, and so forth are accounted for, its GDP is on par with ours. China's technologies, in some cases, are ahead of ours, and, in others, it is stealing to stay close. Its budget for defense increases about 6 to 8 percent a year. Thus, while we have a lot of advantages, we do not have the same margin of error that we had in the past. China has more ships numerically. Ours are larger and more capable, but China is the top ship-producing nation in the world by tonnage and is increasing its ship-building capacity and capability for all naval classes. The gap is closing. China has also invested in what we call the anti-access/aerial-denial strategy, with long-range strike: 1,250 ground-launched ballistic missiles and ground-launched cruise missiles, with ranges between 500 and 5,500 kilometers. Until the United States withdrew from the INF [Intermediate-Range Nuclear Forces] Treaty, it had zero. During the budget rollout, when Deputy Secretary Hicks said, "China has the military, economic, and technological capability to challenge the international system and American interests within it," this was not hyperbole. This is what we are up against and what we have to face. This is why the Joint Staff is working on the Joint Warfighting Concept to deal with this reality. This is why the previous administration, in its last budget, announced that it was the largest RDT&E [Research, Development, Test, and Evaluation] budget ever, with an investment in hypersonics, artificial intelligence, electronic warfare, cyber, and space. The new administration, in its first budget, said

again that it was the largest RDT&E budget ever, with the same list of initiatives. When Bob Work talks about the Third Offset, he emphasizes these same technologies. Why? Because the nature of warfare is changing, and technology is changing how we fight. The country that figures out how to combine those differently to produce the best effect will be in a dramatically different position.

So, how do we get back to management reform? How is this riff relevant? The answer is that when you change the way an organization fights, you change its personnel process, its acquisition process, and its budgeting financial process, and those processes either reinforce the emphasis on speed and innovation or they smother it. We have an obligation to make sure when we are working with the Department of Defense that those processes reinforce and accelerate those changes instead of smothering them.

So, for the third question posed at the beginning of this talk: what opportunities are coming up for reform? First of all, we can always look across a process, and, just like any process over time, it develops barnacles. What do we need to do to improve it? Over the last few years, there has been a major emphasis on acquisition reform and a lot of changes were made in that area. Coming up next is an emphasis from the House and the Senate on the PPBE [Planning, Programming, Budgeting, and Execution] process, and we will see some changes in that area to drive a more improved and more responsive process. We have also seen technology give us new opportunities, and, in particular, data analytics—everything from artificial intelligence to bots. I do not remember if bots were covered much in the previous panel, but basically it is software that allows you to go through and do repeatedly what a person used to do. So, if you want to find a file somewhere in your system with the contract code, it can run through all the systems and pull the file for you. An individual does not have to do that. So, it accelerates the process.

Bob Work, in his opening comments, described this [data analytics] as the key to driving reform in the future, but let's move a step back on the chessboard. Why did we undertake the audit in 2017? We undertook the audit to make this future possible. To do data analytics, we need accessible and accurate data at the transaction level in order to analyze it. We have to have the raw material for our data analytics tools, and the audit is the foundation that made that possible. It is not the financial statement. There are benefits to the financial statement, and there are some uses of it; however, to even undergo the audit, you are required to assemble a data set of every transaction in which your organization is engaged—not just your business financial transactions, but also inventory, real property. What are your assets? Where are these assets located? Do you have them accounted for? To do this, the Department of Defense created a universe of transactions. All the business transactions across the Department needed to be pulled into place where the auditors could pull a sample and say, “It says here that you bought 100 JDAMs [Joint Direct Attack Munition] on this date. Where are they? Show me these JDAMs in your inventory. Prove to me that you still have them and that you paid the vendor the right amount. If you can do that, you can pass the audit. If you cannot, you have a problem.” The auditors did this, and, early on, we discovered that a lot of Department of Defense data is not stored at the transaction level. The Army would block obligate under its budgetary data several hundred million dollars for payroll. The

Army said that it would figure out later where the actual numbers came from, but that seemed like a pretty good estimate at the time. You cannot do data analytics on a block obligation because it is just a single entity. It loses and hides all the things behind it. The audit forces people to break that down. If you want to be able to ready for the audit, give us individual-level transactions. We also had stove pipe systems, individual systems that no one wanted to talk to. The audit says that it has to be able to see it. So, the answer is that you have to be able to share it [data] if you are going to play this game, so you start to get that data. You also have to clean it up and convert so that it can be sorted and analyzed. Under ADVANA, some great work was done to bring in that data and to find where the underlying data was missing key data fields, to correct it, to put it in a sortable format, and to store it. Layered on top is a whole series of data analytic tools that allow you to see data in a way you never could when you were using a tool like Excel.

When I talk about this process, I am not talking about something that is on the horizon (i.e., one day, when we get a clean opinion, we will be able to do this). This is what the Department is doing right now. Twenty-three billion transactions are in its ADVANA data system, pulled from at least 220 data sources, 18,000 users. Since I left the Department a couple of months ago, all those numbers have jumped, and people will be able to give you more up-to-date information. Even that shows you the scale. Bob Work, in his presentation, complained that when he was in the DMAG [Deputy's Management Action Group], they would have to work with PowerPoint slides. When I got to the Department of Defense, our monthly review of performance also included PowerPoint slides that were pulled from systems whose data was now several months old, produced by some action officer over a very long set of weekends, and brought up to the Department. When we had a question, we could not just click on the PowerPoint slide. It did not do anything. We had to ask somebody, and they had to pull the information back up. Before I left, we had eliminated PowerPoint slides in our monthly reports. We brought in ADVANA. We looked at the actual inventory, the actual data from the system. When we had a question, we drilled down. For example, "I see that is the aggregate number. Can you break it out by service? Can you split it up by command?" This capability enabled us to see that the spike was not in the Department. It was in a specific organization. Now, we knew what the real issue was. So, we saved all the labor required by all those individuals who kept producing PowerPoint formats because it [ADVANA] formatted automatically. The data was much more timely, and we were looking at real information that we could cue to tell us if something had changed. We used this process during Covid. We brought in not only our internal data, but also external data so that every commander of a base could see the current presence of Covid in a 50- or 100-mile radius around his base. We were also able to tell the commanders the fill rate of hospital beds at the hospitals near their base and the hospital on their base, the fill rate of the ICU [Intensive Care Unit] beds outside or inside their base. This information enabled the commanders to adjust their alert levels. They could also see the inventory that they had for masks and other supplies in an organized way, pulled from all the disparate systems without the need for the ever-loving data call that we like to do in the Department of Defense (e.g., I would like to know how many masks we have. Can somebody do a data call and tell me in thirty days?). We moved past that.

There are a couple of advantages to this process. Clean data is faster and less costly. If we have to keep reentering the data, errors can be generated. The only way to pass the audit is to stop doing that, to get it in right at the beginning, and to keep it going through. More importantly—Archimedes used to say, “Give me the lever and a place to stand, and I will move the earth”—the audit is the constant pressure on the Department of Defense that says, “Is your acquisition system inventory accurate?” That is the simple question. You say that you have this part in inventory, is it true? You say you have this many buildings on your property books, is it true? You say that you are going to You cannot stop sharing the data when there is an audit. The moment you stop, you have a problem. All those pressures continue to drive the Department to have better, cleaner data, but we do not have to wait for the audit to be complete to benefit from it.

You are also going to have an opportunity to drive reform, what I will call areas of surprise, where something comes up during a crisis and you have to change. The example of this is Operation Warp Speed, which was faced with the need to quickly develop a vaccine for Covid. The historical norm was very long, and the previous fastest time for vaccine development had been four years. The Operation Warp Speed team managed to get it down to one year. I will talk later about how they did that, but just imagine if we were under the old system. We would have another two and a half years before anyone could get his or her first jab. Consider what that would have meant to the functioning of this country. So, when we talk about reform, sometimes the answer is that we have to get reform going because the nation has no other choice and it drives it. So, there is another set of opportunities on where that change is going to come.

However, the topic for this session is the future of defense reform. I would like to suggest that the future of defense reform is you: those of you who are watching, those of you are here, those of you who are civil servants in the government who make this happen every day, and those of you who may serve in the government as part of an administration. You are going to have the opportunity to drive change. You are going to be able to confront the obstacles and decide whether you take this on or whether you let it go by because it is just too hard. I would encourage you that this change does not have to be enormous—large and small, all of it matters. Savings are real. When I am talking about this, I am talking about reform. Not ... We do budget deals all the time. We have done them a lot in my life. We very good. However, those are prioritizations. I only have a \$100. I need \$110. What am I not going to do? The reform I am talking about is when you take a process that worked one way and you change it to function in a different way because it is faster, less costly, or better. There are a lot of ways to measure efficiency, but that is the type of change bureaucracies have a hard time with. It is the type of change that requires strong leadership.

If you are going to accept this challenge, it is not a believe-in-yourself, I-think-I-can type of message. For example, you can push yourself when rock climbing, but, if you do not know what you are doing, you are going to plummet to your death. You did not make a difference in the world. You just made a dent. What I want to talk about is how not to make a dent, but to make a difference because it is a lot more fun.

The first recommendation is to ask a lot of questions. Before you take on a reform, talk to people. There is a good chance that we have studied it or that somebody else studied it. A lot of analysis is available, and you can save time by reading it. You will also be able to engage with people who know a lot more about it than you do, have lived this process for years, and know why things are the way they are. You may even discover that you are looking at the wrong problem. We often talk about PPBS [Planning, Programming, and Budgeting System], and people say it is like the Soviets. It is a five-year system. Is it? Is that the problem, or is the problem that it is a one-year system that goes over and over again and does not properly look out five years? Your solution will be different depending on what you think the actual problem is.

I had an opportunity to learn the importance of asking questions firsthand. One of my early assignments in management was at Menwith Hill Station [in the United Kingdom]. While there, I

took one of the documents that would go through our office and hand-carried it to each person. Who does it go to first? What do you do with it? What do you do with it next? By doing this, I was able to get an idea of what happened inside my organization. During this process, I came across a lovely woman whose job was to certify that funds were available and approve the transaction. She had a computer, and, next to the computer, a ledger with the same information. Every time a transaction came through, she would write in the ledger who it was for, the amount, and the new balance. Then, she would enter this information into the



computer database and approve it. My first reaction was that she was a luddite. Here is someone on whom the government spent taxpayer funds to give her access to modern technology and she is still doing it by hand because she cannot let go of the old way of doing things. However, I then remembered the exhortation: ask a lot of questions. So, I asked why she was doing it this way. She said that people need to travel, they have acquisitions, or they have to pay contractors, and sometimes the computer system goes down for three or more days at a time. By having the ledger, she knew that funds were available. She was able to certify a transaction or to move the money. When the computer system came back up, she would stay a little later and catch up. I quickly realized that this was not a personnel problem, but an IT problem. She exemplified great customer service. She went above and beyond to make sure that those technology glitches did not affect our office. She had an IT system that was terrible, but I would not have assumed that the IT system was the problem when I stood at a distance. So, engage with those who will be affected. Do they see a problem? If you want to drive reform and be successful, it helps if the process that you are

trying to reform includes people who think it is broken and needs to be improved. If you can design it in a way that benefits them, you are going to garner a lot more support for the change that you are trying to put into place.

So, think about the universe of transactions referenced earlier that had to be built for the audit. As Bob Work said in his opening remarks, data sharing in the Department of Defense “is an unnatural act.” If we go to people and ask them to share their data with us, we may get a cringed response from management or from CAPE [Cost Assessment and Program Evaluation], where they are afraid of how we might use this data against them. Therefore, first, we approached them with accountants, who are generally less threatening. We also thought about how to make them realize that sharing data with the Department was advantageous. Then, when we brought in the Department, and we made the data analysis tools available to those who were sharing their information with us. For example, the Army found it easier to analyze its budget by going into the Department’s system and using the Department’s data analysis tools to search for dormant accounts because we had reformatted the data in a certain way and we had presented them with data analysis tools. The people from ADVANA had made it to the Army’s benefit to do so. Thus, many organizations were more willing to share—one, because I told them it was the law and they had to, but, apparently, that warning does not always move everyone as quickly as we would like. Second, to those who did share their information, the benefit to their organization became clear. Our challenge was that we, as the Department, had to be careful not to use this information-sharing process as a weapon but to allow it to be a tool for those who were sharing data (i.e., we give them the data analytics so they can manage their budgets better, not necessarily so we can second-guess them or try and get there ahead of them). The Army found that tremendously valuable and took advantage of it. Other organizations quickly followed through.

The other things that we learn when we ask questions are the little disruptions that might be obstacles later on. For example, we wanted the auditors to help us find the problems, but, in a normal audit (i.e., financial or commercial), when the auditors find that you are not going to pass, they stop the audit. In a federal audit, they will keep going. We had to know that to realize that we needed the IG [Inspector General] to write the contracts in a way that told the auditors not to stop when they found a problem. What we were paying them to do was to find as many problems as possible so that the Department of Defense could fix them. Then, when they come back the next year, they would be able to let us know whether or not our fixes worked because part of the pre-audit difficulty we had was that we never knew if we had fixed the problems. We did the change, but there was no sign-off by the auditor.

So, that gets us from my first recommendation—ask questions—to my second recommendation: scout for obstacles. Expect them. Look ahead. This is leadership. Our combat units have a recon element for a reason. They need somebody to go ahead and find out what is in store for them later on so they can plan for any disruptions in advance. Also, when that bad news comes, do not shoot the messenger. He did not create the problem. He found it for you. The answer to him is, “Thank you for pointing out this problem that is now going to ruin my weekend. I was

going to see it, but I had wished was not going to see it until later. At least now we can do something about it.”

Here is a similar example. In DOD, we not only have financial statements, but we also have classified data. The challenge is that these two entities seem to be at odds. Classified data means that we do not want others to see it, and financial data means that we are trying to disclose it. What happens when we have to deal with both of those entities at the same time? We have an accounting board, FASAB [Federal Accounting Standards Advisory Board], which helps solve these issues, but we realized that they did not have clearances. So, we could not even explain to them the problem on which we needed guidance. To our surprise and satisfaction, they got clearances. Therefore, when we asked how they would like us to account for “X,” they could tell us. If they had waited until the problem about clearance levels had presented itself, we would have lost a year waiting to go through the whole security clearance process, which is a whole story of its own in management reform.

The previous example reinforces the notion that if we can spot a problem in advance, we often can take the steps to fix it before it is right in front of us. If we wait too long to recognize and correct a problem, this process is going to be very slow. This challenge was also a factor with Operation Warp Speed. The Covid vaccine came out in December 2020 and January 2021, and people got vaccinated. However, before that time, the Operation Warp Speed team realized that if we were going to get a vaccine, we would not only need hundreds of millions of vaccines, but we would also need hundreds of millions of syringes. General Gustave Purna and his team, a long time before we got to the end state of this situation, reviewed the supply process and asked several questions: What chemicals would a vaccine company have to access to produce a vaccine in quantity? What equipment would it need to increase capacity? Where do we get syringes from? Thus, since all those issues were addressed early on, we never saw those news stories about shortfalls. If these issues had not been addressed preemptively, we could have had breaking news stories about how we have all this vaccine but no way of delivering it or about how the vaccine production had to be stopped while the producers waited on supplies that were not available. The Operation Warp Speed team was constantly looking ahead, and this forward thinking was why we never saw any of those stories. A huge success on their part. I would encourage you to make this a part of any reform that you do. Vice Chairman Hyten [Gen. John E. Hyten served as the 11th Vice Chairman of the Joint Chiefs of Staff] and I used to meet once a week. These meetings focused on the time frame several months out. We would not focus on the issue of the week or the issue of the day. The purpose of the meeting was to assess what was coming in the next several months and what we had to do to meet these challenges.

The third recommendation is to know the mechanics of the process. I mentioned earlier that the bureaucracy in the Department of Defense is extraordinarily complicated because of the sophistication of its mission. It would be a mistake for someone to go into DOD and try to pull out the Jenga piece and think that this is all that is needed or that what he is seeing is all there is. You need to have people who are technically competent in order to do this, whether it is acquisition or

logistics. If it is the audit, CPAs who have audit experience are needed. Operation Warp Speed brought in Moncef Slaoui because he had twenty-nine years of experience in making vaccines. He brought fourteen vaccines to market and rose to head research and development for GlaxoSmithKline. He knew what he was doing in that area. The lesson here is that you need to surround yourself with people who are subject matter experts on the issue that you are trying to address. At the end of the day, as Peter points out, if it was easy, we would have already done it. All the issues that we are addressing are technically difficult and need a specific focus.

The fourth recommendation is to have a schedule and a plan. You do not have to make these schedules and plans public. However, you do need to know whether or not you are on schedule. You need to know what things can happen simultaneously and what things are sequential. At DHS [Department of Homeland Security], we called it the ICOFR [Internal Controls Over Financial Reporting] playbook: who was going to do what by when. We used to joke that if you have a meeting and you do not come out knowing who is going to what by when, you just had coffee. You did not actually get anything done. So, make sure you hold yourself accountable. At ADVANA, they have a bullseye chart, with each of the different domains, the stage of the data, and how they could use the data. Is the data there? Do we have access to it? Do we have the answers to the questions we are trying to solve? Each time they met, they were able to see the progress.

The fifth recommendation is to measure the progress. To make sure that your team is happy working on the project, be able to tell them the progress. To make sure that your outside supporters stay with you, show them the progress. There is nothing worse than undergoing a major reform effort and not having answers to questions about the effort: “Did it save money?” “We do not know. We did not know how much the old one cost.” “Is it more efficient?” “We do not know. We did not time how long the old one took.” Start by measuring the thing that you are trying to change so that when you get to the other side, you can show people how the world is a better place. We did this with the financial statement audit. We had a series of measures that we used, and, fortunately, we were able to get through the audit quickly because the findings from the field were so self-evident. I was always worried. We ran the risk. We did an audit, and people thought it is a paper drill, except when the first thing the auditors found was that 5 percent of the buildings that the Navy had on its property books did not exist. Those buildings had been knocked down years ago. Yet, the Navy was allocating budgets and assuming square footage as if those buildings were there. The Navy had to update its books. The Army had the opposite problem. It had buildings on its books that the auditors said were condemned, and, from a financial statement point of view, the Army could not consider these structures real buildings because it would never be able to put human beings in them safely. So, the Army had to raze its buildings. When people are talking, for example, about a base realignment and closure, they are using the DOD property database to make this decision. If that database is off by 5 percent, you have a high risk of making major policy decisions based on bad data. So, even if it is not perfect yet, get those things fixed. Fix everything. We are never going to get a clean opinion until absolutely everything in the Department of Defense gets

fixed. I used to have this speech when I was at DHS. People would often say that DHS was never going to get a clean opinion. I said, “That is fine. Let’s just get better. Let’s get one more part of DHS to the right place.” DHS has had a clean opinion for five six years now. Some people who have come to DHS recently have never heard it any other way, and they take it [a clean opinion] for granted. When I was there, it was this insurmountable hurdle that no one was ever going to achieve.

What are some of the things that we noticed with the DOD audit? The Navy found \$3.4 billion of inventory that was not in its inventory system, \$2.7 billion of which it was able to use. The other part was for some equipment that was not flown or used anymore. Yet, it was taking up warehouse space. The Army could not find on its books thirty-nine UH-60 Black Hawk helicopters that were actually out there flying. Hill Air Force Base had \$53 million in missile motors that the database said could not be used; however, when the auditors looked at these motors, they were in perfect working condition. Saved us \$53 million. DLA closed 59,000 back orders with \$287 million. Most people do not even think of IT security as part of the audit, but one of the questions the auditors asked was whether they could get into our system—our logistics system, our payroll system—and mess with our financial statements. The truth is that they were not getting into our system to mess with the financial statements, but, if they could have gotten into the system, they could have gotten to other things. As was mentioned earlier, the cyber security vulnerabilities were half the findings. That makes the audit worth it just so people can fix the security of our logistics and our payroll systems.

There is more. We had V22s [Ospreys] that could not be flown because they were waiting on a spare part, a series of rollers. What the Navy did not know was that it had those rollers in inventory at a different base. This base, however, had never put these rollers into the inventory system so one could see it. Because these parts had never been entered into the inventory system, we had readiness problems. We also had dormant account reviews, a way of looking through the budget to see where the money is and where it has been obligated. Normally, you have a single sub-sheet on which you can see the percent obligated. With a monitoring system, we can see every single transaction and how long ago this transaction took place. We can conduct search queries (e.g., show me a budget line that has not had any activity in three months). We can focus in on those areas that need attention. This system puts much more powerful tools into the hands of the analysts to guide change. What we discovered—and talk about measuring progress—was that the logistics community, the CIA [Central Intelligence Agency] community, and many other communities could see the benefit to their operations.

So, you have measured your progress and you are able to tell the people about the progress you have made. The sixth recommendation is that you need a champion. If you are going to drive change in an organization, you need a champion to help you out—your boss, the Secretary, somebody above you. When I was at DHS, my champion was the Secretary and the IG. If it is a big change, you absolutely need the Hill. As Peter Levine points out in his book, legislation alone is not enough. If you take that approach, it is like pushing spaghetti. You can tell the Department,

but you need somebody pulling. In many cases, it is a prerequisite. Even if you are writing a report with language that reminds everybody that they care about what is happening, having a champion makes the reform easier. I had an advantage because the Hill was adamant about this, and I had a senator who made a point to me of saying, "If there is anyone who does not think that the audit is a good idea, I am happy to meet with him and he can explain it to me." I offered that invitation to many people when I was in the Department. I said, "If you do not think this is useful, you and I can meet with the senator and you can tell him why you do not think this is a good idea." No one took me up on that, but you will need that champion for change. Later in your career, you may be that champion. I started out in DHS. I did the audit there, and I had the support of the Secretary. I went to DOD, and I had the support of the Secretary and huge support from the Hill and from Mick Mulvaney in the White House. Then, I became the deputy secretary at DOD. I became the advocate for ADVANA to support them and to show that we were going to use it inside our DMAGs [Deputy's Management Action Group], and, therefore, all of us should take seriously the data we were given because it was going to be used. For Operation Warp Speed, everyone knew that the team had the support of Secretary [Mark] Esper and Secretary [Alex] Azar. If they asked for something, they got it.

The seventh and final recommendation is transition. You have to assume that this effort is going to take longer than your tenure. If you are driving a serious change, it is going to outlast you for all the reasons that we have talked about. When I was at DHS, I hired a woman to be my head of accounting, and she was made my deputy. The Obama Administration then made her the next CFO [Chief Financial Officer]. She had driven a change all the way, and then she departed. After her departure, one more gentleman, an Air Force colonel, came in. Within a month, he got the clean opinion. His reaction was, "I do not see why this was so hard. I have only been here thirty days, and we got a clean opinion." It took the Department ten years to get this opinion. He had just come in at the end. In DOD, the ADVANA tool is in the hands of the under secretaries. It is being used. Deputy Secretary Hicks's team is going to be able to take that to a completely different level. We got it so far, and Mike McCord, the new comptroller, and I sort of played back and forth. He handed it to me. I then handed it back to him. You have to assume that the change effort is going to take longer than you have got. You have to support the effort, but you also have to make sure that you have people in place who have the skill sets and the will to keep driving that change going forward.

At the end, the short answer is that management reform is difficult. However, it is worth doing if you do it right. The rules are as follows: 1) ask a lot of questions, 2) scout out the obstacles, 3) know the mechanics of the process you are trying to change, 4) have a schedule and a plan, 5) measure progress, 6) make sure that you have a champion for your change, and 7) make sure that you have planned for the transition.

With that, I will pause my remarks and open the discussion to any questions that you have on anything that has been discussed today.

(UNIDENTIFIED QUESTIONER) When we developed ADVANA, it was for the audit based on financial information that you have described very well. This morning, Secretary Work mentioned Deputy Secretary Hicks' decisions relative to the chief data officer setting up a new organization. Our thought process, when we established it, was that it was well placed under Comptroller because there are so many applications that have gone beyond just financial. Is Comptroller still the best place in your judgment?

(DAVID NORQUIST) The question is, where should the ADVANA database be housed? We have to look at the effect on the data in the different places it is put, and so I will offer two ideas here. First, whoever has the data is responsible for the audit. If it goes to a different office, then that office is the lead for the financial statement audit because that is the system that underlies it. Whoever gets it has to know what they have just owned. The question of getting a clean opinion becomes theirs to answer. Second, by being in the accounting part of Comptroller, the central focus is the accuracy of the data. They make it available to everybody else in the Department, but they are only consumers of a piece of it. In general, that is what is wanted. That consideration may be different if you get the part of the Department that is not business (i.e., the warfighting side). The chief data officer and others can set up the guidelines and the rules about data structure (e.g., how data should be made available, who should have access to it), but you want it in a place where the accountability and the accuracy is constantly reinforced, which is why where it was housed is the right place. The fact that there are other people interested is just a sign of success, and that is awesome.

(DAVID NORQUIST) Go ahead.

(UNIDENTIFIED QUESTIONER) Should it not be the responsibility of the IG community to check on existence and completeness for inventory and assets? Does it make sense to pay financial statement auditors to do what the IG should be doing?

(DAVID NORQUIST) The question is, is it not the IG's responsibility concerning existence and completeness for inventory and assets? The short answer is yes. The IG is the one who oversees all the auditors. The question is, do you want people who have as a profession testing the existence and completeness of inventory across locations around the country doing existence and completeness, or is it a specialty that you want to grow in the IG? They contract it out to others. There are a couple of advantages to this. First, I got tremendous value when I met with the CPA firms and they explained the problem. So, for example, I mentioned the issue with the buildings. One of the things they pointed out is why DOD has a problem with inventorying assets. You have a base with thousands of acres, and somebody needs to find a certain waterhead that is on the property. However, there are not any GPS [Global Positioning System] coordinates in the inventory database. In that case, the person in search of this waterhead would have to wander the base to do existence and completeness. If we could discipline people to enter the GPS coordinates as soon as something is built, then finding and updating property records could be done quickly. They had all these examples from being in the private sector that rapidly addressed the challenges

of doing existence and completeness. I found that their feedback about how others solve a problem was a much easier path than for us to try and solve it ourselves.

(DAVID NORQUIST) Any other questions from this room or from online? Go ahead. Yes.

(UNIDENTIFIED QUESTIONER) I am curious what your thoughts are on the now codified practice of Congress receiving unfunded priority lists or UPLs, which have somewhat become regularly Congressionally approved over the years. As you are aware, this is outside the president's budget requests and can be significant amounts of money. How do you see that factoring into defense management reform?

(DAVID NORQUIST) The question concerns Congressionally approved UPLs: the unfunded priority lists that come from the commands and from the services to the Hill, at the Hill's request. My views on the UPLs depend on where I am sitting and the politics of the moment. If I am in one of the places gets to submit them, I am fond of them. When I was a Hill staffer, they were very useful to have. When you are in the Department and you have made tough tradeoff choices, you tend to get a little unhappy when someone is going around you. Now, the Congress asked them for it, so it is not as if any of these people are misbehaving. This gets back to the basic question of



whether it is explicit or whether people are doing it without saying it explicitly. The Hill will hear what tradeoffs and choices the Department made and some of them will get relitigated. So, I have liked it or not liked it to where it affected me, but, at the end of the day, if you are in leadership and you made a decision, then you have to be able to go to the Hill and explain why you funded "A" over "B." Normally, the services are pretty good about saying if more money was available, I would do "X," but I support the Department in what they submitted. However, it just presents to the Hill, here are the tradeoffs.

A question? Yes, Asif.

(ASIF KAHN) The position of the CMO [Chief Management Officer] has finally gone. It went through a few different iterations over the last twelve years. Peter was one of them. My question is, is that a position that the Department felt was necessary or important for reform, fully

realizing that most of the functions would move to this comptroller position and some to others? Any thoughts on that?

(DAVID NORQUIST) The question is about the CMO and its role in the Department of Defense. When I was deputy, I read through a series of reports—GAO and otherwise—that looked at this issue. The Hill examined every single possible variation of this flavor of ice cream: DCMOs [Deputy Chief Management Officer], CMOs. It was actually in Comptroller at one point but had a different type of name. Each time, there was a question: if we put it in a different place, would it function differently? When it ended up as its own office, we found that it was effective as an advocate for reform, on speaking on behalf of it. However, when you looked at where the major changes were happening in the Department . . . I talked about background investigations. There is a significant drop in the backlog of background investigations, and there is a move to the concept of continuous vetting. That concept is being led by I&S [Under Secretary of Defense for Intelligence and Security] because it is the owner of that process. Acquisition did the adaptive acquisition framework, so they adapted a new process for acquisition to engage with the Hill. It was the lead for that. The Army was the lead for Night Court, Comptroller for the audit, the CIO [Chief Information Officer] for data center consolidation. We found that reforms tended to happen inside a functional area when led by the head of that functional area with an expertise in that domain and the ability to drive that change. So, with a separate office, we ended up signaling to people that reform is not their job, which is a huge mistake, or we had somebody who was trying to figure out how to tell the experts how to drive the change. What Deputy Secretary Hicks has done in her memo, which is consistent and right, is she recreated A&M [Administration and Management], which was the right thing to do, and moved the things back to Comptroller and CAPE that belonged there. At the end of the day, however, what the Department needs and what the deputy secretary needs is a trusted agent to whom they can say, “Go and engage the undersecretaries. Go and engage the defense agencies. See what they are using to measure performance and tell me whether or not you think they are taking on meaningful changes or whether I as the deputy need to intervene.” That is what she [Deputy Secretary Hicks] set up when she wrote Mike Donley, the director of A&M. The truth is that he could have any job title, but, because everyone knows that he is trusted by her, that he knows the Department, and that he is competent and experienced, then he can be her representative. He happens to be in A&M, which is a fine place. It gives him a great deal of visibility, but the truth is, it is the relationship between the deputy secretary—who, generally, in most divisions of labor, has the inside the Building function, the Secretary the outside the Building—and the advocate. If that relationship is good, it does not matter what his title is. He can drive that set of changes. So, I am very supportive of what she has done. She has made a good priority and an emphasis. We have talked a lot about her emphasis on data and her emphasis of giving him the mantle of PIO [Performance Improvement Officer]. If someone came later and moved the PIO to a different office, I am not sure that I would mind. The important question is, who has got that connection and is able to be the leader who people recognize as driving the meeting for the deputy?

(DAVID CHU) You suggest in your remarks the transition to the Pacific theater. As you know, that has been the mantra for more than two presidential terms. The critics would argue that very little has changed in our posture in the Pacific and that very little has changed in our investment portfolio. So a two-part question: (1) Do you feel the criticism is fair, and, (2) if it is fair, what would you do differently about how the requirements are managed and led to make more progress?

(DAVID NORQUIST) The answer to that question is that the Department has changed, but the argument might be whether it has changed as fast or as far as necessary. I do not think that is the case. When I was in the Department, we came out with the National Defense Strategy. There were clear investments (e.g., long-range strike, hypersonics), a focus on the things that recognize the sheer scale of the Pacific (i.e., when you are fighting in the Pacific, the ranges that you have to operate in). We were previously bound by the INF Treaty on the range of ground-based missiles. If you have a missile with a 500-kilometer range in the Pacific, you are just hitting water. We needed to be able to get out of that [INF treaty] to be able to produce missiles that can go thousands of kilometers, which now we can. So, there is a series of those investments at the R&D [Research and Development] level to give us long-range strike capability. There is also an emphasis on doing more with the Navy, particularly with submarines, given the nature of the Pacific. The challenge has always been—and fair enough to the Army—this: if we have to rotate three to one in the Middle East, we cannot draw down the Army force structure, which is one of the things that we would do to increase investments in long-range strike or in shipbuilding. When we get past that point, when we are able to make those decisions, we can freeze some of those resources up. So, there has been change in the right direction. Some people have decided that this change is not happening as quickly as they would like it to, but some of that is also that these new technologies are under development but they are not yet at the fielding stage. As I was leaving, a number [of new technologies] were getting close, and that is what we started to put in the budget, but it is hard to drop a major investment on prototypes until we can get to the quantity and scale that you need.

A question? Yes.

(BOB SOULE) In your remarks, you talked about data and modeling. I am seeing a disconnect though, but maybe this is a timing thing. We are doing work for a military department that would be very familiar to you on airplanes that would be very familiar to you. There are all sorts of problems with not buying products that we should be buying, having a lot of parts, and buying parts that are irrelevant. As we peel back that onion, there are data problems all over the place (e.g., balkanized data systems, contradictory data systems, inaccurate systems). There are lots of names and people who have worked for the Department and I do not think that word ADVANA has ever been mentioned to them. So at the working level, I do not think we are seeing the improvement you are talking about.

(DAVID NORQUIST) The question is about the emphasis on data as a theme, and an example was given about an unnamed Air Force program where they had challenges ordering the right number of parts, ordering too much of the wrong part of one or the other, and that those

people were not necessarily using ADVANA. The short answer is this: they were using the system that ADVANA draws from ... because what ADVANA does is to reach into the system of records. For example, it does not do personnel transactions, but it goes to the personnel transaction system and pulls from it. The HR [Human Resources] people might be using the underlying system—these people may have been using the actual inventory system that ADVANA was pulling from and that the auditors were testing. The auditors would be pointing out that what is in your inventory does not match what is in your system and bringing an emphasis on fixing it. ADVANA would be helping to show that type of challenge. You point out, correctly, that with each of these episodes, when you shine the light on the data and you start making clear to people the disconnect between what is in their system and what is truth, they understand the operational impact, the disruption to their mission that occurs from buying the wrong thing. The answer is, “Okay. Now this is your opportunity to drive change in bureaucracy, follow steps one through seven.” Why did we get into this position? Why is it that there are either multiple places by which to enter data or the system is incomplete and can we fix that? It creates the incentive and the drive to try and resolve that process.

(PETER LEVINE) I have two other questions for you, both on ADVANA. So, hopefully, you can answer the first one quickly. Who has access to data, and how can the data help support the CAPE program review?

(DAVID NORQUIST) For the answer on who has access, I have to be careful because there is a tiered set of access. Not everyone in the Department can get everything in ADVANA. There has to be a relevance to the mission, and there is a classified and unclassified piece. Legitimate users have access to ADVANA by going through the comptroller’s office and getting user IDs to be able to log on and so forth. I believe that CAPE is one of those. There is language from Congress saying that this data will be made available; therefore, part of the ADVANA team’s mission is making the data available to CAPE and others so they can do their data analytics.

(PETER LEVINE) The second question is one we had earlier but did not get an answer to, and it is fair to ask you since you have been so heavily engaged in this area. Have you heard whether DOD is looking to move to a data brokering service or data mesh akin to what Jeff Bezos set up at Amazon with his Bezos mandate instead of data lakes like ADVANA. Is that something that has been considered as you move forward?

(DAVID NORQUIST) Let me walk through it. Here is my understanding of data mesh. The issue, as I understand it, with data mesh is this. ADVANA is a data lake, which means it goes to the underlying system, pulls the data into a central database, and tells everyone to look here to do your analysis. Data mesh is when you go to the underlying systems and draw from them directly, and so you do not have to have this second piece of information in a separate database. That is my understanding of the difference.

Here is why we did not do data mesh originally. First, there was a huge organizational resistance to the idea that someone else was going to come into your system and potentially touch the data. By explaining to people that we are only going to take a mirror copy, to make the data

usable, the ADVANA people had to reformat it into different styles so that it had all the right fields and could fix some of the challenges. They did not want anyone touching their system. If we had tried to advocate for the position that we are going to let people throughout the Department from different places come and tap your system potentially overloading your capacity—because some of these systems do not have a lot of bandwidth to get to them, they are housed in a certain place—we would have lost that support and potentially taken down those systems.

In the long run, could one get to data mesh? Potentially, but then you would have to have the underlying system formatted in the right way and readily accessible, which is possible if you have a lot of modern, standard systems. However, given the stove pipe nature of the Department, I suspect that it would be a while before they would be attempting to take that leap given the logistic challenges that would create and how much the data would have to be formatted to get it correctly when it comes into ADVANA.

(DAVID NORQUIST) Yes.

(UNIDENTIFIED QUESTIONER) I have one more question about data ... (the audio recording of the remainder of question was incomprehensible).

(DAVID NORQUIST) The question is on data. What do you do if the data is incomplete? How do you convey the uncertainty? This is an important question. There is a risk of looking at data and assuming that all the decimal points are conveying real information. So, depending on the topic is whether or not ...—if somebody asks how many carriers you have, you are pretty certain it ends in a dot zero. There is an exact number. However, for other inquiries, there is an uncertainty range and the challenge of having to deal with that. In some cases, we plot those on the chart—either uncertainty because of historical averages or uncertainty in terms of the range of data that we are getting in. We also are very clear early on that these are audited but that they have not passed the audit. So, a lot of the data you will get ... the Department wants to get to point now that you can have a logo in the lower corner that would indicate where the data came from and whether it did okay in the audit. Then, you would see this information came from a system that passed the audit or came from a system that failed the accuracy of the audit. You would actually be warning your readers about the quality of the underlying system, and, then, anyone who owned that system could feel appropriately embarrassed in a meeting that the system from which data is being drawn and for which they are responsible is viewed as unreliable and needs to be brought up to standard.

(PETER LEVINE) Did you have a good time?

(DAVID NORQUIST) Yes. Thank you very much.

(PETER LEVINE) As we conclude, I will point out that it took me two years to come up with ten rules for defense management reform. It apparently took Dave about two weeks to come up with seven. However, they are additive, and people might want to look at seventeen rules of

defense management reform now. That makes the point that it is not easy. Thank you very much Dave.

(DAVID NORQUIST) For those of you who have not read Peter's article on this topic, I would encourage you to do so. What you will see in that article is that he gives ten rules that apply when you are looking at defense management reform. My favorite of these rules is that no one gets to start with a clean slate. The rules that I have provided are the mechanical steps and guidance for implementing defense management reform. So once you have read Peter's set of rules and are not spooked, then you can take mine and try to implement reform. Thank you for being here and thank you to those of you online.

(PETER LEVINE) We are all done for the day. I appreciate you all being so patient. I want to thank Tina Patterson, who is in the back corner. None of this would have happened without her effort. Thank you.



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Appendix A.

Moderator and Speaker Biographies

James R. Dominy, Institute for Defense Analyses (IDA)



Mr. James Dominy has been a Research Staff Member at IDA since 2007, specializing in resource management issues. Before joining IDA, he served for thirty-one years in various financial management positions in the Department of the Army and the Office of the Secretary of Defense. He was appointed to the Senior Executive Service in 1995. From 2002 until his retirement in 2007, he was the Director of Program and Financial Control, Office of the Under Secretary of Defense (Comptroller), responsible for managing the Department's budget development and budget execution processes. He earned BA (Political

Science) and MA (Public Administration) degrees from the University of Iowa and an MS (Management) from the Massachusetts Institute of Technology as an Alfred P. Sloan Fellow.

Mark E. Easton, Former Deputy Chief Financial Officer, Department of Defense



Mr. Mark Easton served as the Deputy Chief Financial Officer (DCFO) in the Office of the Under Secretary of Defense (Comptroller) from May 2009 until December 2020. In that capacity, he was the principal advisor to the Under Secretary of Defense (Comptroller)/Chief Financial Officer and to DOD senior leaders on all issues involving the amended CFO Act of 1990 and related financial management reforms. His portfolio also included responsibility for the Department Manager's Internal Control Program and annual financial audit support and remediation. Following extensive audit readiness efforts, the DOD executed its first comprehensive Financial audit in Fiscal Year 2018.

Before becoming the DCFO, Mr. Easton was the Deputy Assistant Secretary of the Navy and Director for Financial Operations. In this position, he was responsible for Department of the Navy financial improvement initiatives that involved systems and processes employed by 9,000 Navy-Marine Corps financial managers. He was appointed to the Senior Executive Service in

January 2003, initially serving as Director, Defense Finance and Accounting Service (DFAS) Cleveland and the Senior Navy Client Executive for DFAS.

Mr. Easton retired from the Navy at the rank of captain in September 2002, following a twenty-nine-year career in the Navy Supply Corps, serving in assignments afloat and ashore as a logistician and financial manager. A native of Kansas City, Missouri, he holds a BS in Economics from Miami University (Ohio) and a Master's in Business Administration from the University of Michigan. He is the recipient of various personal awards, including the Presidential Rank Award (Distinguished and Meritorious), the DOD Medal for Distinguished Civilian Service, the Defense Superior Service Medal, and the 2019 Donald L. Scantlebury Memorial Award for Distinguished Leadership in Financial Management Improvement. Recently retired from federal service, he currently serves as a Senior Fellow with the National Defense Industrial Association.

David R. Graham, IDA



David Graham joined IDA in 1984. He served as a Deputy Division Director in the Strategy, Forces, and Resources Division until 2019 and is now an adjunct staff member. At IDA, he has led a wide range of IDA studies, with study teams of up to twenty professional staff, and has contributed to a number of national panels and study groups. Areas of focus include national security roles and missions, organizational effectiveness, human capital management, and defense and the economy.

Before joining IDA, he studied the government regulation of industry at the Board of Governors of the Federal Reserve System, the Civil Aeronautics Board, and the U.S. Department of Labor. In 2000, he was awarded IDA's Andrew J. Goodpaster Award for Research Excellence. He holds a BA in Economics from Wabash College (Indiana) and a PhD in Economics from the University of California, Los Angeles.

Janet Hale, Former Under Secretary for Management, Department of Homeland Security



Janet Hale has over thirty years of experience in public and private service in areas including technology, human resources, acquisitions, and finance, beginning with federal roles at the Department of Housing and Urban Development, Department of Transportation, and Office of Management and Budget. She eventually held leadership positions at the University of Pennsylvania and the United States Telephone Association.

Ms. Hale returned to federal government service in 1999, serving as Associate Administrator for Finance/Chief Financial Officer at the U.S. House of Representatives. In 2001, she moved to the Department of Health and Human Services, where she was the Assistant Secretary for Budget, Technology, and Finance until 2003.

In 2003, she served as the first Under Secretary for Management for the Department of Homeland Security, responsible for the financial, information technology (IT), human capital and administrative services for the \$40-billion organization. In this role, she was responsible for the integration of 22 agencies and 180,000 employees, including the consolidation of 22 different human resource servicing offices, 98 separate payroll systems, 19 financial management centers, 13 procurement systems, and hundreds of legacy IT systems.

Ms. Hale concluded her professional career as a director at Deloitte & Touche LLP, where she served as senior advisor on strategic government procurements, policy, and operations from 2006 to 2016.

Ms. Hale has a BS from Miami University (Ohio) and a Master's in Public Administration from Harvard's John F Kennedy School of Government.

Christopher Hanks, IDA



Dr. Christopher Hanks, over the course of his thirty-year career as a defense analyst, specialized in the areas of logistics, working capital fund operations, and defense business transformation. Since his retirement, he has published three papers on financial management at the Department of Defense (DOD), all grounded in what he learned as a researcher at LMI, RAND, and IDA about how DOD works. The first paper, "Financial Accounting at the DoD: Reviewing the Bidding," published in July 2009 in the *Defense Acquisition Review Journal*, reviews the history, motivations, and key figures underlying the passage of the CFO Act of 1990 and makes the case for "reviewing the bidding." The second paper,

“A Proposal to Emphasize Managerial Cost Accounting in the Department of Defense,” published in the spring 2012 issue of *Armed Forces Comptroller*, describes the (then-nascent) status of managerial cost accounting in the Department of Defense. The third paper, “Should the Federal Government Continue Its Pursuit of Proprietary Financial Statements?,” published in the spring 2014 issue of the *Journal of Government Financial Management*, offers rebuttals to the various arguments that have been made—and continue to be made—for continuing the pursuit of private-sector-style financial statements at DOD.

As a member of the Financial Management Panel, Dr. Hanks will offer five reasons why the production of private-sector-style financial statements has never made sense for the Department and will not help to improve its effectiveness, efficiency, or transparency.

Veronica E. Hinton, Deputy Assistant Secretary of Defense for Civilian Personnel Policy



Veronica Hinton is the Principal Director for Civilian Personnel Policy. She assumed the duties of the Acting Deputy Assistant Secretary of Defense for Civilian Personnel Policy in January 2021. Her responsibilities include the development and oversight of civilian personnel plans, policies, and programs that affect over 930,000 defense employees worldwide. Her portfolio spans the full spectrum of the human capital lifecycle, to include systems evaluation and improvement, performance management, strategic workforce and succession planning, leader development, and talent acquisition, development and sustainment.

Before this appointment, Ms. Hinton served as the Department of the Treasury’s Associate Chief Human Capital Officer for Human Capital Strategic Management. In this executive role, she was responsible for Department-wide policy and programs and the oversight in all areas of human capital management, including human resources, labor and employee relations, human capital evaluation, and strategic planning and performance management affecting 100,000 employees.

Before joining Treasury, Ms. Hinton held various leadership positions in the Department of the Air Force and Department of Defense. She served as the Director of the Air Force Senior Executive Management Office and the Director for Personnel Service Delivery Transformation at Headquarters, United States Air Force; the Deputy Director for Manpower, Personnel, and Services at Headquarters, Air Combat Command; and the Deputy Director for Human Resources Strategic Programs and Advisory Services in the Defense Civilian Personnel Advisory Service.

Ms. Hinton holds a BA in History from Texas State University, an MS in Human Resource Development from Virginia Polytechnic Institute and State University, and an MS in National Resource Strategy from the Dwight D. Eisenhower School for National Security and Resource

Strategy. She is a graduate of the Department of Defense Senior Leader Development Program and was certified as a Senior Human Resources Professional by the Society for Human Resource Management. Her awards include the Secretary of the Treasury Meritorious Service Award, the Office of the Secretary of Defense Award for Excellence, and five Secretary of the Air Force Meritorious Civilian Service Awards.

Asif Khan, Director, Financial Management and Assurance Team, Government Accountability Office



Asif Khan is a Director at the Government Accountability Office (GAO) on the Financial Management and Assurance team. Mr. Khan joined GAO in January 2009, after almost twenty years in public accounting, most of it with major firms auditing and advising U.S. government agencies.

Mr. Khan focuses on financial management issue areas on GAO's High Risk List. His current focus is on improving financial management at the Department of Defense and the Department of Homeland Security. He supports oversight of these departments' financial management transformation efforts through financial and performance audits and recommendations for removing impediments to financial statement auditability, strengthening internal controls, and modernizing business processes.

Mr. Khan earned a bachelor's degree in management sciences, with a concentration in economics, from Lancaster University, Lancashire, England, and a professional accounting qualification from the UK Association of Chartered Certified Accountants. He is a Certified Public Accountant, a Certified Government Financial Manager, and a Certified Information Systems Auditor.

Peter Levine, IDA



Peter Levine is a Senior Fellow in the Strategy, Forces and Resources Division within IDA's Systems and Analyses Center. He previously served as Acting Under Secretary of Defense for Personnel and Readiness, Deputy Chief Management Officer of the Department of Defense, and Staff Director of the Senate Armed Services Committee. His recently published book, *Defense Management Reform: How to Make the Pentagon Work Better and Cost Less*, seeks to capture lessons learned from forty years of management reform efforts in the Department of Defense.

Katharina McFarland, Former Assistant Secretary of Defense for Acquisition



Katharina McFarland joined the SAIC Board in 2019. Before her onboarding, she was a Director for Engility Holdings, Inc., from 2017 to 2019.

In 2017, Ms. McFarland retired from civil service as the Assistant Secretary of Defense for Acquisition (ASD). She was appointed to this position in 2012 by then-President Barack Obama and confirmed by the U.S. Senate. During her ASD tenure, she was also appointed Acting Assistant Secretary of the Army for Acquisitions, Logistics, and Technology and Army Acquisition Executive. Before her 2012 ASD appointment, she served as President of the Defense Acquisition University from November 2010 to May 2012. From May 2006 to November 2010, she was the Director of Acquisition, Missile Defense Agency. She began her civil service career in 1986 at Headquarters, U.S. Marine Corps as a general engineer.

Ms. McFarland received an Honorary Doctoral degree in Engineering from the University of Cranfield, United Kingdom, and a BS from Queens University in Kingston, Canada, with accreditations in Materials, Electronics, and Civil Engineering.

David L. Norquist, 34th Deputy Secretary of Defense



David Norquist has thirty years of public and private sector experience in defense and national security. As a senior advisor to Covington & Burling, LLC, he provides strategic advice and helps clients in the aerospace and defense sector navigate policy and regulatory challenges. Mr. Norquist, a non-lawyer, joined the firm after serving as Deputy Secretary of Defense.

Mr. Norquist, in his role as Deputy Secretary of Defense, was responsible for the day-to-day business operations of the Department of Defense (DOD), managing the Pentagon's budget and overseeing efforts to reform the military's acquisition and accounting practices. He also championed a multi-part effort to improve cybersecurity across DOD and the Defense Industrial Base, including the establishment of the Cybersecurity Maturity Model Certification and expanded investment in artificial intelligence and autonomous platforms. In addition, he helped realign defense investments toward new warfighting domains in space and cyber space and long-range weapons, including hypersonics, and worked to modernize the nuclear triad.

During the ongoing pandemic, Mr. Norquist co-chaired the DOD COVID-19 Task Force and, with the Department of Health and Human Services, launched Operation Warp Speed. Most

recently, he was selected by the incoming Biden Administration to support the transition by serving as Acting Secretary of Defense.

Mr. Norquist previously held the position of Under Secretary of Defense (Comptroller)/Chief Financial Officer, and served as the principal advisor to the Secretary of Defense on all budgetary and financial matters. Earlier in his career, he was selected by President George W. Bush to be Chief Financial Officer at the U.S. Department of Homeland Security and also served as Deputy Under Secretary of Defense in the Office of the Comptroller.

Mr. Norquist has Capitol Hill experience as a professional staff member on the House Appropriations Committee's Subcommittee on Defense. He began his career as a Presidential Management Fellow and a Program Budget Analyst for the Department of the Army. During his eight years with the Army, he worked at Army Headquarters, U.S. Army Intelligence and Security Command, and as the Director of Resource Management at Menwith Hill Station in the United Kingdom.

Mr. Norquist is a 1989 graduate of the University of Michigan, where he received a BA in Political Science and a Master's in Public Policy. He also holds a Master's in National Security Studies from Georgetown University and is a Certified Government Financial Manager.

Howard Risher, Independent Consultant



Dr. Howard Risher is a consultant to numerous organizations, including the National Academy of Public Administration (NAPA), where he has worked on studies related to employee compensation and performance in the federal government. He was a member of the project team for the 2004 report *Recommending Performance-Based Federal Pay*. He previously was a member of the NAPA teams that prepared reports on the Senior Executive Service and on a new personnel system for federal information technology specialists. He has been responsible for consulting studies for several federal and state agencies, including the 1990 study for the Office of Personnel Management that led to the Federal Employees Pay Comparability Act and the locality pay system. He has also consulted with the United Nations on pay and performance issues and has authored reports for the Organisation for Economic Co-operation and Development.

Previously in his career, Dr. Risher worked as the compensation practice leader for two national consulting companies. He has also served as a Senior Fellow in the Wharton School's Center for Human Resources.

Early in his career, Dr. Risher worked as a compensation director for a large diversified corporation. His experience includes years of experience as a consultant to the private sector and to higher education. He has published over forty articles on pay and performance and has

developed four books. His most recent book is *Planning Wage and Salary Programs*. He serves as the editor of the journal *Compensation and Benefits Review*.

Dr. Risher received his PhD in Business and Applied Economics from the University of Pennsylvania in 1972.

Arun Seraphin, Professional Staff Member, Senate Armed Services Committee



Dr. Arun A. Seraphin is a Professional Staff Member on the staff of the United States Senate Committee on Armed Services. His areas of responsibility include acquisition policy, Pentagon management issues, Department of Defense (DOD) science and technology programs, information technology systems, technology transition issues, defense laboratories, the Small Business Innovation Research program, manufacturing programs, and test and evaluation programs. As such, he assists senators in their oversight of DOD policies and programs, including in the authorization of budgets, civilian nominations, legislative initiatives, and hearings. He rejoined the committee staff in 2014, after previously serving there between 2001 and 2010. In 2009, he was named one of ten Defense “Staffers to Know” by *Roll Call*, a Capitol Hill newspaper.

From 2010 to 2014, Dr. Seraphin served as the Principal Assistant Director for National Security and International Affairs at the White House Office of Science and Technology Policy (OSTP). During this time, he led (in an Acting capacity) and served as the Deputy Director of the OSTP National Security and International Affairs division. His areas of responsibility included developing and implementing White House initiatives and policies in areas including defense research and engineering, weapons of mass destruction, defense manufacturing and industrial base, science, technology, engineering, and mathematics (STEM) education, cybersecurity, and innovation in government research and engineering organizations. He also led interagency groups on small business programs and on improving the quality of the federal STEM workforce. He was on detail to OSTP from the Defense Advanced Research Projects Agency (DARPA), where he was the Special Assistant for Policy Initiatives to the Director of DARPA.

Dr. Seraphin has also worked on the United States House of Representatives Committee on Science Subcommittee on Research as a professional staff member. He began his work in Congress in the Office of Senator Joseph Lieberman as the 1999–2000 Materials Research Society – Optical Society of America Congressional Science and Engineering Fellow. In these positions, he covered civilian and defense research and development programs.

Between 1996 and 2000, Dr. Seraphin worked in the Science and Technology Division of the Institute for Defense Analyses, where his research included work on defense technology transition, microelectromechanical systems (MEMS), export controls, technology forecasting, and

international research cooperation. His work included detailed technical analyses supporting the DARPA MEMS program, the Army Science and Technology Master Plan, and the Military Critical Technologies Program.

In 1996, Dr. Seraphin earned a PhD in Electronic Materials from the Massachusetts Institute of Technology, where he performed research on silicon nanotechnology. His research focused on developing novel silicon nanostructures and tailoring their optical properties. He also holds Bachelor's degrees in Political Science, with a concentration in American Government, and in Engineering Science, with a concentration in Materials Science from the State University of New York at Stony Brook.

Norton A. Schwartz, IDA



Norton A. Schwartz is a retired United States Air Force General who served as the 19th Chief of Staff of the Air Force from August 2008, until his retirement in 2012. He previously served as commander, United States Transportation Command from September 2005 to August 2008. He is currently the president and Chief Executive Officer (CEO) of the Institute for Defense Analyses in Alexandria, Virginia.

General Schwartz graduated from the United States Air Force Academy in 1973. He is an alumnus of the National War College, a member of the Council on Foreign Relations, and a 1994 Fellow of the Massachusetts Institute of Technology's Seminar XXI.

David A. Sparrow, IDA



David A. Sparrow joined IDA in 1986 and has been a Research Staff Member ever since, with brief forays into management and government service.

Dr. Sparrow was the first Director of the IDA Simulation Center from 1989 to 1990 and Assistant Director of the Science and Technology Division from 1993 to 1997. He then joined the government for a two-year stint as Science Advisor on Modeling and Simulation to the Director, Operational Test and Evaluation.

Since returning to IDA, Dr. Sparrow has focused on technical issues in system development, especially ground combat systems expansively defined to include unexploded ordinance, counter mine, and, occasionally, missile defense. He has authored about 100 refereed papers and has given talks on various academic and national security topics.

Dr. Sparrow received a PhD in physics in 1974 from the Massachusetts Institute of Technology and spent twelve years as an academic physicist.

James P. Woolsey, President, Defense Acquisition University



Mr. James P. Woolsey is President of the Defense Acquisition University (DAU), a position he has held since January 2014. In that role, he is responsible for delivery of learning products through the DAU regions, the Defense Systems Management College, and the College of Contract Management; curriculum development; online learning programs; learning technology; and library services for a major Department of Defense corporate university. DAU is strategically located within five geographical regions across the country and provides a global learning environment to develop qualified acquisition, requirements, and contingency professionals who deliver and sustain effective and

affordable warfighting capabilities.

Mr. Woolsey also served as the first Deputy Director for Performance Assessments (PA) in the Office of Performance Assessments and Root Cause Analyses. In standing up the PA organization, he created the processes and practices that allowed it to perform its statutory responsibility of assessing the progress of all Major Defense Acquisition Programs (MDAP). The new office also made a substantial contribution to reinvigorating the Defense Acquisition Executive Summary process and provided the Under Secretary of Defense for Acquisition, Technology, and Logistics with unique analyses to give him improved visibility into the status of the MDAP portfolio.

Mr. Woolsey was also an Assistant Director in the Cost Analysis and Research Division of IDA. His responsibilities included managing the division's cost analysis and research and leading a wide range of cost and acquisition studies. His work included a Congressionally directed cost-benefit analysis of the F-35 alternate engine, an evaluation of KC 767A lease prices, C-5 reengineering costs and benefits, F-22 production readiness, joint air-to-surface standoff missile costs, and space launch alternatives. He also served on a Defense Science Board Task Force on Long-Range Strike.

Mr. Woolsey's other previous positions include service as a structures engineer for F/A-18 aircraft at Naval Air Systems Command and work as an engineer for Lockheed Martin airlift programs in Marietta, Georgia.

Mr. Woolsey has a BS in Aerospace Engineering from Virginia Polytechnic Institute and State University and a Master's in Business Administration from George Mason University. He was also a Fellow in the Massachusetts Institute of Technology Seminar XXI on International Relations.

Robert O. Work, 32nd Deputy Secretary of Defense



Secretary Robert O. Work is the Distinguished Senior Fellow for Defense and National Security at the Center for a New American Security and the owner of TeamWork, LLC, which specializes in national security affairs and the future of warfare.

Mr. Work previously served as the Deputy Secretary of Defense, where he was responsible for overseeing the day-to-day business of the Pentagon and developing the Department of Defense (DOD) \$600-billion defense program. He is widely credited for his work with leaders in the Department and the intelligence community on the “Third Offset Strategy,” which aimed to restore U.S. conventional overmatch over its strategic rivals and adversaries. He was awarded DOD’s Distinguished Public Service Award (twice), the National Intelligence Distinguished Public Service Award, and the Chairman of the Joint Chiefs of Staff Joint Distinguished Civilian Service Award.

Before serving as Deputy Secretary, Mr. Work spent one year as Chief Executive Officer of the Center for a New American Security, after serving as Undersecretary of the Navy from 2009–2013 in the first Obama Administration. As the principal civilian deputy to the Secretary of the Navy, he was responsible for the smooth running of the U.S. naval global business enterprise, with over 500,000 active-duty personnel and 200,000 government civilians, and a budget of \$160 billion. He was twice awarded the Department of the Navy’s Distinguished Civilian Service Award.

After spending twenty-seven years on active duty in the U.S. Marine Corps and retiring as a colonel, Mr. Work first spent time as a Senior Fellow and later as Vice President for Strategic Studies at the Center for Strategic and Budgetary Assessments. While there, he authored or co-authored eight major monographs on maritime affairs, defense strategy and technologies, and military operations. He was a regular contributor to defense periodicals and frequently testified before Congress. He was an adjunct professor at George Washington University, where he taught the roles and missions of the armed forces and defense analysis, and is a member of the International Institute for Strategic Studies, the U.S. Naval Institute, and the Marine Corps Association.

Mr. Work is a Senior Counselor at the Telemus Group, LLC, a consulting firm specializing in defense forecasting, wargaming, and qualitative analysis and a Senior Fellow at the Johns Hopkins University Applied Physics Laboratory, an organization renowned for systems engineering and integration, technology research and development, and analysis. He is on the Board of Directors for Raytheon and the Board of Advisors for Govini, a data and analytics firm committed to transforming the business of government through data science.

Mr. Work received a BS in Biology from the University of Illinois at Champaign-Urbana, an MS in Systems Management from the University of Southern California, an MS in Systems Technology (Space Systems Operations) from the Naval Postgraduate School, and a Masters in International Public Policy from the Johns Hopkins School of Advanced International Studies.