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**TWENTY-FIVE YEARS OF ACQUISITION
REFORM: WHERE DO WE GO FROM HERE?**

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

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ONE HUNDRED THIRTEENTH CONGRESS

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**TWENTY-FIVE YEARS OF ACQUISITION REFORM:
WHERE DO WE GO FROM HERE?**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, Tuesday, October 29, 2013.

The committee met, pursuant to call, at 10:10 a.m., in room 2118, Rayburn House Office Building, Hon. Howard P. "Buck" McKeon (chairman of the committee) presiding.

**OPENING STATEMENT OF HON. HOWARD P. "BUCK" MCKEON,
A REPRESENTATIVE FROM CALIFORNIA, CHAIRMAN, COM-
MITTEE ON ARMED SERVICES**

The CHAIRMAN. The committee will come to order.

We convene on a sad day. Yesterday, this committee lost a former chairman, a hero, a patriot, and a friend. Ike Skelton will be deeply missed, not only by those of us Members and staff in this room, but by the men and women in uniform who Ike worked so hard and so humbly for.

It was always difficult to have a conversation with Ike in public because our troops were always stopping him to thank him, to have their picture taken with him, or to let him know how his service had made theirs better. Ike was always humble when he met them.

There is no tribute we can offer that can ever match the gratitude of those men and women. It is appropriate, though, that we take a moment now to bow our heads and thank God for the gift of having known Ike and for the opportunity to carry on his work.

[Moment of silence.]

The CHAIRMAN. Thank you.

That brings us to today's hearing. As many of you know, this committee, under leadership of many like Ike, has a long track record of tackling incredibly complex and challenging issues. The subject of today's hearing, acquisition reform, is one of those issues.

For anyone who needs reminding of the magnitude of defense acquisition, in 2012 the Defense Department's contract obligations were 10 percent of the entire Federal budget.

While this committee has led successful efforts to improve the way the Department acquires items and services, there are still significant challenges facing the defense acquisition system. We cannot afford a costly and ineffective acquisition system, particularly when faced with devastating impacts of repeated budget cuts and sequestration.

The Congress, together with the Department of Defense and industry, must be willing to do the hard work to find root causes, look past Band-Aid fixes and parochial interests, and have the courage to implement meaningful, lasting reform. To this end, I

have asked our vice chairman, Mr. Thornberry, in consultation with our ranking member, to engage in a long-term DOD [Department of Defense] reform effort that includes a hard look at acquisition.

We have invited an extraordinary panel of witnesses to help us with that task here today. I am very thankful for their willingness to be here to examine previous reform efforts, explore reasons the Department continues to field programs over budget and behind schedule, and look to ways that we can lead lasting reform efforts.

Joining us today are the Honorable Dov Zakheim, former Comptroller of the Department of Defense; Mr. Pierre Chao, senior associate, Center for Strategic and International Studies; Mr. Moshe Schwartz, specialist in defense acquisition policy, Congressional Research Service; and Mr. Paul Francis, Managing Director, U.S. Government Accountability Office.

Unfortunately, Dr. Ron Fox from the Harvard Business School could not be here today. He did, however, provide us with written remarks that you all have a copy of, and I thank him for that.

And I ask unanimous consent that those remarks be entered into the record.

Without objection, so ordered.

[The statement of Mr. Fox can be found in the Appendix on page 133.]

The CHAIRMAN. Mr. Smith.

[The prepared statement of Mr. McKeon can be found in the Appendix on page 49.]

STATEMENT OF HON. ADAM SMITH, A REPRESENTATIVE FROM WASHINGTON, RANKING MEMBER, COMMITTEE ON ARMED SERVICES

Mr. SMITH. Thank you, Mr. Chairman.

First of all, I want to share in your remarks about Chairman Skelton. I served on this committee with him for 14 years. He was an amazing man. I mean, I can't think of anybody who was more dedicated to the people who served in the military. When you would travel with Ike, he always, as we were doing our meetings with different groups and everything, he would always say, "Where are the troops? I want to talk to the troops." And he always did that, and he always looked after them. He had a knowledge of military history and a dedication to the men and women who served which is unparalleled.

But he was also just an excellent mentor for everybody who served on this committee, Republican and Democrat alike. And Mr. McKeon and I always talk about how this is a—you know, it is a bipartisan committee. Well, it took dedication of people like Mr. Skelton to make sure that that was the case. As both the chairman and ranking member, he went out of his way to work across the aisle to make sure that we always remembered what we were doing here, which was to look after the national security interests of our country and those who served and protected it.

He will be sorely missed by many. I know many of the staff worked very closely with him for years and years, as well. But he lived a very, very good life. And he upheld the standards of this body, Congress, and, in particular, upheld the standards of the

House Armed Services Committee in a way that all of the rest of us should absolutely aspire to.

So I thank the chairman for taking a moment to recognize his service. And it is a very sad day. We will all miss Ike, but we thank him for all that he has done for his country, for his district, for the men and women in the military, and for this committee.

It is hard to go from that to talking about acquisition reform, but I appreciate our panelists being here today. It is a never-ending challenge. One of the big things that was accomplished when Ike was chairman of this committee was we passed a comprehensive acquisition reform bill that I think has made, you know, some positive steps.

And there is a whole bunch of different things that could be said about it, but the thing that I have sort of learned in my time of working on it is that it really comes down to people. You know, we can pass all the legislation we want. It really is a matter of how the DOD operates—the procurement shop, the program managers, you know, what is the ethic that is put in place there, how do we get to greater efficiency.

I think one of the greatest challenges in that is getting the incentives right so that the men and women who work in this have the proper incentive to be innovative, to find the way to do the thing that is most cost-effective. I think far too often the incentives that are in place within our personnel system within DOD are to merely check the box. As long as you did the process right, regardless of the result, nobody can blame you. I think we need to better empower the people in the Pentagon to make those smart decisions.

When you go out in private industry and you see how companies have, you know, sort of changed paradigms and all of a sudden become more efficient and more effective than their competitors, it is not because a group of people sat in a room somewhere and developed a perfect process and then everybody robotically followed it. It is because people doing the work saw opportunities and took them and figured out how to do things different and better and more efficiently.

So I know there are a lot of other issues around this, but, for me, empowering the people to make those smart decisions is one of the most important approaches that we can take.

I look forward to the testimony of our very distinguished panel, and I thank the chairman for holding this hearing.

[The prepared statement of Mr. Smith can be found in the Appendix on page 51.]

The CHAIRMAN. Thank you.

Mr. Zakheim.

STATEMENT OF HON. DOV S. ZAKHEIM, FORMER UNDER SECRETARY OF DEFENSE (COMPTROLLER), SENIOR ADVISOR, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

Mr. ZAKHEIM. Thank you, Mr. Chairman. For the record, thank you for being so nice to my son.

The CHAIRMAN. Can you move that mike right—real close? Thank you very much.

Mr. ZAKHEIM. Were you able to hear me?

The CHAIRMAN. You bet.

Mr. ZAKHEIM. Mr. Chairman, Ranking Member Smith, distinguished members of the committee, I appreciate the opportunity to appear again before you.

The title of your hearing actually outlines the nature of the challenge that DOD faces: 25 years of acquisition reform, and we still have to ask, where do we go from here?

In fact, for much longer than 25 years, talented officials, many of them with illustrious records in industry, have grappled with the reality that our defense acquisition system is fundamentally broken.

And I would ask, because I have a long statement, that it be placed in the record, and that way I can abridge it now.

The CHAIRMAN. All of your statements will be placed in whole in the record.

Without objection, so ordered.

Mr. ZAKHEIM. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Mr. ZAKHEIM. More money is buying less product, and this is cost growth, not just inflation. The F-35 is a good example of a very long list. And despite so-called improvements in manufacturing processes, costs continue to grow. It is decades since Norm Augustine said that the way costs were rising, we would wind up with one plane, one ship, and one tank. And nothing has happened since he said that to change the analysis.

And equally troubling is the management of DOD's acquisition of services. Services get a lot less scrutiny than the acquisition of goods, but they account for more than half of all DOD acquisition. But poor product, duplication, more generally waste, occasionally fraud and abuse, have plagued the Department's acquisition of services for years and are a special cause of concern.

As long ago as 1975, a subcommittee of the Senate Government Affairs Committee, as it was then called, held a hearing—a series of hearings on defense acquisition, including one on major systems acquisition reform. Since then, we have had DSB [Defense Science Board] reports, commissions, task forces, think tanks all worrying about the same thing, government initiatives as well, most recently the Better Buying Power memorandum of November 2012, and changes all the time to the DOD 5000 series of acquisition directives.

But the Rapid Acquisition Cell in effect identifies the heart of the problem and its size. Imagine, we set up a Rapid Acquisition Cell to get around our own acquisition system.

And so the current era of budget constraints renders the need for acquisition reform even more urgent than in the past. We can't afford to waste a cent, much less dollars or billions of them.

And there is no point blaming anyone for this. We are where we are. But the executive branch and the Congress have to commit to a radical restructuring of the acquisition system in all its manifestations. And by the executive branch, I don't just mean DOD. I mean OPM [Office of Personnel Management], as well, and OMB [Office of Management and Budget], too, its management side.

So what do we need? First, we need a core of educated consumers. DOD no longer has the monopoly on technology. There is Silicon Valley, North Carolina Research Triangle, Route 28 in Mas-

sachusetts, lots of other places that are ahead of DOD in advanced technology. But there is no DOD-wide program to ensure that its civilians remain conversant with the most up-to-date technological developments. Too often, they have to rely on contractors for analytical and scientific support.

And, yes, there are online courses at the Defense Acquisition University and there is the university itself. But too many program managers appear to be deficient when it comes to supervising the progress of programs simply because they don't know the technology that they are supervising.

And, finally, too many contracting officers carry out their tasks in a lot less than optimal ways. They usually opt for the lowest price. That way, they can afford to avoid bid protests. That is not the way you should run the system.

So, in the last minute or so of the time available to me, I am going to jump to some suggestions.

First, we need to encourage, and not discourage, our acquisition officers to get outside education. We need to be sure that when they come back they have jobs that make it a profession, a career, and not just a job. This does not happen very often at all.

We must make sure that contracting officers are proficient. They are not right now. We must guarantee that someone does not move up the chain of promotion unless they have had the equivalent of professional military education. You can't become a lieutenant colonel without going to Command and Staff College. You can't become a flag or general officer without going to the NDU [National Defense University] or one of the other 1-year university courses at the War College level. But you can get promoted to SES [Senior Executive Service], to GS-15 and -14 without having taken a single course since you went to graduate school. And then you are supposed to manage billion-dollar, leading-edge programs that are state-of-the-art. It doesn't work. We need to do something about that.

We need to encourage people not to simply spend every penny they've got because if they do so they will be penalized. It is absolutely the wrong way around. They should be rewarded for saving money. The money should go back to DOD. Maybe some would argue it should go back elsewhere. But it should be saved. And we need to reward people for that.

Our measurement and reward system is simply not adequate, and a lot of that has to do with OPM. OPM is still operating with 1960s rules, with the way it defines particular job descriptions, with the way it deals with promotions, with the way it deals with education. This is not just a DOD problem. If we are talking about defense civilians, then OPM has to weigh in.

If we are talking about the military, then we have to look at how long they serve in a particular program management job. The director of the Nuclear Reactors Program for the Navy serves 10 years. No senior military officer who is in charge of a major program should serve for less than 5 years. You cannot have the kind of turnover we have and expect programs not to overrun, not to be late, not to miss testing schedules. It just doesn't work.

Another point that I would like to make regarding some way to deal with acquisition in a different way from the present is we

need to focus a spotlight on DCMA [Defense Contract Management Agency]. The Defense Contracts Management Agency has roughly over 1,000 people—excuse me, more than that. It has—yes, it has over 1,000 people and over a billion-dollar budget and, I don't know, about 12,000 contractors.

DCMA has always been under everybody's radar screen, and yet they are supposed to manage the contracts. They don't reward people for managing contracts well. People just move up the chain. This needs to be looked into very, very carefully. We cannot—we far too often blame contractors, when, in fact, they are not given clear rules, they are not given clear directives. DCMA has to enforce that.

And one thing that is exceedingly important for DCMA to enforce is the whole approach to engineering change proposals [ECPs]. What often happens is that contractors, because they know contracting officers will go with the low bid to avoid bid protests, contractors come in with the lowest bid. They lowball the bid, and then they figure, well, we will make it up later. Well, how do you make it up later? You make it up later when somebody gives you an engineering change proposal. It is like a dentist who discovers he has to do a crown; he praises God. It is the same thing with ECPs, because that busts completely through any firm, fixed-price contract.

Who is supposed to enforce some kind of rigorous control over ECPs? Well, if you look at requirements, that is done by the Joint Chiefs. And Admiral Winnefeld has done a tremendous job in ensuring that once the Chiefs agree on a requirement, which is based, of course, on what the commanders-in-chief in the field say, by and large, then you review that requirement and you come back to it and make sure that it holds. But once there is an engineering change proposal, that falls through as well.

DCMA has to ensure that an ECP simply is not approved at lower levels. You want an ECP? You hand it to your boss, and your boss hands it to their boss so that you have a senior person who is responsible, who is accountable, who then signs off, and I guarantee you the number of ECPs is going to be minimized. And once that happens, people are going to stop lowballing because they know they are not going to get their money back, and the whole cycle that we have now is going to get reversed.

So I urge you to look very closely at DCMA, at the whole ECP issue, and talk to everybody about it—the military, the civilians, industry. You will get the same answer.

It looks like I am way over my time, so I will just say this. I think what you are doing is exceedingly important. Like I said, this has been going on for years, for decades. The list of programs that have overrun is a mile long. And it is not going to take you 6 weeks or even 6 months to fix the problem.

But the people in the Pentagon, particularly the top, are dedicated to this. One important thing is that, whoever is the Secretary of Defense—Democrat, Republican, doesn't matter—they need to share this objective. You shouldn't just come in and say, I am going to throw everything overboard because the other guy had it and this isn't mine. It needs to be a bipartisan effort, it needs to be a long-term effort, and, God willing, you will succeed.

Thank you, Mr. Chairman.
[The prepared statement of Mr. Zakheim can be found in the Appendix on page 53.]
The CHAIRMAN. Thank you.
Mr. Chao.

STATEMENT OF PIERRE A. CHAO, SENIOR ASSOCIATE (NON-RESIDENT), INTERNATIONAL SECURITY PROGRAM, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

Mr. CHAO. Mr. Chairman, Ranking Member Smith, distinguished members of the committee, thank you for the privilege to appear before you to discuss the very important topic of improving the defense acquisition enterprise. It is an excellent one for the committee to be addressing. And, Mr. Chairman, as you noted, in a period of slowing defense spending, these dollars will be extremely precious, and it will be strategically important for the Department of Defense to have an efficient acquisition system.

I thought I would make five, sort of, key observations about the acquisition reform system and the efforts and look forward in terms of what should be done.

First, there has been a very useful evolution of the debate about acquisition reform. If you take the time to read, you know, the commissions and studies done after the Revolutionary War, Civil War, any other conflict, they are filled with horrific stories about true corruption and fraud and abuse. And so it should be no surprise that the first 150 years was spent in terms of putting in laws to prevent those kinds of things. 1980s, 1990s, 2000s, we rotated into looking at how do you bring efficiencies to the processes and functioning of the acquisition system.

What I think has been important in the last 7 years has been the recognition that the acquisition system is part of a broader system that involves the requirements, budgeting processes, as well as the acquisition process. I can have the most perfectly designed and functioning acquisition system, but if it is fed the wrong requirements or rapidly changing requirements, it will still produce bad outcomes.

And so continuing that focus and accepting the viewpoint and the results of GAO [Government Accountability Office] analyses and others that sits there and says that 85 percent of the cost of a weapons system is determined by the time the requirements are set, looking at the functioning of the requirements processes and systems and how it interfaces with others I think would be a very fruitful place, you know, to continue to look as we go forward.

Second, the laws and rules defining and governing the DOD acquisition system are large and complex. They have accreted over time. If you go back to the original roots of any one of those rules or regulations, there was probably a true original problem. The problem is that we have accreted other rules that sometimes conflict, everybody forgot why the original rule came into place, and there has been a tendency to add rules but never take any away, which is why things like the Section 800 Panel that was done in 1993 or the periodic rewrites of the 5000 instructions are so useful, because it causes a relook.

As an aside, putting a sunset clause on almost all new laws or rules to force a periodic reexamination would be an interesting best practice to consider. It would be my observation that many of the problems of the acquisition system are really the result of unintended consequences of a very Byzantine and sometimes outright contradictory set of laws and regulations rather than outright malice or malfeasance on the part of the people.

Third point: One size does not fit all in this system. The Pentagon is acquiring and buying a wide range of technologies, products, and services. It touches almost every segment of the economy. We are doing everything from trying to draw in new technologies to buying very mature platform systems, buying services. Now, actually, the Pentagon buys as much services as it does hardware. And we have a system that is trying to live in a dual mode of both doing rapid acquisition for the war, where time and speed is critical, at the same time as we are trying to buy very long-cycle weapons systems.

Reforms being done at one end of the system may actually be very counterproductive if applied to the wrong end of the system. And so avoiding the tendency to do, you know, one-size-fits-all types of rules or regulations would be important, and looking at, frankly, whether do we need multiple tracks that run through it, which—different sets of rules and policies and procedures and, frankly, cultures, as well.

Fourth point: All the cost overruns, missed deadlines, failed programs are symptoms, not root causes. I think part of the reason why we have failed to shift the system is because many of the studies and reform attempts have tried to go after the systems rather than the root causes. And I would submit that there are four root causes to consider.

The first one is, we want to have a military at the technological cutting edge—and that has always been our focus. If you live at the technological cutting edge, you are going to have failures, risk, and structural overruns. We will never be able to get the overruns down to zero, frankly, if we want to choose that. And attempting to do so is a little bit—is essentially chasing a chimera that doesn't exist. That doesn't mean we should tolerate poor performance and not try to improve it. It simply says that eliminating all cost overruns is incompatible with our strategic goals.

Two, in terms of another structural disconnect, there are fundamental and structural disconnects in the timeframes used by the different actors. I am trying to do a decade-long program with program managers that rotate over a couple of years, with oversight by a Congress that has 2- and 6-year cycles, being executed by companies that have quarterly performance metrics that they are trying to match.

Getting realignment in those timeframes, I think, would be useful, to the extent that it is those different timeframes that creates the friction and cost in the system. So, as Dov mentioned, having program managers who spend more time there. If you want to really take on something, looking at budgeting processes and how we appropriate dollars. In some cases it may be appropriate to do it on an annual basis, in other cases maybe on a multiyear basis, in order to better match and create stability in the system. I believe

we waste billions of dollars in this churning of mismatched timeframes.

The other key structural issue: The economic and profit incentives embedded in the system creates adverse results. We would rather pay a billion dollars and 4 percent margins than \$600 million and 20 percent margins. Even though that differential would save the taxpayers \$400 million, I guarantee you, if it was that, we would have a question about, why did that contractor make 20 percent margins? And yet, when we use that kind of a system, we then turn all the economic incentives in the capitalist system that we have a military to protect and defend on its head. And so, looking at the disincentives to reduce costs and the behaviors are there.

And, Ranking Member Smith, I was really encouraged by your using the word “incentives” in your comments, because that is a topic that has rarely been addressed in prior studies. We move boxes, we add people, we rearrange things, we pass laws, and rarely has anybody said, what are the incentives that we want to put into place? As you noted, in the end, it is down to the behaviors of people, and they go by those incentives.

The system is set up with a structural incentive to lie to itself. We want to put in the low bid to win the contract, DOD wants to accept that low bid in order to get the program going, Congress wants to accept it so we can get the program going and get jobs in districts. And part of those cost overruns that you see is nothing more than that lie being manifest, and it is something that we knew right from the beginning.

And some of the studies have begun to approach this, you know, budgeting to the 80 percent probability line rather than 50 percent, and I would argue, again, changing the incentives for missing that. In fact, we have the ironic counterincentive. The programs that fail are the ones that get extra money, and if you actually do your job and come in under budget and ahead of time, you get your money taken away from you. So why would I ever want to do that?

If this group focused on this topic of incentives, I would argue you would move the ball much further than any other efforts have over the last couple of decades.

Thank you for the opportunity to share some of my thoughts. I look forward to your questions and the dialogue.

[The prepared statement of Mr. Chao can be found in the Appendix on page 77.]

The CHAIRMAN. Thank you very much.
Mr. Schwartz.

STATEMENT OF MOSHE SCHWARTZ, SPECIALIST IN DEFENSE ACQUISITION POLICY, CONGRESSIONAL RESEARCH SERVICE

Mr. SCHWARTZ. Chairman McKeon, Ranking Member Smith, distinguished members of the committee, thank you for the opportunity to discuss defense acquisitions.

I want to begin with a quotation. “The policies of the Department on development and acquisition of weapons and other hardware have contributed to serious cost overruns, schedule slippages, and performance deficiencies. The difficulties do not appear amenable to a few simple cure-alls but require many interrelated changes in organization and procedures.”

If I told you that this quote was from a report written last year, I imagine no one in this room would question that or think twice. However, these words were written in 1970, and many analysts believe they are as true then as they are today.

On one level, the defense acquisition system works well. Our military has the most advanced weapons in the world, and no other military could execute operational contract support on the scale necessary for the operations we conducted in Iraq and Afghanistan over the last decade.

But on another level, the system is not working. Consider these facts: Since 1997, one-third of major defense acquisition programs have a cost growth of at least 15 percent. From 1996 to 2010, the Army spent more than \$1 billion annually on programs that were ultimately canceled. The time it takes to develop new aircraft has increased since 1980 and is continuing to increase, and some programs have development times of 15 years or more. In short, it takes longer to buy fewer weapons and often with less capability than originally promised.

The acquisition of services, which account for more than half of DOD contract obligations, have also experienced many instances of wasteful spending, schedule delays, and capability shortfalls.

The United States must be prepared to respond quickly to a diverse range of security challenges within a context of constrained budgets. Analysts have questioned whether the current acquisition system is efficient and nimble enough to ensure that we are prepared to meet the security challenges of an ever-changing world.

In recent years, there have been significant changes in the national security and acquisition landscape. Weapons and information technology systems are more complex than ever. The defense industrial base has consolidated significantly in the last 25 years. DOD is a less influential buyer, prompting some companies to diversify their business and others to forgo competing for government contracts.

Industry is playing an increasingly important role in innovation and development, with DOD spending a smaller share of its contracting dollars on R&D [research and development]. And U.S. spending is declining, necessitating cuts to force structure and modernization programs.

However, just as the acquisition landscape has changed, DOD has undergone changes that may make significant reform possible. Operations in Iraq and Afghanistan have highlighted the importance of acquisitions to the operational force. Constrained budgets are fostering a culture of better decisionmaking. And data is improving, allowing decisionmakers to make more informed decisions.

So where do we go from here? Most reports have arrived at the same conclusion: The key to good acquisitions is having a sufficiently sized and talented workforce and giving them the resources, incentives, and authority to do their job. Yet most of the reform efforts of the past decades have not sought to fundamentally and systematically address the issue of workforce.

The current system often incentivizes people to make poor decisions. Yet, even with the right decision incentives, without the authority to make binding decisions, even the most skilled and incentivized professionals cannot effectively manage a program.

The current management structure is often described as too bureaucratic. Too many people can say “no” or influence a program. As one program manager quipped, even program managers are not really sure who is in charge of their programs.

In addition to improving workforce management, targeted reform efforts can save money and improve operations. Examples of possible areas ripe for reform include streamlining acquisition rules and focusing on contract logistics.

But even such targeted reforms may have only limited success unless good decisions are made early and throughout the acquisition process. Former Secretary of Defense Robert Gates lamented that, in recent years, “DOD has lost its ability to prioritize, to make hard decisions, and to do tough analysis.” Similarly, Under Secretary of Defense Frank Kendall said in his guidance on implementing the Better Buying Power initiatives, “The first responsibility of the acquisition workforce is to think.”

As my opening quotation indicates, the problem with our acquisition system is longstanding, and multiple reform efforts have made little cumulative progress. But improvement is possible, and the right changes, such as empowering good people to make good decisions, can help our military prepare to meet the security challenges of the future.

Thank you again for the opportunity to appear before you. I will be pleased to respond to questions.

[The prepared statement of Mr. Schwartz can be found in the Appendix on page 87.]

The CHAIRMAN. Thank you very much.

Mr. Francis.

STATEMENT OF PAUL L. FRANCIS, MANAGING DIRECTOR, ACQUISITION AND SOURCING MANAGEMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. FRANCIS. Thank you, Mr. Chairman, Mr. Smith, and members of the committee, for inviting me here to participate in the discussion of acquisition reform this morning.

I know this was an issue that Mr. Skelton cared about a lot, and he chaired a hearing in 2009 to discuss these very issues. So I condole with you over the loss of Mr. Skelton and then, earlier in the year, our good friend, Doug Roach. I know it has been a very tough year for the HASC [House Armed Services Committee] family, so my condolences.

On the question of, should we do acquisition reform, should we keep at it, I think Mr. Skelton would say yes, so I say yes. Should we do it the same way? Should we revise policy, legislate? Maybe not. I think we should answer the question that David Packard raised, which is, we know what to do, so why don't we do it?

And when you think about the typical outcomes of acquisition programs, cost growth and schedule slippage, they don't really line up with policy. That is not what policy asks for. So something else is going on, isn't it? And I think of those, what else is going on, as rival incentives, sort of like what Mr. Chao mentioned.

And I think we have to remember that practices take root because they help programs succeed in their environment. So what is this acquisition environment? Well, I will mention a couple of

features, but one is it is about a lot more than buying the right piece of equipment at the right price, isn't it? Weapons systems embody policy, they embody roles and missions, service reputations, budget shares, jobs, careers. So they mean a lot more than just getting a piece of equipment.

Another aspect of the acquisition environment is money. If you look at a commercial endeavor, a product development is an expense. The company doesn't make any money until that product is developed, produced, and sold at a profit. In the Department of Defense, weapons systems are budget line items. They actually attract revenue. And I'd submit that the incentives associated with managing an expense in the private sector are quite different from managing programs in the Department of Defense which can be considered revenue generators. It is a different psychology.

So let's think now about a couple of the golden rules of acquisition—"fly before buy" and realistic cost estimating—and put them in this environment. This is an environment where there is a lot of pressure to compete for funding, and once you have successfully competed for funding, you compete every year in the budget process. So there is a lot of pressure to keep focus on the funding stream and in the near term.

So "fly before buy," early test results, I think we would all agree that is a good thing. But do early test results really help you compete for funding? Test results can be really inconvenient when you are competing for funding.

Realistic cost estimating, there is another golden rule. "Realistic" is a euphemism for "higher." So I would again ask the rhetorical question, does a higher cost estimate actually help you when you are competing for funding? I would say no.

So this is not about bad actors. I think the people in the process are great people acting rationally, trying to meet needs they consider to be legitimate. However, collectively, they create competing demands that give rise or force compromises in good judgment.

So where does that leave us? I'd ask you to entertain the notion that maybe we have the system we have all asked for.

After a program has gone through the serpentine path of requirements, cost growth, schedule slippage, testing problems, we reduce quantities, if it makes it through, we all are kind of winners. The warfighter gets something, the program office has a success, the service is happy, the committees have done their job, industry gets work, localities get jobs, the press writes about them, the critics and the overseers, we get to talk about them. It is a pretty good gig.

So I think we have to think about maybe we have the system we have asked for. So it is not a simple process that is broken. I think we can fix that. It is a sophisticated enterprise that is an equilibrium, and it is a much tougher nut to crack.

So I laid out some ideas on my written statement on what we can do about it. I don't think they are an improvement on what has been said. I find them, myself, to be insufficient. But there are two things I would mention.

One is what you do with money, your money decisions, is really important. Because right now our process is set up where you have to make budget decisions about 2 years ahead of a program deci-

sion. So if a program has a milestone B in 2016, you are starting to authorize money for it now, which creates incentives for programs to behave a certain way. So if a program comes forward and it is breaking all the rules—it is concurrent, it is adopting high risk, it has an unrealistic cost estimate—and you fund it, that reinforces that behavior and sends the message that it is okay.

So think about every year the Department of Defense brings forward a handful of programs to start. That is your highest point of leverage on a program. So I would look at them as a group, as a freshman class, even at the full committee level, and see if that group of new programs adheres to the principles that you consider important to sound acquisition, and then fund accordingly.

Then I think, eventually, if we do a number of other things, our goal should be to put good people in a position to succeed, which I don't think we do today. I think we put program managers and staff in very difficult positions and we grind them up.

So I will leave you with a thought that I think we have to aim at these rival incentives. And I'd like to think about a good outcome being, can we help programs intrinsically build good practice inside them? And can we come up with incentives or create incentives that are self-sustaining, rather than impose practice on top of programs that otherwise would not be planned properly?

So I will conclude with that and welcome any questions.

[The prepared statement of Mr. Francis can be found in the Appendix on page 112.]

The CHAIRMAN. Thank you very much.

We often hear that the problem with the DOD acquisition system is one of culture and that you can't reform the system without changing the culture.

In your view, is culture—and this is to all of you—a major part of the problem? And can you provide some examples where the culture of the DOD, of industry, and Congress is causal in the failures of the acquisition processes?

Mr. FRANCIS. Okay. I will start.

Yes, I think culture is a very important ingredient as to what is going on. Because when you look at the question, why aren't good people getting good outcomes, I think you get the culture. Again, I think people know what to do, but they have conflicting demands and they are asked to do different things. So, as I explained earlier, there are reasons why you don't have a realistic cost estimate, because it may not help you.

And I think the culture is really seated in the fact that people really believe that the program they are working on is the most important thing for the Nation's defense. And so you adopt behaviors to help get that program in the end zone. And they may not be testing when you should, that may be starting production before you should, because you help guarantee the program will get through the process.

I think some of the programs that we have looked at in the past, Future Combat Systems, where this committee did pioneering work, that was a program where we were rushing 50 technologies, trying to create a system and get it into production before we knew anything worked yet. I think that is culture at work.

This afternoon, I believe that Members are going to get a briefing on the UCLASS, the Navy's unmanned aerial vehicle. We think that is a pretty good strategy. The problem is the whole strategy and the fielding complete before milestone B. I think that is culture. I think that is trying to get the system in before all of the oversight occurs.

So it is real. We are all part of it, but I think we can address it.

Mr. ZAKHEIM. I will pick up from there.

Obviously, we look at the F-35 and we say, my God, there was concurrency, concurrency in testing and concurrence with production, and why does this happen? You can go all the way back to the TFX [Tactical Fighter Experiment] and you will see concurrency of a different kind—you know, concurrency in research and concurrency in production. It is cultural. Of course it is cultural.

And, as I think several of my colleagues here on the panel pointed out, the system of rules we have disincentivizes savings, incentivizes people just to get, basically get, the thing out their door, and then they can move on.

If somebody was on the job 5 years, they would be much more careful about how something was being produced. If you are on a job 18 months, you just want to get it out of the way, make sure nothing blows up on your watch, and off you go. Well, that is part of the culture. The turnover is part of the culture. Nobody imposed that on DOD.

Another thing. I remember, when I worked in the Reagan administration, we had trouble with the B-1, and Mr. Weinberger finally got fed up and asked for a briefing every 2 weeks. And when you think about how Mr. Gates was his own action officer on the MRAP [Mine Resistant Ambush Protected], you get the picture that, somehow, the frustration levels reach so far to the top that the Secretary feels he has to be his own action officer.

Now, why does that happen? I would argue, in part, it happens because the management levels very often are not really competent—and I will emphasize that—competent to manage highly complex programs, and so they let things slip in all sorts of ways. That is cultural.

If you have, for instance, a Deputy Secretary who is a true manager, he is never going to go to the Secretary to begin with; it will be pushed downward. And I think the leadership has to start at the top. We have been far too lax about the requirements for how somebody should be Deputy Secretary of Defense, which, frankly, is the chief operating officer of the Pentagon. That is something probably the Congress could actually deal with.

If you have an attitude where the new person comes in with a new set of buzzwords and a new set of terms, you create a cynical bureaucracy. If you have a bureaucracy that is not technically competent, it relies on contractors to give them the technical competence. It also means that whatever the contractor tells them they will have to believe, they have no choice.

In the meanwhile, the contractor, as Pierre Chao pointed out, is being forced into the straitjacket of having very low profits and

driving up costs because there is no other way to do it except if it is fixed-price and, as I said, there is an ECP.

So you have a system that essentially drives everybody crazy. It doesn't have to be that way. That is cultural.

Mr. SCHWARTZ. If I may perhaps give two examples, one is, with major weapons systems, usually 70 percent of the cost of the entire system is after it has been acquired. It is O&S costs, operations and support costs.

And recently I was talking to a program manager of a multibillion-dollar program, and I asked a similar question. And his comment to me was, because of the pressure to save acquisition costs, there is no motivation to pursue long-term savings. That was an example of the incentive driving a culture where he was being told, save now at the expense of saving more later.

Similarly, when I was in—another example is contract obligations. When I was in Kabul a couple of years ago, I remember talking to someone from USAID [United States Agency for International Development], and he was recounting the story where, recently, a few weeks earlier, he and his team had been told they have \$100 million to spend by the end of the year. He said, there is no way we can spend that \$100 million competently. But that \$100 million got spent, because that is how they were being measured.

So I would suggest those are two examples of incentives creating decisions and a certain culture that may not be the one that you would always like to have.

Mr. CHAO. If I could maybe give one or two other examples that shows, again, that a lot of these things start from a good originating position but as you interface with the system it kind of gets turned on its head.

I don't know a single good engineer who doesn't believe that they can actually do that task that they are asked to do, right? And part of that structural optimism is, yeah, I can invent that thing that is invisible and can go, you know, Mach 10; sure, we can do that. And so that part of that lying to yourself starts off from, actually, a good spot, but there is no one there to apply the outside metric and sits there and says, well, can you really? Right? And so that is a little bit of that cultural issue.

The other one is from an oversight perspective. Former Under Secretary for AT&L [Acquisition, Technology and Logistics] Ken Krieg has noted we spend millions in oversight to chase pennies. Right? The sense of that there is no threshold level below which—which we sit there and say, all right—and it is a horrible thing to say, in some ways, and you would be probably crucified in the press for saying it, but—it is okay if there is this amount.

I mean, Walmart, frankly, looks at its entire system and accepts a certain amount of shrinkage, you know, in its system. Here we will spend millions and millions of dollars to make sure that there is zero shrinkage. That is a cultural issue, right, and one that is reflective of the system, and that is part of the cost that is embedded in that weapons system.

The CHAIRMAN. I mentioned yesterday I was meeting with a CEO [chief executive officer], and he said in one of his plants he has 200 people there from the government to oversee and make

sure he doesn't have the shrinkage, and then he has to hire 200 to watch them and respond to them. And I said, you know, if we probably eliminated those 400 people, he couldn't steal that much, you know, if he wanted to. But it—good point.

Mr. Smith.

Mr. SMITH. Thank you, Mr. Chairman.

I guess—and you sort of touched on this, but if you could just sort of narrow down specifically, how would we change the incentives? You know, if you had, like, one law that we could change—you know, we have always heard the classic example, as you mentioned, about USAID. You know, whenever people think about government, I swear the first thing they think about is, you know, the incentive to spend all the money you have, no matter what. And this has been going on forever, as near as I can tell.

How would we change the incentives? What law would you change? What regulation? What approach? Just quickly, a couple of things that would change the incentives and move them in a positive direction.

Mr. ZAKHEIM. I think the easiest thing to do is to change the way you promote people. If you basically promote somebody because they saved money, you have just changed the incentives. Now, is that a DOD regulation? It is probably something OPM has to do.

Mr. SMITH. Okay.

Mr. ZAKHEIM. And OPM constantly hides under the table when these things come up.

Mr. SMITH. Why?

Mr. ZAKHEIM. Why does OPM hide? I think OPM hides because they are OPM. I have never seen an agency that was more—basically, they are still running the way Chester Alan Arthur set it up in 1883 under a different name.

We are so out of date with the way we manage personnel today, it is ridiculous. And there really needs to be a focus on it, not just in this respect but in many. But the fact of the matter is, if you promote somebody because they saved money, everybody is going to want to save money.

Think about how Goldwater-Nichols worked. You couldn't become an admiral or a general until you went to the Joint Staff. I remember in the early 1980s the Joint Staff was a dead-end position. You got into the Joint Staff, you knew you were going to have to retire. All of a sudden, after Goldwater-Nichols, the only way you can become flag or general officer is if you join the Joint Staff. You have just changed the incentives. And look at the difference our military shows today. That is what you have to do.

And, frankly, if somebody really managed the system long enough to lose a ton of money, that should be the end of their career.

Mr. SMITH. Thank you.

Mr. CHAO. I also think the issue of aligning the tenure of the program managers to the phase of the program that they are watching. I mean, the old joke is you want to be the first and third program manager, not the second and fourth, right, because first and third you are the hero, second and fourth is where all the mistakes show up.

If you were there to suffer the consequences of your mistakes, you would be a little bit more careful about doing that. That will run right into the military promotion cycles and other cycles, and so, I mean, that is what needs to get reconciled.

The other one is looking at this issue of budgeting and rewarding program managers who actually perform and not taking away their money. That is something—that is probably nothing you could legislate, but that is a bargain that you could have.

Mr. SMITH. Well, if I could ask about that, I mean, because that is always the problem. If you don't spend all the money, then you don't get as much the next year. But that is the way it should be. I mean, if you are looking at and you have learned, okay, we can do it for \$50 million instead of \$100 million, you wouldn't give them \$100 million the next year because you would be reinforcing the problem.

I mean, so I think you should reward the individuals who make the decision, to get back to the promotion thing. You have saved that money, you are more likely to get promoted than if you don't. Because if you simply say, if you save money, we are going to give you more, that doesn't quite solve the problem, I wouldn't think.

Mr. ZAKHEIM. Well, let me deal with that, since I happened to be in the hot seat of Comptroller for a few years.

We have in the Department a midyear review, and what are we looking at? We are looking at programs that are spending too quickly, programs that are spending too slowly. We then come to you on the Hill and we say, here is a reprogramming, can you please approve it? And in most cases you do, because it makes sense.

So if somebody is spending less money, it doesn't necessarily mean that next year they are going to spend less money.

Mr. SMITH. Right.

Mr. ZAKHEIM. And as long as the Department can reprogram and the Congress is willing to support the Department, I happen to think we should have much higher reprogramming ceilings. If we did that, then I think the Comptroller would have much more flexibility in moving money around.

And then if we combined that with the incentives that Pierre has talked about, that I have talked about, for the individuals so they know, A, they are going to get promoted if they save money but, B, they might get more money next year because programs are like that anyway, that will change the mentality.

Mr. SMITH. Okay.

Mr. CHAO. And I would put my comments in the context of, we are programming but we are budgeting programs to the 50 percent mark, and so they are already—you know, I agree with you that if it is underspent and legitimately they don't need the money, why give it to them? It is filling in that 50 percent mark to the 100 percent where they should be.

Mr. SMITH. Okay. Thank you.

Mr. SCHWARTZ. One is accountability. Who is responsible? And there are two senses of accountability, both positive and negative. For example, I was speaking to somebody at a private industry recently, last week, and I said, if somebody in your company saves \$50 million, do they get any benefit out of it? And the response

was, yeah, they could apply for this fund, and they get \$10,000, \$15,000, \$20,000 potentially, not all the time, but they can get it.

Then I asked other people there, well, does DOD have similar structures where, if you save \$100 million for the Department of Defense, you can apply and get some sort of bonus? And the answer was, well, generally not. Well, that is one example of positive incentive.

Very often—I remember reading, I believe it was a GAO report, that said DOD is buying from the GSA [General Services Administration] schedule and they are not even asking, could we get a better price? Well, they might ask can I get a better price, if there was a potential for them to get a bonus. The optics might not be great on it, but that is one possibility.

Mr. SMITH. Right.

Mr. SCHWARTZ. The reverse is also—for accountability is the negative accountability, which is, if you had a program that completely went off the rails, who is responsible? And are they going to be held responsible or are they still going to continue the path up?

Now, there is a problem with that, which is, if you are going to hold people accountable, you have to give them the authority.

Mr. SMITH. Exactly. I mean, I think that is where it is painfully easy to hide. Because it is like, well, I wasn't in charge of this, he was in charge of that. I mean, I hate to bring this up, but the Web site, you know, on health care is a great example of that. He was doing it; no, he was doing it; he was doing it. It is like, you know, somebody needs to be in charge and be held accountable and/or rewarded, depending on the circumstances.

Mr. FRANCIS. I will add a couple to the good ideas my colleague raised.

One is the end requirements. Again, I think our process still rewards proposals for new programs that come through advertising, revolutionary improvements over the existing system. There are some weapons that maybe have to do that, but when you think of what we as consumers do, when we buy a new car, we have to replace our old car. So we have to get something and we take advantage of what is available. That doesn't cut it in the Department. It is always something a leap ahead. So if the requirements process can accept the fact that sometimes we are just replacing something with something a little better and not next-generation.

And, again, I think if we can have a candid discussion about risk. Programs when they come forward, when they take risk, that is okay, but let's have a candid discussion and fund risk.

Risks are typically denied. No program is high-risk. The low-risk programs, they don't worry about. The medium-risk programs, we apply this balm, and it is called risk-mitigation strategies, which have everything in them but time and money.

And I think if we had that candid conversation, it is okay to take a risk, but let's take it together and let's resource it.

Mr. SMITH. Thank you, gentlemen.

Mr. THORNBERRY [presiding]. I am going to withhold my questions and give other Members a chance.

Mr. Lamborn.

Mr. LAMBORN. Okay. Thank you.

I have heard anecdotal stories from Colorado companies in my district who end up adding 5 to 10 percent to their costs simply due to the number of overseers that they have to support on an ongoing basis from DCAA [Defense Contract Audit Agency] and DCMA [Defense Contract Management Agency].

How do we strike the right balance between oversight and efficiency in contract management? For any one of you.

Mr. CHAO. I think that is where we go to that threshold issue in terms of, at what level do we go? And there have been some of the studies done in acquisition reform over the last 4 or 5 years that have tried to look at that topic. There was one that Norm Augustine had with BENS, Business Executives for National Security, that I would recommend you take a look at.

One of the things and proposals some people have said is, you know, can we turn to outside accounting firms to do the normal audits and you use DCAA to audit the auditors and make sure they are following the right processes and procedures. That would perhaps be more efficient. So people have begun to look at that.

I would submit to you the key item there is, what is the right threshold level? I think it is back to that spending millions to chase the pennies that is really exacerbating and causing the imposition of the people. You don't want to eliminate them, right? They have a legitimate role to play. It is, at what level?

Mr. LAMBORN. Okay. Thank you.

Mr. SCHWARTZ. So there are a number of perspectives. One that has been interesting is, you know, I believe it was Abraham Lincoln that said, if I had 6 hours to chop down a tree, I would spend the first 4 hours sharpening my axe. Very often, the oversight sometimes comes down to, well, they have had 25 percent growth; let's have the GAO report, let's have DCAA, let's have DCMA, let's have the hearings.

But perhaps another possibility is spending more time getting it right up front and focusing on the requirements. Because oversight, very often, is after the costs have gone 25 percent, now you have the Nunn-McCurdy requirements to go through another milestone and notify Congress and have the Secretary of Defense certify that this is required.

So sometimes getting it right up front—programs that start off right generally, statistically, do much better on cost schedule and performance later on. So that is another possibility.

Mr. LAMBORN. We could explore this more, but I need to move on to another question for the sake of time.

Overseeing service contracts versus the purchase of weapons or other tangible goods, are there any differences there in approach that you would recommend? Like, in my district, you have everything from trash removal to operating shooting ranges to managing satellites. Any advice there?

Mr. ZAKHEIM. Well, for a start, I would say that service contracting—there are different kinds of services, and you just pointed that out. You've got brain work which counts as service contracting. You've got the guy who comes in and does his old job at the Pentagon but now has a different badge. It is called "butts and seats" in French. That is services. And then there is collecting trash; that is services.

I think what you need to do is recognize that the real problem is the second one that I was talking about. You always have to collect the trash, and you want people to use their brains. But Mr. Gates pointed out that the, what they call staff augmentation, the guys coming in and doing the government's work, doing the civil servants' work, that has gotten totally out of hand. And there is where I would look. I think we can cut back significantly.

We are not spending half of our money; we are spending more than half of our money on services contracting. And considering the number of weapons that continue to drop each year with procurement, I would like to see more of that money going from service contracting to hardware, frankly.

Mr. LAMBORN. Mr. Francis.

Mr. FRANCIS. Yes. Services are quite different. So the people that write requirements are not your standard requirements organizations; they are bases, they are local places, people not necessarily well-versed in writing requirements. Services occur very quickly. A weapons system could take 10 or 15 years; a service is a level of effort that is done in months or a year.

In weapons, dollars are a good proxy for risk. Something big and expensive probably involves risk. It is not the same for services. Some of your highest risk services, like Dov had mentioned or interrogators in Iraq, are not high-dollar. And some of the high-dollar things, which are buying a high volume of low-risk things, that is not necessarily what you need to be looking at.

So I think the model for services is it has to be really front-end-loaded. You have to triage the requirement to see what we are buying and why we are buying it. Because with services, once you buy it, it becomes a drug. Then we keep that service over time, but we don't go back and look. So I think it is a quite different oversight regime.

Mr. LAMBORN. Thank you all.

Mr. THORNBERRY. Ms. Tsongas.

Ms. TSONGAS. Thank you, Mr. Chair.

And thank you all for being here.

I would like to ask the question of, really, coming from Massachusetts, where we are home to so many high-tech companies who really engage robustly on solving a lot of these problems, how should Congress make sure that the Pentagon leverages high-tech communities like Massachusetts that are willing to partner with them and to share some of the upfront investment in bringing the next-generation technology to meet the future challenges?

And the reason that I ask this is I am proud to represent Hanscom Air Force Base. The professionals there are responsible for acquiring some of the Nation's most complex command and control systems and for making sure that these systems are adequately sustained through their lifecycle.

So today we are facing new, much discussed challenges, for example, in the cyber domain, and it is Hanscom that is responsible for Air Force cyber acquisition. Now, the Air Force has acknowledged that Hanscom has improved cyber acquisition with the creation of the Cyber Solutions Cell and the creation of an organization responsible for lifecycle management of those cyber capabilities. But we also know that the cyber threat changes so quickly

that the traditional acquisition process cannot support the evolving cyber requirements.

But we have in Massachusetts a community that is really rising to and engaging in the challenge. Some of our best cyber minds really want to solve this problem. So, for example, there have been initiatives that are in place, including the Advanced Cyber Security Center, the Massachusetts Green High-Performance Computing Center, and the Kostas Research Institute for Homeland Security. And MIT [Massachusetts Institute of Technology] Lincoln Labs is planning a \$450 million upgrade in facilities to support Hanscom.

These capabilities reside in Massachusetts. They have already provided great value in working to solve some of our technical challenges that are currently helping to protect the soldier in Afghanistan.

So, with the pressure on defense budgets, knowing what we have in Massachusetts and other States across this country, how should Congress make sure that the Pentagon does not ignore these resources, that engages them to solve some of these problems without sort of reinventing the wheel, looking to what is there?

Mr. ZAKHEIM. Well, I mentioned Route 128 in my testimony.

Ms. TSONGAS. You did, and I was glad to hear it.

Mr. ZAKHEIM. Well, a couple things. I have already spoken about the need for having technical expertise inside the Department. They need to know what to get. And right now we don't have that to any extent, certainly not to the extent we need to have them.

But a couple of other things. We clearly need to simplify the rules. A lot of companies just don't want to get involved. It is too complex. And you have those companies that have done business with DOD for years, they know how to do it; those that have not just don't want the trouble.

So one of the things you all might want to think about, members of the committee, is having a hearing where you bring in these high-tech company executives and ask them what kind of rule changes would they like to see, what would get them to work alongside DOD.

DOD, as you know, part of the culture we have talked about is not invented here. If it hasn't been invented in a DOD lab or by some favorite contractor, it can be foreign, it can be domestic, it can be whatever, they are not interested. And Congress has tried to legislate in the past, you know, side-by-side competitions and all that. But there is always a way to fix the requirements to eliminate anybody you want to eliminate.

And it seems to me that there is no question that, because of Moore's law, our civilians who may—and military people who may not have taken a course in 30 years, by the time they get senior, have no idea what is going on in the Research Triangle or Route 128 or Silicon Valley or whatever. We have to educate them.

But we have to ask industry, how can the FAR, the Federal Acquisition Regulations, and the defense regulations that are appended to those be changed to simplify the ability of companies that really are at the cutting edge to support defense?

Ms. TSONGAS. So do you think the Pentagon has an appreciation of what the opportunities are? Or do you think there is some education that needs to be done on that front, as well?

Mr. ZAKHEIM. I think, at the senior levels, the people who come in from the outside certainly have an appreciation. I think that if you have been in the bureaucracy 20 years, what you do is you rely on another contractor to help you out. It is called program management support or scientific engineering and technical assistance, SETA. What it really means is, I don't know what this is all about, but I will get this contractor to tell me. How can you make educated choices that way?

Ms. TSONGAS. Thank you.

I would love to get your response, Mr. Chao, but we have run out of time.

Mr. THORNBERRY. Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman.

Gentlemen, thank you for your testimony today and giving us some insight into not only what the Department of Defense is doing, or should be doing, but also what our agenda should be.

And I would like to focus specifically on the issue of the use of lowest price technically acceptable, LPTA, contracting and the impact that it is having on both the Department of Defense and our industrial base.

Let me first say that I certainly believe that it is important for the Department of Defense to continue its efforts to lower costs and to seek greater efficiency. However, I am concerned that lowest price technically acceptable contracting has become an over-utilized practice in the acquisition community. And, more and more, we are seeing increasingly complex and technical contracts be awarded as a result of lowest price technically acceptable, as opposed to the traditional best value approach.

While lowest price technically acceptable may make sense in some cases, I am always hesitant when I learn of its use when contracting out critical national security capabilities. I would like to hear each of your thoughts on the lowest price technically acceptable contracting as it pertains to the Department of Defense.

Is there a sense that in the long run this practice could lead to additional long-term costs? Could its overuse lead to a decrease in competition and an overall decline in the defense industrial base—quality of contractor workforce, ingenuity, and efficiency? Would you please provide me your thoughts?

Thank you.

Mr. CHAO. It is a great question. And I think the answer would be yes. I think it is one of these examples of a decent rule for a particular application being more overly broadly applied than it should be. You even have—you have had Ash Carter and Frank Kendall say, you know, this is not what I intended, in terms of the way it is being rolled out.

And I would submit to you that we are currently seeing the—you are seeing the early signs of the bad-actor effects of companies who were awarded contracts that are actually not technically capable starting to fail in those program. So I suspect over the next 12 to 18 months you are going begin to see some of the horror shows, you know, of some of that behavior.

And so it does fall into the category of something that has been overused.

Mr. TURNER. Before we go on to the others, I want to underscore what you just said, because I think that was absolutely critical. You said companies that are not technically capable. One of the concerns is that technically acceptable is so borderline that the mistake then degrades to, as you just said, not technically capable. And that certainly is a disaster.

Thank you.

Mr. ZAKHEIM. I once was speaking to a contracting officer who explained to me why they do this. The reason they do this is because of the lawyers. There is an industry, a bid protest industry out there. And so everybody protests. And the lawyers have basically told these contracting officers, look, the best way to get around it is go with the lowest price. That way, it is harder to get protested.

Now, what is the solution? The solution is clearly to make it much harder to protest the bid. And a lot of people aren't going to like that. But if you raise the bar, that makes it harder for the contracting officer to say: "Well, you know, I am just going to go with the lowest bid." Because it is going to be different. They won't always get hit with a bid protest.

Another thing you do—and this is really in the weeds, but you have asked an important question—is how you weight the selection process. In other words, we've got an index, and cost is one of the elements of that index. And there are other—there is technical acceptability and so on. What you do is you make cost a lower priority, so, by definition, it gets much harder for a company to win just because they are cheaper. That can be done. You don't even need legislation for it.

Mr. SCHWARTZ. The issue of lowest price technically acceptable also gets us back to workforce. Do we have the right people in place to decide when it should be used and when it shouldn't be used?

In addition to that, it is not just having the right people in place to decide when to use it, but how to craft what are the standards for "acceptable."

And if the standards for what is acceptable are crafted in a certain way and if the people in place are there to make the decision of when or shouldn't it be used, it could be much more effective.

Mr. FRANCIS. Batting last, I think low price technically acceptable is, you know, in principle, a good thing for the government to try to be doing in the right circumstance. What the government tends to do is, when it develops a new instrument, it tends to over-use it or not think about what situations it applies to. And I think, Mr. Turner, you hit—the real issue is, how sophisticated is the service that you are buying, and is this an appropriate instrument?

And I think another thing that also kind of gets lost in the shuffle is we don't do a good job of evaluating past performance of contractors. So some contractor may look technically acceptable, but if they have a poor track record for performance, you need to evaluate that, and you might find that is not the best way to go.

Mr. TURNER. Mr. Chairman, for just a moment, if you might, could I put an objection on the record to blaming the lawyers, being a lawyer? Because I never think that is the answer.

Mr. THORNBERRY. The gentleman's objection is overruled.

Mr. Peters.

Mr. PETERS. Thank you, Mr. Chairman.

You know, I think a lot about innovation in this space. And I have been speaking to a lot of companies in San Diego, where I live, and also throughout California. I am sure this is true in other areas. And a couple things strike me. And it is a little bit anecdotal, but maybe you could think a little bit about the incentives of a contracting officer.

First, many of them are familiar with the company they have always been working with. And someone has come along with a better idea. And it may be a small company who has part of the technology, and they just can't seem to break through. And I can understand there is a fear in the contracting authority to make that change.

But the other thing that strikes me and concerns me a little bit, and maybe you have some thoughts about this, is that generally we shouldn't expect these contracting officers to be nearly up to speed on what is going on in innovation in the private sector. They are going to be way behind, you know, almost by definition.

And so how is it that we can incentivize them to take advantage of what is being developed, which may be more efficient or more effective, and to adopt that as part of acquisitions?

Mr. CHAO. It is a great question. I think—and over the last decade, partly because of the war, we have created better and more mechanisms to act as interfaces for innovation. We have always had DARPA [Defense Advanced Research Projects Agency], for example, but there have been other groups. I think one of the things to look at is making sure that, as we come out of the war, that we don't forget or lose the lessons that we have learned the hard way, in terms of doing that.

I would also submit to you that the initial interface, the ability to get SBIRs [Small Business Innovation Research] and other types of contracts to attract, you know, companies are there. The real hard part is the so-called valley of death, that you get that first initial contract but it is then getting it into the broader system that becomes difficult. And so a focus on that would be one of the places.

The third thing that I would note is, which makes it hard for innovative companies, we have had a basic bargain, cultural bargain, that we have created over the last couple of years: Lose money or make very little money on research and development, make it up in production. Right? That incentivizes a system to get and it favors large companies.

I would argue, in a downturn environment where preserving research and development and access to innovation becomes critical, making research and development a viable economic proposition is something that would turn the whole system on its head and actually, I think, help those kinds of companies.

Mr. ZAKHEIM. I think a lot of it has to do with education. You put your finger right on it. Our people just aren't keeping up with the technology. And that is why I have argued that, in order to get to a level where you are a senior contracting officer, senior acquisition officer of any kind, you need to be able to spend a year doing something, either learning in a top technical school with the government paying for it—it is worth the money, and the money is there—maybe spending time in industry, like the SECDEF [Sec-

retary of Defense] Fellows do, so you really know what is going on on the other side.

We need to incentivize people to do that. Very often somebody goes off for a year and comes back and they don't have their job anymore and they don't have any place. That is something DOD could say, no, when you come back, you are going to have a job that takes advantage of the education you just got. There are things that can be done so that people can keep pace with the technology.

You also want to have, probably, integrated teams. You don't want to just negotiate a contract with a lawyer. You probably want to have some technical person alongside you, as well. It will be better for industry.

Mr. PETERS. There is another layer on this, though, because the problem is that it is not a system that listens to what is happening. So what has happened in the private sector is people will come up with products we didn't know we needed. They have a good idea for something. And I see this in defense, is that there are good ideas on communication. But no one today in companies I have visited in my district, my area, no one today, say, in the Navy may be thinking that I need such a thing, so it is not getting down as a request for acquisition.

So what we need, we need to go beyond educating these people, which I certainly agree is invaluable and necessary, to figuring out a way for us to be able to listen to what is happening in technology for ideas that we may not have thought we needed but could serve us, you know, make our warfighters safer, make our budgets tighter, and help us be more efficient.

Mr. CHAO. You have touched on one topic which I would encourage the committee to really look at. We have created a growing divide and disconnect between the building and the industry in terms of the dialogue that you are able to have back and forth. There is, in some cases, you know, such a fear that if I engage in that, I am going to get in trouble.

And it is exactly those mechanisms that we used to have that would enable that interchange of information that we are drifting away from now, I would argue, in a very dangerous fashion. And I think you are seeing that on the ground, live, in the companies that you are talking to.

Mr. PETERS. And I just have the sense that our adversaries are better listeners in this way and adapting this technology in a way that is faster than us, and I don't want to be in the way of it.

Thank you, Mr. —

Mr. FRANCIS. I —

Mr. PETERS. Oh, sorry.

Mr. FRANCIS. I just have one point. And I would say that the contracting officer is not the right person to be adjudicating something like this, that the real burden should be on the people with programmatic responsibility for doing market research, knowing what is out there. They can construct, then, a proposal that the contracting officer has to make sure it abides by law, but they shouldn't be adjudicating the propriety of what is being done.

Second point I would make is the government needs to have some venture capital, it needs to have different ways to explore these things. And they are going to fail, and that has to be okay.

Mr. PETERS. Right.

Mr. FRANCIS. In today's world, you have to hitch your wagon to a program. And once you do that, you are into long-established relationships, maybe different standards of accountability. So we need more flexibility up front.

Mr. PETERS. Thank you. My time has expired. I appreciate it.

Mr. THORNBERRY. Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

And, gentlemen, thank you so much for joining us today.

I want to get your perspective on the recent state of affairs and then where we go in the future with the current element of what I call "churn," and that is budget decisionmaking, appropriations decisionmaking, budgeting by CRs and the uncertainty that comes with that.

In that recent history and then projecting out into the future, how do you see that affecting acquisition reform? How do you see us being able to efficiently and prudently get the necessary equipment to our men and women? How do we make sure that we are making the proper decisions in acquiring the things that our military needs?

I just want to get your perspective on where you think we have been and where you think we are going.

Mr. ZAKHEIM. Well, when I was Comptroller, I gave out money; now, Bob Hale takes it away. So I feel for him.

To some extent, the two overlap, but I think that is not an excuse for acquisition reform. And I think that is really the important point here. The budget situation is going to change. We know that, historically, there have been highs and lows. This is not the first budget-constrained environment we have been in. And what has to be done is to maximize the efficiency of the acquisition corps, regardless of the budget level.

And so I would say, yes, we have difficulties now, but all the things that this panel have been talking about are not really budget-driven. And so I think this committee has a real opportunity to make change. Now, once the budget environment eases up, you will see even more benefit from these changes, but this should not be a limiting factor.

Mr. WITTMAN. Gotcha.

Mr. CHAO. I mean, I would take a little bit of a different tack from the perspective of the question you asked about all this churn. I think, without a doubt, it is costing the Department and the Congress money. You know, starting, stopping, laying off, rehiring, furloughing, bringing back; I can't assign contracts to my supply chain; I have to cut them off because I don't know, in order to follow rules; program managers afraid of going to jail for violating the Anti-Deficiency Act, so therefore not spending money.

I guarantee you that that is embedding costs that we are going to see and we are going to have to pay for in the next 2 or 3 years. And anyone—you know, that is a guarantee that that is embedded in—as a result of what has been going on.

Mr. WITTMAN. Very good.

Mr. FRANCIS. I think one of the real consequences is, with this churn, funding is always being discussed and programs, I think, always live in the threat that they are going to lose money. So it

keeps them in the cycle, always working on their funding stream, which I think creates a very short-term perspective and it disincentivizes candor.

You are not going to talk about problems or risks you have if every month you have another budget battle to fight. So, as long as we are in that environment, I don't think we are going to get candid conversations about what is going on in programs.

Mr. WITTMAN. Very good.

Mr. Schwartz, any comments?

Mr. SCHWARTZ. It was very well said.

Mr. WITTMAN. Okay. Thank you.

Gentlemen, you all spoke very eloquently about the current culture and how you change the culture to actually get true reform in acquisition. You talked about flexibility, which I think is critical, adaptability within those systems.

How do we change that culture? You know, organizations are so large, and they figure out how to adjust to different administrations, to different Congresses. How do we have true change in that culture and reform?

Mr. SCHWARTZ. So, if I may on this one—

Mr. WITTMAN. Yes.

Mr. SCHWARTZ [continuing]. One possibility is to start with something I mentioned before, which is authority. And I want to quote Heidi Shyu, the Assistant Secretary of the Army, or the top weapons buyer, who reportedly said recently, "Having been in government for only 3 years and having spent 33 years in industry before that, I am utterly shocked about how little control the poor PM [program manager] has," referring to the program manager. "The program manager is a flea on the tail of a dog, let's put it that way."

And that is exactly what I have heard from a lot of other people. Just in the last 2 weeks, I jotted these down in the last 2 weeks, one program manager said, "I have authority for nothing but responsibility for everything." Another one said, "We need more authority in the field."

Giving them the authority to make decisions and, of course, holding them to accountability is one way to change the culture.

Mr. WITTMAN. Very good.

Any other thoughts?

Mr. ZAKHEIM. Well, one other thing. Culture starts at the top.

Mr. WITTMAN. Uh-huh.

Mr. ZAKHEIM. And I think one thing that Congress can do is really tighten up the requirements for who should be Deputy Secretary of Defense.

Mr. WITTMAN. Gotcha.

Mr. ZAKHEIM. Ultimately, that is where the decisions go. And you are the ones that set the requirements. The Deputy Secretary of Defense should be the chief operating officer, should ultimately be accountable for the kinds of things we are talking about. And there are some clear requirements for that, I think.

Mr. WITTMAN. Very good.

Thank you, Mr. Chairman. I yield back.

Mr. THORNBERRY. Thank you.

Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to thank the panel for your testimony today. It has been very helpful.

And I would like to go back, if we could, on the topic of cybersecurity and how as it relates to the acquisition process. I know my colleague, Ms. Tsongas, talked about this. I want to talk about it maybe from a little different perspective.

But acquisition of cybersecurity systems and software is commonly cited as a circumstance where the current acquisition system is woefully inadequate, due in large part to the extremely short timelines required.

Are there concrete ways in which we could give the current system the speed and flexibility needed without simply bypassing it?

Mr. FRANCIS. Well, I will start.

I think so. One of the things that you keep in mind when you are embarking on an acquisition which involves technology changing at a very rapid cycle is your initial technology that makes this capability possible, I think you structure your acquisition around, do we have that? And then make that your minimal capability and go with that. And then you can fund at the same time all these different improvements, using flexibility to allow innovation to occur. And then you can bring those in as that product is being developed and improve it over time or improve that capability.

A process where we have to have the whole thing at once doesn't work in this situation because technology changes too fast. On the other hand, I don't think you can go out to try to buy something that hasn't had anything invented yet. So I think, you know, a first initial capability with a flexible acquisition strategy to improve over time is the way to go.

Mr. CHAO. Well, and given that these are technologies that are, again, moving at Moore's Law speeds, you know, 9 to 12 to 18 months, a 2-year budget planning and budget execution cycle just is fundamentally at odds to it. And so you would have to think through a mechanism by which you could have just much more flexible dollars. And it probably is a go-around or, again, a different track with its own set of rules in order to accommodate that.

And there will be—and there are other technologies, frankly, that match that, those characteristics. Aside from that, the gears will grind.

Mr. LANGEVIN. So let me ask this. On the Better Buying Power, BBP, wanted to focus much attention on training and process, but absent from the discussion has been a focus on equipping the workforce with time-saving, modern, analytical software.

Have acquisition support systems, such as the contract-writing systems, cost-estimating systems, auditing systems, and the like, kept pace with acquisition reform and evolution? And how could technology enable the acquisition workforce to forecast, estimate, compete, award, and monitor requirements better?

Mr. ZAKHEIM. Well, a couple things.

I think the first thing is the workforce needs to know how to use the technologies. One of the interesting things that I have found in government is they will buy technologies and then they don't know how to use them, or they will act as if they know how to use them but use them the wrong way.

So it comes back, again, to training. A tool is only as good as the person who knows how to use it. And it seems to me there are tools out there that can be useful.

And I will give you an example of a major failure that I had when I was Comptroller. I tried to centralize the entire auditing system. And we had, my God, the CEO of Oracle came to see me, for goodness' sake, to see if he could sell his product. And we bought a product, and the staff simply did not really understand what it was supposed to do. So the whole thing collapsed of its own weight.

And, of course, you know, we have the same thing, perhaps, now with the Affordable Care Act. The problem is the staff needs to know how to use what it buys. So there is stuff out there, but you need an educated staff to know how to use it.

Mr. LANGEVIN. Good point.

Well, let me ask you this. Could there be a better way to automate more of the acquisition process, particularly small contract changes like unilateral modifications, and, in doing so, free up time to work more complex acquisition issues?

Mr. FRANCIS. I think there are ways to do that. The government has, in the past, gone through reforms to simplify acquisitions. Things that fall below a certain threshold should be easier to approve. I think it is a good time to relook at that. Government tends to do these things just periodically after several years.

Given the changing nature of technologies, I think that there are plenty of opportunities to, again, give people authority to make decisions using guidelines. Let them make the decisions and be held accountable. So I think there is quite a bit of potential to allow some of these smaller decisions, if you will, to be made much quicker.

Mr. LANGEVIN. Thank you.

Thank you, gentlemen. I appreciate your testimony today.

I yield back.

Mr. THORNBERRY. Thank you.

Mr. Scott.

Mr. SCOTT. Gentlemen, thank you for being here.

And I want to talk a little bit about weapons system sustainment. But I want to go back, before I do that, and give you a couple of examples that I have heard from—one from a program manager, one from a contractor that was a building contractor. He was a roofing contractor. And he got asked one time by the base command why he never bid on the original project. And the answer was, because I can't do it at the price that you are awarding the bid at. But he made a very good living repairing what the original bid provided for the base.

And the bottom line is the low-bid process is costing us a tremendous amount of money because it doesn't deal with the sustainment of it, and nobody in the private sector would use the system we have. So, I mean, if you have a specific way for us to change that, I mean, in the end it gets to the people that we hire and some discretion.

But one program manager, Mr. Schwartz, put it to me this way. He said, you know, he said, "If I am buying a tire and I am told to buy P235/70/16, and I can use discretion to buy a good tire, then

I can get a good price on it. But if I am told exactly which tire I have to buy, then the private sector knows that, and I am going to pay a fortune for it.” And the end result of that is a frustration and the rubber-stamping of million-dollar change orders.

So, as we carry that forward into the sustainment of a weapons system, which is two-thirds of the lifecycle costs of the weapons system, my questions get back to the current acquisition system and sustainment and what can be done to make the sustainment more efficient and the use of our—I represent Robins Air Force Base, which is a depot—and the balance between the public sector and the private sector with regard to making sure that the taxpayer gets a good deal in the sustainment of the systems.

Mr. SCHWARTZ. So, as we discussed, operations and support is very often 70 percent of the program. DOD, historically, has not had very good data upon which to track how reliable those O&S costs were going to be. So one starting place is to improve the data available so you can make those future tradeoffs.

A second example is to prioritize the importance of the long-term operational support costs as a factor in authority and accountability and keeping the eye on that ball. Because, you know, Nunn-McCurdy—and there is a lot to be said that is positive about Nunn-McCurdy, you know, the reporting requirements, but it very often drives people to try to sacrifice the long-term costs for the current short-term costs, particularly in this environment. And if we could figure out a way to encourage the long-term view, and we have the data to back that up, then we might be able to get at that.

Mr. CHAO. This is also an area where you have a cultural issue of the issue of colors of money, right, with the procurement dollars being in a different stovepipe than the O&M [operations and maintenance] dollars, which is exacerbating this phenomenon of, well, I don’t want to spend extra procurement dollars, the bidding on the original roof, in order to save money later on. And looking at that issue of color of money and can you perhaps allow some of that to slop back and forth, if it results in good decisions, is probably a topic to look at.

Mr. SCOTT. Can I ask a follow-up to that? So in today’s day and time, in the cuts that are being made today, doesn’t that make the problem bigger going forward? Aren’t we going to push more of the costs of sustainment in the future with what we are doing right now?

Mr. CHAO. Yes, for sure. And which is why, you know, never let a crisis go to waste. You know, and this would be the time to take a look at that, because it is going to drive that—it will drive exactly that kind of behavior.

Mr. ZAKHEIM. I think—a couple things you can do. Again, it is how you frame the contract, how you actually make the decision about a contract. If price is way too high, then, by definition, you are going to go with the lowest price.

To my knowledge, sustainability isn’t the major factor in contract decisions anyway, and it can be. I mean, obviously, you cannot predict the future, but you can certainly say, has it been tested? There are ways to test things like mean time between failure and so on. You could have that as a major standard. It could be part of what is technically acceptable.

“Technically acceptable,” as has been said, is a very, very broad term. You raise the bar on what is technically acceptable and include sustainability in it.

Mr. FRANCIS. I would just add to that, I think structuring the acquisition up front is very important. If you are going to focus on operations and support and sustainment, I don't think we do that. I think performance still wins the debates.

And I think over time the government has given up some of its ability to make decisions in its own interest. So we get into situations where we award a contract to a contractor to develop a product at the same time we give them the contract to sustain the product. So they are making money on both ends of the spectrum.

And if we haven't bought the data rights or stood up an organic capability, the government leaves itself no option but to go with the developer to sustain the product. And that is a disincentive to getting the product designed for sustainment.

Mr. SCOTT. It is an unregulated monopoly, in that case. And that is the reason I firmly believe we need to continue with the 50/50 rule, to make sure there is competition out there.

Thank you, gentlemen.

Mr. THORNBERRY. Ms. Speier.

Ms. SPEIER. Mr. Chairman, thank you.

The Inspector General has found a number of instances where contractors grossly overcharge the Department for spare parts. The IG [inspector general] pointed out this particular bearing sleeve that costs retail \$10 and Boeing charged the taxpayers \$2,286. This is a metal tube assembly. Boeing charged the taxpayers \$12,400; it retails for \$1,167.

You know, the American people thought that the \$800 coffee pots and the toilet seats were something of the past, but the truth is it is still going on today.

So my question to you is, how do we hold these contractors accountable? Anyone who would like to answer that would be—

Mr. FRANCIS. Well, I think—

Ms. SPEIER [continuing]. Welcomed.

Mr. FRANCIS [continuing]. The first thing is the structure of the contract. And I think, rather than the government focusing on the specific profit rate that is being established or the cost—the other side of that, Ms. Speier, is you can get that flood of auditors looking at all these individual things. So if the price is fair, then I think the government—that is where the government should be structuring itself.

If they find that the contractor then, after an audit, is not being fair, that needs to be factored into their past performance history so that the next time the contract is awarded it may not go to them. The government has to be a smart buyer and has to be willing to walk away from somebody who is not giving them a fair deal.

But I don't know if I would go so far as to break down all of these individual parts and then create that audit burden. We have to get the big thing right up front.

Mr. SCHWARTZ. I believe one of the examples that you are referencing was a part that, in fact, was in DLA [Defense Logistics Agency] inventory for a very cheap price. So another side of it is

not just the contractor, but who in that workforce signed off on paying \$2,000, I think the figure was, for that part without calling DLA and saying, "Hey, can you beat \$2,000 by \$1,900?" So that is another element of the aspect you are talking about.

Mr. CHAO. And, frankly, though, there are two elements to this. There are going to be the examples where there was overcharging, and then there is, frankly, the other element we have to be very careful of of sometimes those prices are reflecting exactly the overhead burden that we are imposing on the overall system, right, which they are required to do so. And so when you ask for that individual part and they are required to allocate a portion of that overhead burden onto that individual part, it will make that part look egregiously expensive, but that is what we have asked of the system.

And so I think we need to distinguish between the two, lest we sort of go chasing some things that may not be relevant.

Mr. ZAKHEIM. And, of course, if you say "the system," it means something you ought to be changing. In other words, if you are going to impose rules on the contractors that only allow them to make money a certain way, that is how they are going to make their money. If you were to, for instance, convert some of these contracts to a firm, fixed price, and then they have to—and there are no engineering change proposals allowed, and they have to, basically, if they want to make a profit, come in below that price, you are going to see a very different kind of behavior.

So you have two things here. You have the contracting officer who has no idea what DLA is offering because it is all over their head anyway and they are just undereducated, and then you have the rules that, even if they are educated, squeeze both them and industry in a certain peculiar and perverse way to come up with, whether it is toilet seats or hammers or anything else.

Ms. SPEIER. So, Dr. Zakheim, you mentioned in your opening remarks that the lack of education is a critical component. So you would recommend that we have persons who are more highly qualified, pay them more, so that we are going to get greater value for the taxpayers?

Mr. ZAKHEIM. I don't know that we even have to pay them more. I mean, if we are promoting people from GS-13 to GS-14 anyway, they are going to get paid as GS-14s. It will cost some money to have them educated for a year, but, you know, frankly, that money is there. We find ways to find money that we need. And we are not talking about big bucks, and the payoff is huge.

Mr. CHAO. And it is making the time available for them to take that training and put that into the rotation cycles.

Ms. SPEIER. Thank you. My time has expired.

Mr. THORBERRY. Mr. Nugent.

Mr. NUGENT. Thank you, Mr. Chairman.

And I want to thank this panel for your insight because, as someone that has only been here 3 years, it is mind-boggling in regards to how we spend money, and sometimes have no idea why we spend it or how we spent it.

I can just give you a simple example, and then to a question. When we were trying to buy a computer in our office, it came back that was going to be 1,100 bucks. And the same computer we were

able to buy with authorization through the purchasing for \$500 from Best Buy. One would say that the Federal Government probably should have a better buying power than Best Buy, but obviously not.

But I want to get to, in Iraq, when we had issues, particularly when our enemies exploited the vulnerabilities of our Humvees to improvised explosive devices, not only in Iraq but also Afghanistan, the DOD, you know, launched an expedited program, the MRAPS, to get in the field, which was outstanding because I have three sons currently serving in the United States Army. Two have them have been in Iraq and Afghanistan.

But would you talk about the lessons learned—and I guess anyone can answer this, but Mr. Francis in particular—lessons learned from the MRAP acquisition? Some of the positive examples, I guess, of cutting through the bureaucratic system to get the MRAPs fielded? And maybe if there are some negatives on important steps ignored?

If you—I know it is three questions, and I can always come back to it.

Mr. FRANCIS. I will try to muddle up my answer so all three will get answered. How is that?

Mr. NUGENT. Great.

Mr. FRANCIS. Yeah, I think there are good lessons learned from MRAP. So, on the positive side, once the government decided it wanted to go there, it did some really good things. One, it had money, top priority, it could put the best people on it. And it decided it was going to shop off-the-shelf and evaluate existing vehicles and then make a modification using existing equipment. So the government was going to pick the best vehicle and then put the equipment on it that it needs and get it out there. And we did it really fast, and it was really successful. So I think that was good.

You ask yourself then, well, how come we are not producing that kind of equipment? And that gets to the negative. I think it took 2 years, at least 2 years, before the government realized that up-armorizing Humvees and so forth wasn't getting the protection it needed.

Mr. NUGENT. Right.

Mr. FRANCIS. Those vehicles that they ended up buying had been around for years, but that is not where we look first. You know, we looked at our tried-and-true ways. And only when we had no other option, then we go out and do the right thing.

So I think the question for the acquisition process is, could it have done the right thing right away? And I think the answer is yes. But the organizations have relationships. They have favorite programs, they have favorite contractors, and it is very hard to get them to respond differently.

I don't think we need to go to a system that is all rapid acquisition that breaks the rules all the time, if you will. But we have to look at the current acquisition process and say, can't the requirements process and the acquisition process be more responsive to meet needs like that?

Mr. NUGENT. Mr. Chao.

Mr. CHAO. I do think it also highlights one other thing that we are going to have to be very careful of as we go through a little

bit of time, right? The acquisition system is always trading off cost, performance, and time, right? That was a great example. And you can optimize two and you are going to have sacrifice the third. Very clear example in the MRAPs of emphasizing time and performance, and I paid for it in cost, right?

As we come out of the war and the time imperative decreases for most of the system—SOCOM [Special Operations Command] and other parts will still have that time imperative—the system and the emphasis will shift, and things that will look normal in the new system—or that looked normal in the old system will not look normal in the new system.

Mr. NUGENT. And, lastly, I am running out of time, but is it possible to use existing technology without trying to always reinvent the wheel and then add on to that existing technology in a way that would save us money?

Mr. ZAKHEIM. Well, it certainly is possible, and it has been done. But part of the difficulty, if you take the MRAP, it was basically based on a South African design, as we know. We tend to be very, very narrow and restrictive about where we look, and so we tend not to look at what is on the shelf. When we do take something off that shelf, we tend to modify it so it is unrecognizable.

That is something that has to change, and that has to be changed by top management and enforced year after year, Secretary after Secretary, party after party. If there isn't consistency in this, the system will just lapse again.

Mr. NUGENT. Thank you very much. My time has expired.

Mr. THORNBERRY. Mr. Larsen.

Mr. LARSEN. Thank you, Mr. Chairman.

Mr. Schwartz, do you think that the Defense Acquisition Workforce Development Fund, first, has made some progress on getting the right number of people working in the acquisition field? And, as well, has it increased the professionalism of the acquisition workforce? Have you done any assessment on that?

Mr. SCHWARTZ. If I understand, I believe it is approximately 2,000, or slightly more than that, individuals in the acquisition workforce that were brought on board to the Department of Defense as a function of the funding that was created in the DAWDF, the Defense Workforce Acquisition Fund.

In addition to that, even some of the requirements from DAWIA, the Defense Acquisition Workforce Improvement Act, from 20 years ago, which required, I believe, program managers to have 8 years of experience, PEOs, program executive officers, to have 10 years of experience, those regulations that have started educating the workforce, those people that went through that are just now generally getting to that layer of senior management and have been brought up through that system.

So with DAWIA and Defense Workforce Acquisition, they are—from my understanding of people in the system, there definitely has been an improvement of people who went through that who have better training and more experience.

Part of the problem, though, is that the average age of many people in the acquisition workforce is much higher. The workforce was cut substantially in the 1990s, and as we are hiring more people, it could take 10, 15 years until those individuals get through that

process. So with DAWIA and with the Workforce, it definitely is setting a good standard, but it is going to take time to get that workforce back up to where it needs to, from that perspective.

Mr. LARSEN. Yeah.

And a follow-up for that: Can you provide the committee with an example of some of the challenges that program managers face trying to navigate and keep track of the steps in the acquisition program?

Mr. SCHWARTZ. Absolutely. So the acquisition framework is set forth in the 5000 series. Perhaps I can show you. One individual recently said, we have legislated and regulated our way into a black hole.

So this is the—these are the directives of the 5000 series. This is the basis. Now, on this is the Federal Acquisition Regulation. This is the Federal Acquisition Regulation. It is about 1,800 pages. But there is guidance that is necessary to understand that. This is the Defense Acquisition Guidebook that explains how to use the Federal Acquisition Regulation.

And that is for all of government. Now, defense is slightly different.

Mr. LARSEN. Thank God that one is in a binder, anyway.

Mr. SCHWARTZ. This is the Defense Federal Acquisition Regulation Supplement just for the Defense Department.

Now, just to make sure you understand how to use that, there is the Defense Acquisition Regulation Procedures, Guidance, and Information that explains that.

That is one of the challenges of the program managers today.

Mr. LARSEN. That looks like about 13 inches of challenges or so. All right. Good. Could you read those for us? No, I am just kidding.

Mr. SCHWARTZ. We can make a CRS [Congressional Research Service] report with all that.

Mr. LARSEN. Great. Thanks.

I think another challenge, too, for Mr. Francis to answer, is, looking at your GAO report, noting in your “Analysis of DOD Major Defense Acquisition Program Portfolios,” page 2, is kind of the depressing number here, that from 2008 to 2012 the average delay in initial operating capability for these programs have gone from 22 months to 27 months. The change in development costs from first full estimate has gone from 42 percent to about 49 percent.

Where is the—is there a good news in this story?

Mr. FRANCIS. I think there is some good news. I think in the last 2 years we have seen some benefits from acquisition reform in WSARA [Weapons System Acquisition Reform Act] and Better Buying Power. We have seen some difficult decisions made, I think, after 2008. That is when Secretary Gates made a lot of decisions in 2010 to get rid of some bad programs and have them come out of the portfolio. So I think that was good.

I think some of the things that they are doing today on cost studies and making requirements tradeoffs, I think those are doing okay. But I am not willing, at this point, to say we have turned the corner, all of a sudden the trend is going up. What we tend to see is, when you see improvements like that, they are imposed by strong individuals. It is the hero model. I don't think yet that the

process has been institutionalized, and we would have to see this over time.

Which is why I think this hearing is very important. Because when people like Ash Carter leave and Frank Kendall leave and some of the service acquisition executives leave, are we going to see this trend continue or is it going to disappear? I think this is mainly operating on the strength of individuals, which is good, we will take that success so far, but we need to institutionalize it.

Mr. LARSEN. Thank you.

And, Mr. Chairman, if we could, as the committee hearing ends at some point, if we could get a dolly in to help Mr. Schwartz take the regs back, I would appreciate that. I am sure he would appreciate it.

Mr. THORNBERRY. We are definitely going to record the stack for posterity.

Ms. Davis.

Mrs. DAVIS. Thank you, Mr. Chairman.

And, certainly, I reflect on the memory of Ike Skelton, as well, and the fact that he was very concerned about this issue, as you all mentioned earlier.

It does feel a little like *déjà vu*. I know that Mr. Andrews and Mr. Conaway took part in a very active task force quite a number of years ago. I guess that was in 2009. And what I recall from that was that issues such as bundling and other ways in which—we question whether small businesses could get more in the fight, if you will. And we talked about that a little bit earlier, in terms of innovation.

Do you see improvements in this way? I mean, has that made a difference? And is there something that Congress should be doing with addition to language or what have you?

I mean, I am looking at the stack, and I am—one question really is, how much of that do you relate to what Congress has done? I know that is a part of rulemaking, but in terms of the effort that Congress has made that has been positive and both negative in that regard. You know, are we 3 inches of that or are we—what part of it does Congress represent?

And I am particularly interested in the bundling issue because I think that has been a great frustration to small businesses. It is very difficult for them to be able to jump in. And we have seen this, you know, we have seen this in the ACA [Affordable Care Act], as well.

Mr. SCHWARTZ. It being my stack, apparently I will answer that question.

This is an improvement from the 1970s, when it was 30,000 pages and streamlined across the government. So, on one level, the acquisition system, while not aggregately perhaps improving, has kept up with the change. So even as systems and other services are more complex, generally, at least the cost overruns haven't skyrocketed more than they are currently. So that is one way of looking at it.

In the last six National Defense Authorization Acts, the Title VIII of acquisition had approximately 250 different sections. So some people have suggested that perhaps that is more active. Others have said, well, some of these are very well-timed. But a num-

ber of these perhaps were right on target 15 years ago but might not be appropriate now. Others of these might have had unintended consequences but just stayed on the books because we haven't, since 20 years ago with the 800 panel that Dr. Zakheim referred to, been gone through. And some of them didn't have—had a bad result, unintended.

Mrs. DAVIS. Uh-huh.

Mr. SCHWARTZ. So I think a review, perhaps, of this stack and say which of them are outdated, which of them had unintended consequences, perhaps could be repealed or amended to say, how do we streamline it without undercutting some good oversight and some good things that may very well be in there.

Mrs. DAVIS. And the mechanism for that? I mean, is that a role of the Congress? Is that a role of a task force? Is that a role—how do you see that?

Mr. SCHWARTZ. So I would suggest the way it was done last time was collaborative. And, generally, if you look at the past reform efforts, those that have been successful have been substantial, collaborative efforts across departments and across branches of Congress.

You know, Packard, I believe it was, who said that he was shocked that when—when he was Deputy Secretary of Defense, he was shocked that they would put in at the Department of Defense on a senior level these reforms and the services wouldn't buy into them.

Mrs. DAVIS. Uh-huh.

Mr. SCHWARTZ. So, no matter what the senior level does, if the services don't buy in, it won't be as effective.

Even if the services do it, if the lower components don't buy in, it won't be effective. And, arguably, it is the same with Congress and DOD. If it is a collaborative effort together, which is how it was done in the 800 panel—Congress required, I believe it was Defense Acquisition University to do a study, and that was turned over to Congress, with input from numerous experts, and then that is how we got the Streamlining Act.

Mrs. DAVIS. Uh-huh. But I guess part of what I wonder about—because we have talked about the education piece. If you have a lot of the same people, even though perhaps they are newer to the process, are we going to get the same results?

Mr. ZAKHEIM. I think that one place we haven't talked about is the White House. I think you will need OMB, OPM, and OFPP, the Office of Federal Procurement Policy, to play in this. A lot of this stuff is generated, or at least is theoretically under the oversight of those offices.

Mrs. DAVIS. Uh-huh.

Mr. ZAKHEIM. And, again, a lot has to do with merits and measurement and reward. The services, if they know that they will not be penalized for not listening to a Deputy Secretary, they are not going to listen.

So there is a combination of things. It has to be collaborative. It has to be nonpartisan. And within the Department, there has to be a sense of—

Mrs. DAVIS. And do you think that this is something that Congress actually has to—

Mr. ZAKHEIM. Well, Congress should play in this and ask for it.

Mrs. DAVIS. Yeah. Okay. All right.

Mr. FRANCIS. Ms. Davis, just a couple points.

A couple of teasers. We are doing work on bundling right now, so we will have a report coming out. And we are also looking at small-business innovative research for this committee. So we are looking at how small businesses are faring in that world.

And then just a little conundrum that we are facing here. If we were to, let's say, talk a lot about small business, Congress' role, they might write a law about small business that might add this. We talked earlier about cybersecurity; there might be something added for that. And we talked earlier about the defense acquisition workforce; we might want to pass laws and legislation on that. All individually good things to do. But then at the end, you say, have we looked at the cumulative effect?

Mrs. DAVIS. Uh-huh. All right. Thank you.

Mr. THORNBERRY. I thank the gentlelady.

Mr. Kilmer.

Mr. KILMER. Thank you, Mr. Chairman.

I have a few questions. One, it seems appreciated and understood that the use of commercial off-the-shelf products tends to be cheaper when initially purchased and maintained as compared to custom solutions. Part 10 of the Federal Acquisition Regulation supports that notion and encourages the use—encourages agencies to seek out those commercially available solutions while conducting market research.

I guess, a few questions. One, are organizations adopting this shift? Have we actually realized a significant shift to purchasing commercial off-the-shelf? And are there any statistics that you have seen that support such a trend?

Mr. SCHWARTZ. There has been significant change in that since the 1990s with, I believe it started with Secretary of Defense Perry, when there were mil-specs, military specifications, for virtually everything, and he really initiated that efforts move away from that and buy commercial.

What a number of people have suggested is, while that is definitely good, perhaps at some point the pendulum went too far, and we are trying to force that buying into commercial, which, as a number of the other people on the panel talked about, is, well, when that was the incentive, everybody had to buy commercial, whether it was the right thing or not. Now, perhaps, it is settling a little bit more. So that is one thing. And I will take that as a task and, over the next week or so, try to get you some statistics on that.

The other issue with that, in addition to a clear increase in doing that as well, is there have been a number of instances, unfortunately, where the initial effort seemed that it was ideal to get off-the-shelf, and then when it was adapted to military requirements or when some of the regulations started kicking in, it ceased to be that. And then somehow a major development effort had to be done to incorporate these regulations, and then you lost the whole benefit of that, and sometimes the costs even went higher than otherwise.

Mr. CHAO. So here is where I would quibble a little bit. I mean, the reforms of the 1990s were actually fairly revolutionary in terms of switching the whole system from defaulting on mil-spec to now defaulting on commercial and proved to me why it should do mil-spec.

Over the last decade, I think that pendulum has kind of started to swing back a little bit, and it has been creeping back—mil-spec has been creeping back into the system. And I would argue a review, you know, of that would be important.

I think I saw a statistic that something around 28, 29 percent of the dollars are being spent on a commercial basis, and it has kind of plateaued. And you would think, if you think of all the technologies that are moving more and more commercial, like IT [information technology], you would think that that percentage should be growing.

Mr. KILMER. Okay. Thank you.

I also had a question around the small-business preferences that exist within our procurement policy. I know there are preferences to encourage disabled veteran and female and minority businesses. I want to get your sense of how successful those programs have been in encouraging qualified individuals to establish businesses and to grow their businesses. Have you seen—is there competition between the various preferences that might inhibit the achievement of each agency's goals in that regard?

Mr. ZAKHEIM. Well, my experience as a contractor for more than the time that I was in government tells me that, as usual, the system gets played.

So, for example, big companies will hide behind the small business, which doesn't really have the capability to do everything that the government demands of it. That begs the question, should the government be demanding as much as it does from small businesses that forces them to turn to the big companies to back them up? So that is one issue that I think needs to be perhaps dealt with.

Another is, yes, there is clearly a competition. If you want to have a woman-owned business, a disabled-owned business, a veterans business or so on, they are all competing against each other.

Does DOD always meet its goals in terms of small business? No. The answer is, you know, sometimes it does, sometimes it doesn't. Is there a desire on the part of industry to bring in small business? Always, because you know that if you get a small business in, you have a better chance of winning the contract.

But, again, it is kind of backwards. It is the big company that is looking for the small company in order to win the business, as opposed to the government looking for the small company for the reasons that presumably you support.

Mr. KILMER. So, from a public policy standpoint, what would you do differently?

Mr. ZAKHEIM. You probably would not make as great demands on the small companies, and just give them the opportunity to bring in what they bring in without forcing them, in effect, to join the big guys because, otherwise, they can't win a contract.

Mr. CHAO. I mean, as a mechanism for incubating small businesses, I would argue it has been successful. The place where it

has gotten a little bit perverse is, as companies hit that threshold, deciding to stay there rather than crossing over. And, I mean, ideally, you would think that that was a policy established to incubate companies and let them grow all the way up. And now we have people that are just deciding to, you know, opt out, "I don't want to go across the fence into the maelstrom," and so they stay right at that level. And that is probably something to take a look at.

Mr. KILMER. Thank you.

Thank you, Mr. Chairman.

Mr. THORBERRY. Mr. Carson.

Mr. CARSON. Thank you, Mr. Chairman.

This question is for all the panelists. It has been repeated often by Members on both sides of the aisle that sequestration is, I think we all agree, is the worst possible way to cut back our defense spending. The same goes for domestic spending. And we should eliminate both immediately.

But I think it would be foolish not to learn from our mistakes. The DOD is effectively being forced to make decisions that it would likely not have considered if it were not for sequestration.

Are there lessons we can take from sequestration about DOD acquisition and potential efficiencies that could be pursued? And what do we know now about DOD's ability to make tough choices in acquisition that we didn't know prior to sequestration?

Mr. FRANCIS. Okay. I will start.

Mr. Carson, we have taken a look at how the Department has handled its investment accounts, and I think for fiscal 2013 for the sequester it has taken short-term measures. It has postponed some decisions, may have pushed out some quantities, but it hasn't done anything drastic, in terms of canceling programs. It hasn't broken up any big contracts. So it hasn't done anything that I would say was imprudent. That is okay for this year.

Next year, some of those same tools are not going to be available to the Department. So some of the things they have put off, particularly in shipbuilding, for example, where you have advance funding to buy long-lead items, you can put them off for a year, but you can't take them away. So they can't put them off again next year.

I think lower budgets, if you know they are coming, can actually force some good decisions, some hard choices. They can bring discipline to a process. We have seen the opposite, where big budgets don't necessarily make for better decisions.

I think the structural issue here is the Department has put forth a budget that does not yet reflect the sequestered amount. So when it goes back in, I am not sure it is going to make decisions to put it on a long-term glide path to save money. The decisions are not—are going to be, again, short-term in nature and maybe not as well-advised if you know you are going to be sitting on lower budgets for the long term.

Mr. SCHWARTZ. I believe it was Winston Churchill who said, "Gentlemen, we are out of money. We now need to think." That concept is starting to really pervade the Department of Defense.

In the past, there was this culture, perhaps we can call it, of, well, that program is going to increase in costs but we will get

funding for it, and we will ask for more money, and we will ask for the cost cap to be raised, and we will ask for more money, and it will get funded one way or the other.

That is not necessarily the culture now that a lot of people, not everyone, but a lot of people are feeling in the Department of Defense. It is no longer a given that if there is cost overrun, they are going to get funding. And it is no longer a given that if they promise more capability, that is going to sell.

And Secretary Gates started this when he said, we don't need exquisite technologies anymore, we need the 80 percent solution. And a lot of people have traced that change in culture to comments like that.

Mr. CHAO. So, I mean, the most damaging thing about sequestration was the elimination—and it was designed to be so horrific that it would never be taken up—but of the across-the-board cuts of everything having to be applied. And so, how can I cut, you know, a fifth of a ship, for example? And yet, you know, hence we were down that path.

And so the Pentagon knows how to plan. In fact, it is very, very good at it. And I think that is one of the—if you give it the opportunity to do so, if it was told, here is the level to which you need to plan to, I would submit to you it can do a very, very good job of that. You know, the current environment has eliminated that ability and has created the turmoil. And I think that is where you are picking up all the inefficiencies, because it cannot do that planning.

Mr. ZAKHEIM. You know, even without sequestration, there has always been cut drills for years and years and years. And what happens is programs that are promising very often get cut because they just don't have the right sponsors in the right places.

I don't know whether the Department right now has made the kinds of structural, as opposed to near-term, choices. I agree with my fellow panelists about where we are headed over the next year, but if you are talking about fundamental change in the way you do your acquisition, it is not clear to me that that is happening. And, at some point, the budgets will go up again. And if you don't have those kinds of changes, you are not going to get the efficiencies; you will waste money again.

Mr. CARSON. Uh-huh.

Mr. ZAKHEIM. So the sequester may have focused people's minds. The next question is, have they done the kinds of things that will allow for more efficient acquisition regardless of the budgetary environment? And I think the jury is out on that.

Mr. CHAO. If I could quickly follow up on that, if the budgets actually peaked, including the OCO [Overseas Contingency Operations] accounts, in 2009 and we are planning the 2015 budgets, we are actually 6 years into the downturn. I know it doesn't feel like that. And if you look at the historic cycles, we usually had 10-, 12-year cycles. I would submit to you we are almost, quote/unquote, halfway through.

So as I talk to industry, I tell them, if you are starting to think about the downturn now, you are way too late. You should actually be thinking about what the next upturn looks like and what do we want to do during this downturn to strategically position ourselves.

And I think the Pentagon really wants to do that. I think it is a great role for Congress, you know, to also play in thinking about how to do that.

I mean, to end on an optimistic note, you know, for as much complaining, we still end up with the best equipped military in the world. Now, we may sit there and say, you know, that is a “we suck less” strategy and that doesn’t feel very good. But, you know, this is as much of an opportunity, I think, to position for—you know, to position ourselves for, frankly, for what the next upturn looks like.

Mr. CARSON. Thank you, gentlemen.

I yield back my time, Mr. Chairman.

Mr. THORNBERRY. Thank you.

And thank you all. We have covered a lot of ground today. Members had a lot of good questions.

I guess I do want to ask, is there some key element of this that we have not touched on that any of you all think that you would like to highlight as a last comment? You don’t have to say anything. I am just giving you the chance in case we missed something.

Mr. CHAO. So, one last topic, which was touched upon obliquely. It is another politically sensitive one. It is the issue of the revolving door. Right? To the extent of, if we have these issues in the workforce and you need to get better quality people in, and we have 15 percent, I think, of the Federal workforce eligible for retirement and another 30 percent coming in the next 5 or 6 years and there is going to be this brain drain, the ability to pull people mid-career into the system and back out again is probably something that needs to be really, really looked at.

And it has become almost a one-way trip, either one way or the other. It has become very, very difficult to do that. Again, to sit there and say, “I want to increase the revolving door” is not politically palatable or popular, but it is a real topic, I would argue, to look at.

Mr. ZAKHEIM. Another one that is clearly a tremendous frustration is, how do you bring people in at the political appointee level? A lot of people just don’t want to get involved because it is just so hard to make it through the confirmation process.

And I know that takes place in the other Chamber, but it seems to me it is a challenge for everybody involved in acquisition. And it is something that, as you talk to your colleagues in the other Chamber, it really needs to get resolved. It is not a partisan issue. It is an issue of, can we get the best people for this country? And there are an awful lot of good people out there who just don’t feel they can serve.

Mr. THORNBERRY. Okay.

Mr. FRANCIS. Mr. Thornberry, I just would conclude that it is kind of easy to say the acquisition workforce should do something different, or the executives or the program managers, but I think we have to think holistically and look at all of us put pressures on the system and create pressures. And I think it responds pretty much to those pressures.

So if we want to get different results, I think we each have to look at what are we contributing to the current state of affairs and

what can we do to take some of the pressure out of it. And I think that is going to be key to getting results in the future, instead of just looking at what the other guy can do.

Mr. SCHWARTZ. And perhaps to sum that up, what the role of Congress—and there was a question before. So this committee has done a lot of work, as other committees have, on operational contract support. And everyone I have spoken to in the Department of Defense had said that the progress made could not have been made without the effort in Congress.

I would suggest that the past successful reforms, Congress has always played a critical role. And there is a critical role for Congress to play in the future.

Mr. THORNBERRY. Well, I appreciate that. You all heard what the chairman and Mr. Smith have agreed to do. And, as I think each of you have said at one time or another, that requires not only Republicans and Democrats, House and Senate, it requires various levels of the Pentagon and also working with industry. Because until you get, kind of, everybody more on the same page, we are not going to have the success we need.

So thank you all very much for your time today. And I hate to break it to you, but we are going to be calling on you in the future to help guide this effort.

With that, the hearing stands adjourned.

[Whereupon, at 12:21 p.m., the committee was adjourned.]

A P P E N D I X

OCTOBER 29, 2013

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

OCTOBER 29, 2013

Chairman McKeon Opening Statement
“Twenty-five Years of Acquisition Reform: Where Do We Go From Here?”
October 29, 2013

We convene on a sad day. Yesterday, this committee lost a former chairman, a hero, a patriot, and a friend. Ike Skelton will be deeply missed—not only by those of us, members and staff, in this room—but by the men and women in uniform who Ike worked so hard—and so humbly—for. It was always difficult to have a conversation with Ike in public because our troops were always stopping him to thank him, to have their picture taken with him, or to let him know how his service had made theirs better. Ike was always humble when he met them. There is no tribute we can offer that can ever match the gratitude of those men and women. It is appropriate though that we take a moment now to bow our heads and thank God for the gift of having known Ike, and for the opportunity to carry on his work.

That brings us to today’s hearing. As many of you know, this Committee — under leadership of many like Ike—has a long track record of tackling incredibly complex and challenging issues. The subject of today’s hearing—acquisition reform —is one of those issues. For anyone who needs reminding of the magnitude of defense acquisition, in 2012, the Defense Department’s contract obligations were 10 percent of the entire federal budget.

While this Committee has led successful efforts to improve the way the Department acquires items and services, there are still significant challenges facing the defense acquisition system. We cannot afford a costly and ineffective acquisition system, particularly when faced with devastating impacts of repeated budget cuts and sequestration. The Congress, together with the Department of Defense and industry, must be willing to do the hard work to find root causes, look past band-aid fixes and parochial interests, and have the courage to implement meaningful, lasting reform. To this end, I have asked our Vice Chairman, Mr. Thornberry, in consultation with our ranking member, to engage in a long-term DOD reform effort that includes a hard look at acquisition.

We've invited an extraordinary panel of witnesses to help us with that task today. I'm very thankful for their willingness to be here to examine previous reform efforts, explore reasons the Department continues to field programs over budget and behind schedule, and look to ways we can lead lasting reform efforts. Joining us are:

- The Honorable Dov Zakheim, Former Comptroller for the Department of Defense;
- Mr. Pierre Chao, Senior Associate, Center for Strategic and International and Studies;
- Mr. Moshe Schwartz, Specialist in Defense Acquisition Policy, Congressional Research Service; and
- Mr. Paul Francis, Managing Director, U.S. Government Accountability Office.

Unfortunately, Dr. Ron Fox, from the Harvard Business School, could not be here today. He did, however, provide us with written remarks that you all have a copy of. I thank him for that and ask unanimous consent that those remarks be entered into the record.

Hearing no objection, it is so ordered.

With that, I turn to Ranking Member Smith for any remarks he may have.

Statement of Ranking Member Adam Smith

“Twenty-five Years of Acquisition Reform: Where Do We Go From Here?”

October 29, 2013

Thank you, Mr. Chairman.

First of all, I want to share in your remarks about Chairman Skelton. I served on this committee with him for 14 years. He was an amazing man. I mean, I can't think of anybody who was more dedicated to the people who served in the military. When you would travel with Ike, he always, as we were doing our meetings with different groups and everything, he would always say, "Where are the troops? I want to talk to the troops." And he always did that, and he always looked after them. He had a knowledge of military history and a dedication to the men and women who served which is unparalleled.

But he was also just an excellent mentor for everybody who served on this committee, Republican and Democrat alike. And Mr. McKeon and I always talk about how this is a—you know, it is a bipartisan committee. Well, it took dedication of people like Mr. Skelton to make sure that that was the case. As both the chairman and ranking member, he went out of his way to work across the aisle to make sure that we always remembered what we were doing here, which was to look after the national security interests of our country and those who served and protected it.

He will be sorely missed by many. I know many of the staff worked very closely with him for years and years, as well. But he lived a very, very good life. And he upheld the standards of this body, Congress, and, in particular, upheld the standards of the House Armed Services Committee in a way that all of the rest of us should absolutely aspire to.

So I thank the chairman for taking a moment to recognize his service. And it is a very sad day. We will all miss Ike, but we thank him for all that he has done for his country, for his district, for the men and women in the military, and for this committee.

It is hard to go from that to talking about acquisition reform, but I appreciate our panelists being here today. It is a never-ending challenge. One of the big things that was accomplished when Ike was chairman of this committee was we passed a comprehensive acquisition reform bill that I think has made, you know, some positive steps.

And there is a whole bunch of different things that could be said about it, but the thing that I have sort of learned in my time of working on it is that it really comes down to people. You know, we can pass all the legislation we want. It really is a matter of how the DOD operates—the procurement shop, the program managers, you know, what is the ethic that is put in place there, how do we get to greater efficiency.

I think one of the greatest challenges in that is getting the incentives right so that the men and women who work in this have the proper incentive to be innovative, to find the way to do the thing that is most cost-effective. I think far too often the incentives that are in place within our personnel system within DOD are to merely check the box. As long as you did the process right, regardless of the result, nobody can blame you. I think we need to better empower the people in the Pentagon to make those smart decisions.

When you go out in private industry and you see how companies have, you know, sort of changed paradigms and all of a sudden become more efficient and more effective than their competitors, it is not because a group of people sat in a room somewhere and developed a perfect process and then everybody robotically followed it. It is because people doing the work saw opportunities and took them and figured out how to do things different and better and more efficiently.

So I know there are a lot of other issues around this, but, for me, empowering the people to make those smart decisions is one of the most important approaches that we can take.

I look forward to the testimony of our very distinguished panel, and I thank the chairman for holding this hearing.

TWENTY-FIVE YEARS OF ACQUISITION REFORM:
WHERE DO WE GO FROM HERE?

Dov S. Zakheim

Testimony Before the House Committee on Armed Services

October 29, 2013

Chairman McKeon, Ranking Member Smith, distinguished members of the Committee, I appreciate the opportunity to appear again before this Committee. The title of your hearing outlines the nature of the challenge that the Department of Defense faces: Twenty Five Years of Acquisition Reform, and we still must ask, "where do we go from here?" For a quarter-century, indeed, for far longer than that, talented officials, many of them with illustrious records in industry, have grappled with the reality that our defense acquisition system is fundamentally and structurally broken.

Yet despite the best efforts and good intentions of so many well-intentioned, indeed devoted, public servants, and some small-scale successes that they might have achieved, the acquisition system remains severely challenged. Cost overruns, schedule delays, programs that were summarily cancelled, all too often have characterized the Department's procurement of weapons and systems. Currently programs face delays that last, on average, more than two years. Roughly a third of all major system acquisition programs have breached Nunn-McCurdy ceilings, which means that at a minimum, they have increased by 30 per cent over their original baseline estimates or at least 15 per cent over current baseline estimates.

Finally, more money is buying increasingly less product. Cost growth, as opposed to inflation, has resulted in severe cutbacks in weapons system programs, of which the F-35 is the latest in long list of sorry examples. Despite constant so-called improvements in manufacturing processes, many of which have proved themselves in the commercial sector--Lean Six Sigma being but one example--costs continue to grow and quantities continue to shrink. It is decades since Norm Augustine lamented

that at the rate costs were rising and quantities declining, DOD ultimately would be able to afford no more than a single plane, a single ship and a single tank. Nothing that has happened in the intervening years has thus far disproved his trend analysis.

No less troubling is the management of DOD's acquisition of services. Traditionally subjected to far less scrutiny than the acquisition of goods, services now account for more than half of all DOD acquisition. Yet poor product, duplication, and, more generally, waste, and occasionally fraud and abuse, have plagued the Department's acquisition of services for years. Wartime contracting has been a particular cause for concern. The Commission on Wartime Contracting in Iraq and Afghanistan asserted that between \$31 and \$60 billion were lost through waste, fraud and abuse between 2001 and September 30, 2011. The higher range of the estimate was probably closer to the truth, while more of the same has been uncovered since then.

Invariably, the arrival of a new senior official on the DOD scene leads to a new effort to "fix" the acquisition system. These fixes usually consist of two thrusts: new terminology--colloquially called "buzz words" and new processes. The career acquisition bureaucracy, hardened by cynicism, will mimic the buzz words until the incumbent official departs and a new one arrives, with a lexicon of his or her own. And the processes will often involve a shuffling of the bureaucratic cards, with new teams of officials replacing former teams, but with little advancement in management efficiency, or for that matter, accountability. "Where do we go from here?" therefore is not merely a question. It is a desperate cry for help.

As long ago as 1975, a subcommittee of the Senate Government Affairs Committee, as it was then called, held a series of hearings on defense acquisition, including one on major systems acquisition reform. At the time, the Navy was reeling from the skyrocketing costs of the LHA program. There had been major program cost overruns that undermined programs even before then: the Air Force's Skybolt missile, the Army's Shillelagh missile and the Navy's version of TFX aircraft, to name but three. Numerous Defense Science Board reports, and a host of commissions and task forces, notably the 1986 Packard Commission, legislation ranging from Goldwater-Nichols of that same year, through Clinger-Cohen ten years later, through the 2009 Weapons System Acquisition Reform Act have all recommended, and in the latter three cases, mandated change. Think tanks have also weighed in with recommendations for change, notably recent efforts by the Center for Strategic and International Studies. In addition, DOD's own initiatives such as the 1999 Commonality Initiative, which incorporated lessons learned from previous attempts at common development ranging as far back as the TFX; the emphasis on "spiral development" in the early 2000s; the creation of Rapid Acquisition cells in 2009; the Better Buying Power memorandum of November 2012 and the numerous revisions to the DOD 5000 series of acquisition directives, all have sought to reform aspects of the acquisition system.

The creation of Rapid Acquisition Cells illustrates the magnitude of the problem, however. These cells and the rapid acquisition effort more generally, represent an effort to bypass DOD's own acquisition system, which has been deemed too cumbersome to meet the urgent needs of Combatant Commanders. There could be no greater indictment of the current system.

The current era of budget constraints renders the need for acquisition reform even more urgent than in the past. The Department of Defense must husband every available dollar and put it to its most efficient use. It can no longer tolerate massive cost overruns, delays, and waste, much less fraud and abuse.

There is little utility in assessing blame for the current state of affairs. Instead, both the Executive Branch and the Congress must commit to a radical restructuring of the acquisition system, in all its manifestations. And, when referring to the Executive Branch, it is not only the Defense Department that must implement change. The White House, notably the Management side of the Office of Management and Budget, must press for reform, and the Office of Personnel Management must ensure that its policies do not undermine reform, as, it could be argued, is the case today.

Creating a Corps of Educated Consumers

It is widely recognized that the Department of Defense no longer boasts the same level of technical and financial expertise that it once did. Indeed, the Department no longer is at the cutting edge of American science and technology. Silicon Valley, the North Carolina Research Triangle, Route 128 in Massachusetts, and a host of other locales have outpaced DOD in many areas of advanced technology, notably in various aspects of Information Technology well as materials technology that were once the Department's preserve.

Yet there is no Department-wide program to ensure that its civilians remain conversant with the most up-to-date technological developments. Too often they must

rely on contractors for analytical and scientific support. Similarly, despite the availability of on-line courses, as well as the curriculum of the Defense Acquisition University, too many program managers appear to be deficient when it comes to supervising the progress of programs. Once more it is contractors who must come to the rescue, providing support to program management offices and occasionally overstepping the line between non-governmental and inherently governmental activities. Finally, too many contracting officers carry out their tasks in less than optimal ways. On the one hand, when deciding competitions, many will opt for lowest bidders, overlooking the risk that invariably one gets what one pays for. On the other hand, contracting officers all too often are insufficiently rigorous when approving options on contracts, and when granting award fees--in the latter case, even when contractor performance was clearly sub-par.

What the Defense Department needs is a rigorously enforced carefully structured continuing education and re-certification policy and process for its civilians, one that mirrors the professional military education that is mandatory for promotion in the military. For example, to reach the rank of field-grade officer, one must attend Command and Staff College. To achieve flag rank, it is necessary to complete a year at one of the War Colleges or their equivalent. Yet not all senior acquisition officers must meet the same level of requirements. Courses at the Defense Acquisition University are not all year-long, many involve distance learning. Prerequisites are not terribly demanding: relatively few years of experience are required, in addition to a bachelor's degree, regardless of the applicant's class rank.

Moreover, the DAU is geared to the training of acquisition managers. It does not afford them the ability to become current with the latest technological developments. Finally, managers can fulfill requirements for certification as acquisition officers by taking on-line courses, which are simply not the same thing as face-to face instruction, even if one can interact with the instructor on-line.

It is true that Defense civilians are generally encouraged to earn higher degrees. The Department affords a small number of civilian acquisition officers to spend a semester or even a year at one of the country's major business schools. Unfortunately, acquisition managers are reluctant to lose their best personnel for six months or longer. Moreover, when these people return to their offices, they often cannot return to their previous positions, which of necessity have already been filled by someone else. Their managers are often at a loss as to where to place them, and for that reason do not always make the most of the education that these officials have just received. In effect, those who go off to university discover that they have jobs, not careers; the entire process ultimately can be counter-productive. As a result, both they, the Department of Defense, and ultimately, American taxpayers, are seriously short-changed.

This situation is in marked contrast to the military, who have detailers, in essence career planners, with whom they work throughout their careers, at least until they reach the twenty-year mark. Moreover, these careers tend to be shaped by templates that, while adjusted for each individual case, provide guidelines that ensure rigorous professional development. Incidentally, it is not only the military whom the government treats as pursuing careers, not merely holding down jobs. The Foreign

Service, the Coast Guard, the FBI and the Public Health Service likewise view their personnel as pursuing careers.

The same and even greater challenges that render it difficult for defense civilians to absent themselves from their offices while pursuing educational opportunities confront those who might otherwise be ready and willing to spend a year on an exchange program with industry. DOD does have a special program, the Secretary of Defense Fellows, which provides individuals with the opportunity to spend a year inside major businesses. This program is exceedingly valuable, because it affords the Fellows the opportunity not only to interface with senior corporate executives and understand their approach to doing business, including business with DOD, but it also affords them the chance to familiarize themselves with successful management techniques and often developmental technologies as well. Unfortunately, there are only some twenty SecDef Fellows, and virtually all are uniformed officers; civilians do not really benefit from this program.

I should add that there are also too many anecdotes of government officials who seek educational opportunities as a stepping stone to obtaining positions in industry and other fields outside government. Clearly the Department is wasting its money on these people, while depriving more dedicated officials with the opportunity to advance themselves.

Department of Defense officials face other hurdles as well. It is often difficult to require particular levels of education from prospective candidates for technical positions because doing so violates OPM policies. While some offices will indicate in

their job vacancy announcements that a given level of post-graduate education is "preferable," there is no ensuring that the most qualified candidate will get the position in question, particularly if the official making the final selection seeks to fill that position with a favored employee, who may not have the same technical skills.

I am dealing at length with personnel matters because my many years of government service, as well my even lengthier time in industry have convinced me that human resources are the key to progress in reforming acquisition as indeed, in virtually all other endeavors. The Department needs to increase its focus on the career development of its acquisition personnel, beginning with its recognition those in the acquisition corps are pursuing careers, and not merely holding down jobs. To the extent it does so, it tends to focus on personnel involved in weapons system related activities. On the other hand, those officials who deal with services contracting, which, as noted, represents more than half of all DOD acquisition, tend to have even less career support; as the Commission on Wartime Contracting pointed out,

agencies act though nuanced skills, tradecraft, and professional experience are not needed for services contracting...They have not...emphasized the importance of services contracting by providing focused training, education and on-the-job opportunities that would prepare contracting officers for the complex and large-scale services contracts they will encounter during a contingency

or, for that matter, it might be added, for peacetime contracting as well.

Doing so will involve the expenditure of precious resources, but I am convinced that every dollar spent on the training and development of civilian acquisition professionals will yield a significant return on investment. Moreover, as a former DOD Comptroller, I can assure you that the funds, which do not involve large sums,

can be found even today, even with the budget levels that are so constraining the work of the Department.

To begin with, OPM must grant DOD far more flexibility in hiring and developing top notch acquisition officials. Senior DOD managers should be permitted to authorize educational requirements for those seeking positions in the acquisition corps. If OPM is to any extent restricted by legislative authority, then that authority should be revised to lift any such restrictions.

OPM also needs to revise its definitions of career fields. Many of these definitions are vestiges of an earlier era. Career fields should include those for program managers in acquisition, a variety of financial management positions, as well as of contract management positions. Career definitions should recognize, and emphasize, that all aspects of acquisition involve careers, not jobs.

OPM should also mandate that promotions to senior acquisition positions should require levels of continuing education equivalent to those demanded of military officers: no one should be permitted to advance to a GS-14 position, the equivalent of a field grade officer, without at least six months of technical and/or managerial higher education. No one should be able to advance to the Senior Executive Service without a year at a major university or business school or in service in a major corporation that either supports, or could support, the defense industrial base. It would of course, be preferable that at some stage of an official's government career, he or she spent some time in industry prior to achieving an SES position. This would be the equivalent of the Goldwater-Nichols requirement that an officer needed Joint service

experience in order to qualify for flag rank. That requirement not only fundamentally enhanced the capability of the Joint Staff in particular, it also broadened the horizons of those in the military who pursued the joint route. That is exactly what is needed for the civilian acquisition corps as well.

In this regard, DOD should create an equivalent to the SecDef Fellows program that is fivefold larger than that program, in other words, that accommodates one hundred civilian fellows annually. And defense industry, as well as related high-tech industries, should be pressed to take in these fellows; it is as important for industry to understand the defense civilians as for civilians to understand industry.

Managers must also encourage their staffs to avail themselves of the many training opportunities that the government offers them. Some managers do so, but surely this is the responsibility of all managers. Moreover, managers should reward their staffs for capitalizing on the training opportunities offered them. The focus should be on constant self-improvement and career enhancement. Efficiency and cost savings will follow.

The Department must also expand the opportunities for young post-graduates to enter the acquisition corps, even during periods of hiring freezes, such as the one that is in force today. Funds should be made available to expand internship programs in the acquisition domain, which exist and are effective, but are far too limited. For example, though the Navy's civilian turnover rate is about 2500, only 300 of those slots are filled--by young people hired as interns. That number should at least be doubled. And the same principle applies to the other Services. Recent post-graduates

are conversant with state-of-the art technology. They replace civil servants who often have not taken a single course in engineering or physics or chemistry during the many decades of their government service. Moore's Law has overwhelmed them, and they are forced to rely far too heavily on contractors for what is termed SETA—scientific, engineering and technical assistance.

None of the foregoing should imply that the Department should not cut back on the size of its civilian work force, much less its services contractor force. As has been widely reported, the civilian workforce has grown significantly since 2001; the Defense Business Board and other organizations have recommended that the civilian work force be reduced by as much as 100,000 personnel. But that reduction should avoid targeting key acquisition personnel, including contracting personnel; doing so would be penny-wise and pound foolish, and maybe not even penny-wise.

With respect to contractor personnel, the Department faces the challenge of determining just how many services contracting individuals provide support such as SETA support. Many if not most services contracts focus on the service desired rather than on the number of personnel providing the service in question. Yet many of these personnel are former DOD military or civilians who return to their old jobs and merely exchange a DOD badge for a contractor badge. Secretary Gates launched an effort to cut back on the number of these individuals and the contracts that provide for them. He was very much on target and his efforts must be reinforced at every level of DOD operations.

Though I have focused primarily on civilians, civil servants in particular, but also contractors, it is important to note some needed enhancements to the capabilities the military component of the acquisition corps. Too often service in that corps is not sufficiently a factor in the promotion of military officers. The reverse should be the case: those officers seeking to pursue careers in any aspect of acquisition should be encouraged to do so, and rewarded for success.

In addition, as many studies have previously argued, military program managers should serve in their positions for a minimum of five years. Some already do so, and the director of the Navy's nuclear reactor program, not only serves for ten years but is a four star admiral. It should come as no surprise that the reactor program has historically been one of the best managed in DOD. Longevity and expertise do make a difference.

What to do about Process

Bureaucracies invariably focus on process, which often involves meetings rather than action, collective rather than individual decisions, and a staggering lack of accountability. As noted above, every new senior official brings with him or her "solutions" to the acquisition challenge, unusually accompanied by new terminologies and new processes, but yielding few substantive results. The Department of Defense culture is one that focuses on process rather than substance, on past practice rather than on future opportunities, on collective decision-making rather than on individual accountability.

The 1986 Packard Commission report asserted that “the truly costly problems are those of rigid organization and overcomplicated procedure.” Not very much has changed in the nearly three decades since those words were written. What often changes, in fact, are the names of committees and officials that oversee acquisition. The Defense Acquisition Board previously was named the Defense Systems Acquisition Review Committee (or DSARC). The committee has long been co-chaired by the Department’s leading acquisition official, variously called the Under Secretary for Research and Engineering, the Under Secretary for Acquisition, the Under Secretary for Acquisition, Technology and Logistics. It is only the nomenclature that is different.

In contrast to the constant tinkering with process, the substantive challenge begins with requirements definition. The Joint Staff has for some time waged a valiant effort to force clear definition of requirements. Admiral Winnefeld, the current Vice Chairman, has emphasized that requirements must not only be defined, but upheld in the course of the development and production process. He is absolutely correct, and his objective must be enforced at every level of program management. Moreover, program managers and their deputies, whether military or civilian, should be held accountable for deviations from meeting those requirements. Transfers to other positions are not enough. Offenders should be disciplined and their careers clearly jeopardized.

In the same vein, program managers should be held accountable for approving engineering change proposals or ECPs. These ECPs are probably the most significant cause of cost growth. They cause production delays. They undermine uniformity of

production runs. They should only be approved by the highest supervisory levels and then only sparingly.

The requirements process should also be open both to commercial systems as well as foreign military systems to a far greater extent than is currently the case. The notion of "not invented here" should never have been tolerated. Today, when the commercial sector leads DOD in many advanced technologies, and is as concerned about security as is the government, there should be an accelerated emphasis on off the shelf systems. The Secretary of Defense should mandate that acquisition managers justify in writing their decision not to acquire off-the-shelf systems and that these justifications be undersigned by an official in his office.

Just as DOD no longer has the monopoly on cutting-edge technology, so too does it no longer lead foreign nations in all aspects of weapons system development. From the acquisition of remotely piloted vehicles (as unmanned aerial vehicles were then called) in the 1980s, to the accelerated development of the MRAP to counter IEDs during the Iraq and Afghan wars, the Department has occasionally recognized that other states might have systems that were more effective than those developed in America. That is increasingly the case today, and should not be undermined by excessive emphasis on specialized requirements that effectively block any foreign purchases. Secretary Gates was virtually the "action officer" in ensuring the production and acquisition of MRAP. That cannot possibly be the case with respect to any weapons system, but clearly, the impetus for obviating the "not invented here" syndrome must come from the very top of the Department.

Concurrent Development

One of the major factors undermining adherence to both cost and schedule is the proclivity of the DOD for concurrent development and/or testing. There have been intermittent efforts to curb this practice—"spiral development"—was one such attempt to do so, but as the current troubles of the F-35 make clear, concurrency (in the case of the F-35, it is concurrent production and testing) continues to plague the acquisition system.

Program managers invariably turn to concurrency in order to speed up delivery of a weapons system. Equally invariably, concurrency results in major cost overruns, schedule delays, insertion of additional tests, and reductions in production runs. The DOD should simply ban concurrency, except under the most extraordinary circumstances, when it should be approved by the Deputy Secretary of Defense.

Reforming the Defense Contracts Management Agency

The Defense Contracts Management Agency is charged with administering the Department's contracts. Yet it is widely acknowledged that defense contract management leaves much to be desired. Acquisition officers are disincentivized from saving money on programs because the Pentagon culture tends to reward those who manage to increase their budgets from year to year, and, even more important, penalizes those who do not spend the entirety of the budgets allocated to them. As a result, contract managers have developed a "use it or lose it" mentality.

This attitude can only be reversed through a complete overhaul of the measurement and reward system that governs the advancement of contract managers. Cost containment should be a major criterion for promotion. Currently, it is not a factor at all. Unauthorized ECPs are not penalized in performance evaluations; they should be. These reforms must be initiated by DCMA, mandated at the Secretary of Defense level and then implemented throughout the Department. Contract management ultimately is DCMA's responsibility; its staff should be given credit for contracts that have successfully been fulfilled, but held accountable for those that have suffered overruns, delays, or any other problems.

Acquisition Rules Must Be Simplified and the Contracting System Reformed

Bureaucracy is enamoured with rule-making, and defense acquisition is rife with rules. There are literally thousands of pages of acquisition rules: the Defense supplement to the Federal Acquisition Regulations (known as the DFAR) only adds to the complexity that the government imposes on the system. Rules are rarely simplified; they increase in number and complexity with the passage of time.

The system's complexity scares away many firms that could potentially offer DOD important products. On the other hand, companies that know how to navigate the system can win contracts even though their products might not be the most effective for carrying out the Department's mission.

Beyond the rules themselves, the contracting officers who apply them need to be better trained for their jobs. All too often, contracting officers award contracts to the lowest bidder, regardless of the quality of the product or service being offered. They do so in order to avoid the headache of bid protests: choosing a contractor on the basis of best value tends to be far more difficult to justify objectively, and, given the cottage industry that has grown up around the practice of bid protests, the attraction of going with the lowest bidder—even if the bid is “low balled” and likely to be revised, especially if ECPs are issued—is hard to resist. In order to curb the current proclivity for awarding low bids, DOD not only needs to focus on educating and training contracting officers, but also should disincentivize them from awarding contracts with little regard for best value. One way to do so would be to penalize officers who award a contract to the lowest bidder only to have the price revised upward within twelve months of contract award.

Lastly, experience demonstrates that weapons are most efficiently procured in multi-year tranches—and the Congress should be more supportive of DOD requests for funding multi-year programs. On the other hand, multi-year services contracts, or contracts with multiple option years and/or award fees, tend to result in payment for poor performance. Congress should legislate that unless certified by the Secretary of Defense, no services contract should have more than two option years; moreover, justification for award fees should be in written form, to avoid the automatic award of these fees regardless of performance.

In Conclusion

There is much that can be done to reform the acquisition system. The solutions to the problems that plague that system are not new. What is needed is consistent leadership on the part of DOD officials, and consistent support from the Congress, with legislation as required.

The acquisition morass is not a partisan issue. Democrats and Republicans have both tried to improve the system; and both Democrats and Republicans have failed to do so in any material fashion. The system can, in fact, only be reformed if the Secretary of Defense not only makes it a priority objective both personally and for the Department, but if his successors also retain that priority and make it their own. Similarly, the Congress must approach the acquisition challenge on a bipartisan basis; both within its own deliberations, and in support of the Secretary of Defense regardless of the Secretary's party affiliation. Only in that manner will reform really take place, both to the betterment of our military capability and to the Nation's security in the years to come.

Honorable Dov S. Zakheim

Dov S. Zakheim is Senior Advisor at the Center for Strategic and International Studies and Senior Fellow at the CNA Corporation, a federally funded think tank. Previously he was Senior Vice President of Booz Allen Hamilton where he led the Firm's support of U.S. Combatant Commanders worldwide.

From 2001 to April 2004 he was Under Secretary of Defense (Comptroller) and Chief Financial Officer for the Department of Defense, serving as principal advisor to the Secretary of Defense on financial and budgetary matters, leading over 50,000 staff, developing and managing the world's largest budgets, and negotiating five major defense agreements with US allies and partners. From 2002-2004 Dr. Zakheim was DOD's coordinator of civilian programs in Afghanistan. He also helped organize the 2003 New York (UN) and Madrid Donors conferences for Iraq reconstruction.

From 1987 to 2001 he was both corporate vice president of System Planning Corporation, a technology and analysis firm based in Arlington, Va. and chief executive officer of its subsidiary, SPC International Corp. During the 2000 presidential campaign, he served as a senior foreign policy advisor to then-Governor Bush.

From 1985 until March 1987, Dr. Zakheim was Deputy Under Secretary of Defense for Planning and Resources in the Office of the Under Secretary of Defense (Policy), playing an active role in the Department's system acquisition, strategic planning, programming and budget processes. Dr. Zakheim held several other DOD posts from 1981 to 1985. Earlier, he was a principal analyst in the National Security and International Affairs Division of the Congressional Budget Office.

Dr. Zakheim has served on numerous government, corporate, non-profit and charitable boards. He is Vice Chairman of the Foreign Policy Research Institute's Board of Trustees, and of the Board of Directors of the Center for The National Interest.

Dr. Zakheim's membership of government boards and panels includes the United States Commission for the Preservation of America's Heritage Abroad (1991-93); the Task Force on Defense Reform (1997); the Board of Visitors of the Department of Defense Overseas Regional Schools (1998-2001); Defense Science Board task forces on "The Impact of DOD Acquisition Policies on the Health of the Defense Industry" (2000) and "Urgent Operational Needs" (2009); the Secretary of the Navy's Advisory Board (2008-2010); and the National Intelligence Council's International Business Practices Advisory Panel, which he chaired (2008-2011). He was appointed by President Bush to the Commission on Wartime Contracting in Iraq and Afghanistan, which completed its work in September 2011. He is currently a member of the Congressionally-mandated Military Retirement and Compensation Modernization Commission and of the Board of Control of the United States Naval Academy Athletic Association.

Dr. Zakheim is a member of the Chief of Naval Operations Executive Panel; the Council on Foreign Relations; the Royal Institute of International Affairs, and the International Institute for Strategic Studies. He is a Senior Fellow of the Defense Business Board, on which he served from 2004-2010, and which he helped establish.

A 1970 Phi Beta Kappa graduate of Columbia University with a B.A., summa cum laude, Dr. Zakheim also studied at the London School of Economics. He holds a doctorate in economics and politics at St. Antony's College, University of Oxford, where he held three graduate and post-graduate fellowships. Dr. Zakheim was an adjunct Senior Fellow of the Council on Foreign Relations and an adjunct Scholar of the Heritage Foundation. He has been an adjunct professor at the National War College, Yeshiva University, Columbia University, Georgetown University and Trinity College, Hartford, Conn., where he was Presidential Scholar. He was elected a Fellow of the Royal Swedish Academy of War Sciences in 2011.

Dr. Zakheim lectures and regularly provides print, radio and television commentary on national security policy issues domestically and internationally. He blogs on *Foreign Policy/Shadow Government* and *The National Interest*. The author of over a dozen books and monographs, his most recent book is *A Vulcan's Tale: How the Bush Administration Mismanaged the Reconstruction of Afghanistan* (2011).

Dr. Zakheim is the recipient of numerous awards for his government, professional and civic work, including the Defense Department's highest civilian award in 1986, 1987 and 2004.

**DISCLOSURE FORM FOR WITNESSES
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INSTRUCTION TO WITNESSES: Rule 11, clause 2(g)(5), of the Rules of the U.S. House of Representatives for the 113th Congress requires nongovernmental witnesses appearing before House committees to include in their written statements a curriculum vitae and a disclosure of the amount and source of any federal contracts or grants (including subcontracts and subgrants) received during the current and two previous fiscal years either by the witness or by an entity represented by the witness. This form is intended to assist witnesses appearing before the House Committee on Armed Services in complying with the House rule. Please note that a copy of these statements, with appropriate redactions to protect the witness's personal privacy (including home address and phone number) will be made publicly available in electronic form not later than one day after the witness's appearance before the committee.

Witness name: HON. DON S. ZAKHEIM

Capacity in which appearing: (check one)

Individual

Representative

If appearing in a representative capacity, name of the company, association or other entity being represented:

FISCAL YEAR 2013

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
N/A			

FISCAL YEAR 2012

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
N/A			

FISCAL YEAR 2011

Federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
N/A			

Federal Contract Information: If you or the entity you represent before the Committee on Armed Services has contracts (including subcontracts) with the federal government, please provide the following information:

Number of contracts (including subcontracts) with the federal government:

Current fiscal year (2013): _____;
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Federal agencies with which federal contracts are held:

Current fiscal year (2013): _____;
 Fiscal year 2012: N/A _____;
 Fiscal year 2011: _____.

List of subjects of federal contract(s) (for example, ship construction, aircraft parts manufacturing, software design, force structure consultant, architecture & engineering services, etc.):

Current fiscal year (2013): _____;
 Fiscal year 2012: N/A _____;
 Fiscal year 2011: _____.

Aggregate dollar value of federal contracts held:

Current fiscal year (2013): _____;
 Fiscal year 2012: N/A _____;
 Fiscal year 2011: _____.

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List of subjects of federal grants(s) (for example, materials research, sociological study, software design, etc.):

Current fiscal year (2013): _____;
Fiscal year 2012: N/A _____;
Fiscal year 2011: _____.

Aggregate dollar value of federal grants held:

Current fiscal year (2013): N/A _____;
Fiscal year 2012: _____;
Fiscal year 2011: _____.

**Twenty-five Years of Acquisition Reform:
Where Do We Go From Here?**

Statement of Pierre A. Chao

Before the

Committee on Armed Services, House of Representatives

October 29, 2013

Chairman McKeon, Ranking Member Smith, distinguished members of the Committee, thank you for the honor and privilege of appearing before you today to discuss the very important topic of improving the defense acquisition enterprise.

I am before the Committee today as an individual, not representing any particular institution. However, I have been a student of and lived with the defense acquisition system for over 25 years. As a policy analyst and a participant in the acquisition reform efforts of the last two decades, I have been affiliated with the Center for Strategic and International Studies as both the Director of the Defense Industrial Initiatives Group from 2002-2007 and currently as a Senior Associate (Non-Resident). I am also a guest lecturer at the Defense Acquisition University and the Industrial College of the Armed Forces, and have participated in dozens of acquisition reform studies and commissions. As a business person, I spent over a decade on Wall Street as an equity analyst and investment banker during a period that spanned the last downturn in defense spending, have run my own strategy consultancy firm and most recently a firm that invests in/supports small businesses in the aerospace/defense/government services sector. I therefore approach the problem from both an academic and very pragmatic business viewpoint.

The topic of acquisition reform is an excellent one for the Committee to be addressing, particularly as we head into a period of slowing defense spending. As defense budget dollars become more precious, there will still be a need for additional capabilities and the

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development of new technologies. Therefore, having an efficient acquisition system will be strategically critical to the Department of Defense over the next decade. Bringing a considered and thoughtful approach to the problem will be important; and difficult given that this is a topic fraught with hyperbole, mythology, and the confusion of symptoms for root causes.

I would like to raise five key observations as you consider the last 25 years of acquisition reform and look forward to what should be done.

- 1) First, there has been a very useful evolution in the nature of the acquisition reform debate over the last seven years. It is eye-opening and instructive to read the Congressional record of the acquisition reform commissions that followed the Revolutionary War, Civil War and other conflicts. The acts of outright fraud and corruption are abundant and one can see why the focus of reform for most of our history has been broadly focused on the issue of fraud, waste and abuse. In the 1980s, 1990s and 2000s, the debate then evolved to looking at bringing efficiencies to the processes and functioning of the acquisition system.

During the last decade the discussion has shifted from trying to reform just the acquisition/procurement process. There has been the recognition that the acquisition process is part of a broader system that includes the requirements, budgeting and acquisition processes, referred to as the "big A" acquisition system (the Defense Acquisition Performance Assessment project of 2005 and CSIS's Beyond Goldwater-Nichols project are two studies that discussed this issue). This has led to a focus on improving the requirements process, as well as the interaction between the components of the "big A" acquisition system. GAO analysis and Defense Acquisition University studies indicate that 85% of the lifecycle cost of a weapon system is determined by the time the requirements are set. A perfectly performing acquisition system that efficiently delivers unneeded items or poorly conceived items or inherently expensively designed items, will still produce bad outcomes and be viewed as a failure. Continued focus on the requirements system, the professionalism involved, discipline used and how it interfaces with the acquisition system should be a very fruitful area for future reform efforts.

- 2) Second, the Department of Defense's acquisition system is a large and complex enterprise, whose governing laws, regulations, rules and procedures have evolved and slowly accreted since the founding of the Republic. I believe an analysis of the system would reveal that most of these laws and regulations were based on real problems/issues that required a solution or response, but that over time the problems

evolved, solutions to other problems create conflicts with older rules and there has been a tendency to add rules but not take them away. This is why periodic reviews of the system aimed at reviewing the laws and regulations, such as the Section 800 Panel of 1993 or the rewrites of the DoD Instruction 5000 are so useful. As an aside, putting a sunset clause on all new laws or rules to force a periodic reexamination would be an interesting best practice to consider. It would be my observation that many of the problems of the acquisition system are the result of unintended consequences of a very byzantine and, at times, outright contradictory set of laws and regulations, rather than problems of outright malice or malfeasance - despite what some breathless headlines would have you believe.

- 3) Third, one size does not fit all when it comes to the acquisition process. The Department of Defense buys an extremely wide range of technologies, products and services; it touches virtually every segment of the economy. The appropriate processes for the purchasing of commodities will differ from those required to acquire emerging innovative technologies such as cyber capabilities, let alone the procurement of more mature and asset intensive systems such as heavy space launch vehicles, heavy armored vehicles or naval vessels. There has also been recognition that the purchasing of services by the Department of Defense has become significant and has different characteristics than the development of weapon systems/procurement of hardware.

Similarly, the rapid acquisition systems required for war time environments or rapidly changing technologies may not be appropriate for the development of very long cycle, complex weapon systems. In fact, acquisition reform efforts aimed at the traditional, long cycle acquisition processes, if improperly applied to the rapid acquisition systems could fundamentally break them. And vice versa. One of the characteristics of the modern era is that the Pentagon is faced with operating in both modes, the rapid wartime system and the long cycle development system, simultaneously. It begs the question as to whether well defined, different "tracks" in the acquisition system are required - each with their own rules and processes. The creation of DARPA, with its own set of acquisition rules and culture, was the recognition in a prior era that a different "track" was required to develop cutting edge technologies for example.

Overly broad laws and regulations that are applied across the entire span of activity of defense acquisition are likely to cause as many problems as they solve. Defense acquisition is varied, nuanced and, I would submit, rarely amenable to simple rules; it is

an endeavor that requires judgment and that judgment cannot be legislated or imposed by regulation.

- 4) Fourth, cost overruns, missed deadlines and failed programs are symptoms, not root causes. Unless the root causes are addressed, no amount additional oversight, extra regulation, rearranging of organization boxes, creation of new offices or changes to processes will help. In fact they will likely (and have), make things worse. I believe this is why after decades of acquisition reform, the statistics show the same persistent cost overrun percentages and lengthening development timelines.

There are four root cause factors to consider:

- a) The U.S. military has relied on having technological and industrial superiority as part of its core strategic advantage on the battlefield for almost a century. The acquisition system is asked to push the limits of technology and do very difficult things – go faster than the speed of sound, make an invisible airplane, build a missile that can precisely hit a target half way around the world. Pushing the limits of technology is expensive, is fraught with risk and setbacks, and can rarely be predicted with precision. Some of the cost overruns and delays are simply inherent to what we ask the acquisition system to undertake. As long as technological superiority is a key goal it will be impossible to reduce the overruns to zero. It does not mean we should tolerate poor performance and not try to improve the efficiency of the system; it simply says eliminating all cost overruns is incompatible with our strategic goals and potentially counterproductive.
- b) There are fundamental and structural disconnects in the time frames used by the different actors in the acquisition system. Decade long projects are funded annually, are being executed by project managers who change every few years, with oversight applied by members of Congress who have to think in two and six year cycles, and built by companies who need to meet quarterly financial performance metrics. Because the time frames of the actors are driven by other considerations, these disconnects are likely structural. This structural churn creates friction (and cost) to the system. That being said, reducing the gaps is a worthwhile goal for future reform efforts – ideas suggested by prior acquisition reform studies include extending the tenure of program managers to better match the milestones of long projects. I would also suggest looking at matching the funding cycles for programs to match the type of technology/service being acquired. So, long cycle projects get multi-year appropriations/budgets, while others have annual appropriations. This

simple, but culturally difficult issue, could result in billions of dollars of savings by providing greater visibility and stability to programs.

- c) The economic/profit incentives culturally embedded in the system creates adverse results. Culturally we have evolved to a point where the system would rather pay \$1 billion and 5% profit for a defense good, than \$500 million and 20% profit. Even though in that example the taxpayer would save over \$400 million, the focus would be on why 20% of profit was paid. I exaggerate for effect, however, there are deep roots to this cultural issue – notions of profiteering that go back the First World War, and differences in perceptions of risk and value add. As long as this phenomenon of favoring “cost plus” persists, there will a disincentive to reduce costs and use the normal economic/profit motivator used by the commercial world to drive for efficiency in order to maximize profit.
- d) Finally, there is a structural incentive for the entire system to be optimistic. Put more bluntly, the system is incentivized to lie to itself. A contractor is incentivized to be optimistic about the costs of a new weapon system because it wants to win the competition; the Pentagon is incentivized to believe the low (potentially unrealistic) bid because it wants to launch the program; and the Congress is incentivized to believe the proposed (and potentially unrealistic) program budget because it wants to see a program launches and jobs created. Compounded over multiple programs and the system ends up with the “ten pounds of programs in an eight pound bag” problem. I would submit that a portion of the cost overruns is simply the revelation of the self-lie that was embedded in the program at launch.

Furthermore, there are rarely consequences for being wrong. In fact, mis-budgeted programs/accounts or overrun programs are often given more money to solve the problem, while the poor program manager who actually delivers under budget and early has money taken away from them. There has been some thought given to this issue in recent acquisition reform efforts – budgeting to the 80% probability line (vs 50%) for example. I also believe creating incentives for good performance are ideas to consider – if your program performs the budgets are preserved/untouched for example, or better share lines/profit for industry for coming under budget or early.

Although these are difficult issues to address and many are structural, I would submit looking at these core topics and seeing where the unintended consequences could be offset or narrowed would be fruitful areas for potential study.

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- 5) Fifth and finally, in many of the acquisition reform studies (until recently) the topic of incentives rarely comes up. I believe this is another reason why the problems persist despite the decades of acquisition reform attempts – the development new processes, organizations and regulations. Unless the proper incentives are put into place in order to cause behavior to change, we should not expect different results. It is a simple premise but one that is often overlooked, people respond to the incentives put before them. If there was one area for significant more thought and effort by a future acquisition reform effort, I would submit the topic of incentives in the system is key.

Mr. Chairman, Mr. Smith, members of the Committee, thank you for the opportunity to share some thoughts. I look forward to your questions and the dialogue.

Pierre A. Chao



Mr. Chao has spent 27 years in the aerospace/defense industry as a strategist, investment banker, equity analyst, policy analyst and investor.

He is the co-founder of Enlightenment Capital and, prior to that, in 2008 of Renaissance Strategic Advisors. From 2003-2007, Mr. Chao was the Director of Defense-Industrial Initiatives at the Center for Strategic and International Studies (CSIS), a Washington D.C.-based, non-partisan defense and foreign policy think tank; where he still remains as a Senior Associate.

Before joining CSIS in 2003, Mr. Chao was a Managing Director and senior aerospace/defense analyst at Credit Suisse First Boston from 1999-2003, where he was responsible for following the U.S. and global aerospace/defense industry. He remained a CSFB independent senior adviser from 2003-2006. Prior to joining CSFB, Pierre was the senior aerospace/defense analyst at Morgan Stanley Dean Witter from 1995-1999. He served as the senior aerospace/defense industry analyst at Smith Barney during 1994 and as a director at JSA International, a Boston/Paris-based management consulting firm that focused on the aerospace/defense industry (1986-88, 1990-93). Mr. Chao was also a co-founder of JSA Research, an equity research boutique specializing in the aerospace/defense industry. Before signing on with JSA, he worked in the New York and London offices of Prudential-Bache Capital Funding as a mergers and acquisitions banker focusing on aerospace/defense (1988-90).

Over the course of his Wall Street career, Mr. Chao's team was ranked #1 by Institutional Investor every year eligible and he was on the Institutional Investor All-America Research Team every year eligible. He participated in 31 landmark aerospace/defense equity offerings/IPOs raising \$11.7 billion and dozens of buy-side and sell-side M&A assignments.

He is also a guest lecturer at the National Defense University and the Defense Acquisition University, and he has served on multiple Defense Science Board/Defense Business Board task forces. He is a member of the board of directors of KeyW Corporation (Nasdaq:KEYW) and Channel Technologies; and he is a member of the board of directors of the Truman National Security Project.

**DISCLOSURE FORM FOR WITNESSES
CONCERNING FEDERAL CONTRACT AND GRANT INFORMATION**

INSTRUCTION TO WITNESSES: Rule 11, clause 2(g)(5), of the Rules of the U.S. House of Representatives for the 113th Congress requires nongovernmental witnesses appearing before House committees to include in their written statements a curriculum vitae and a disclosure of the amount and source of any federal contracts or grants (including subcontracts and subgrants) received during the current and two previous fiscal years either by the witness or by an entity represented by the witness. This form is intended to assist witnesses appearing before the House Committee on Armed Services in complying with the House rule. Please note that a copy of these statements, with appropriate redactions to protect the witness's personal privacy (including home address and phone number) will be made publicly available in electronic form not later than one day after the witness's appearance before the committee.

Witness name: Pierre A. Chao

Capacity in which appearing: (check one)

Individual

Representative

If appearing in a representative capacity, name of the company, association or other entity being represented:

FISCAL YEAR 2013

federal grant(s)/ contracts	federal agency	dollar value	subject(s) of contract or grant
None			

FISCAL YEAR 2012

federal grant(s)/ contracts	federal agency	dollar value	subject(s) of contract or grant
None			

FISCAL YEAR 2011

Federal grant(s)/ contracts	federal agency	dollar value	subject(s) of contract or grant
None			

Federal Contract Information: If you or the entity you represent before the Committee on Armed Services has contracts (including subcontracts) with the federal government, please provide the following information:

Number of contracts (including subcontracts) with the federal government:

Current fiscal year (2013): None _____;
 Fiscal year 2012: None _____;
 Fiscal year 2011: None _____.

Federal agencies with which federal contracts are held:

Current fiscal year (2013): _____;
 Fiscal year 2012: _____;
 Fiscal year 2011: _____.

List of subjects of federal contract(s) (for example, ship construction, aircraft parts manufacturing, software design, force structure consultant, architecture & engineering services, etc.):

Current fiscal year (2013): _____;
 Fiscal year 2012: _____;
 Fiscal year 2011: _____.

Aggregate dollar value of federal contracts held:

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STATEMENT NOT FOR
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Twenty-five Years of Acquisition Reform: Where Do We Go From Here?

Statement of Moshe Schwartz, Specialist in Defense Acquisition
Before the
Committee on Armed Services, House of Representatives

October 29, 2013

Congressional Research Service

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Chairman McKeon, Ranking Member Smith, distinguished members of the Committee, thank you for the opportunity to appear before you today on behalf of the Congressional Research Service to discuss efforts to improve defense acquisitions.

The Department of Defense (DOD) has always relied on contractors to equip and support our military. Contractors design, develop, and build advanced weapon systems, construct military bases around the world, and provide needed services such as intelligence analysis, logistics, and base support.

Operations over the last thirty years have highlighted the critical role that contractors play in supporting U.S. troops—both in terms of the type of work being performed and number of contractors. Over the last decade in Iraq and Afghanistan, and before that, in the Balkans, contractors accounted for 50% or more of total U.S. forces in theatre.

As the debates over the Mine Resistant Ambush Protection vehicle (MRAP) and other systems have highlighted, getting the right systems into the hands of our troops in the field quickly and efficiently can save lives and impact operations. Conversely, the ineffective execution of defense acquisitions can prevent troops from getting the resources they need, when they need it, and can lead to the wasteful spending of billions of dollars—dollars that could have been used to fund other military requirements.¹

For decades, Congress and the executive branch have expressed frustration with the level of waste, mismanagement, and corruption in defense acquisitions, and have spent significant resources seeking to reform and improve the process. Despite these efforts, many acquisition programs still experience cost overruns, schedule delays, and performance shortfalls.

As reflected by events in the Middle East, the United States must prepare for a diverse range of hard-to-predict security challenges, and do so within the context of constrained budgets. Many analysts believe that to meet these challenges, the United States can no longer afford a defense acquisition system that they see as costly, overly-complex, and slow to respond to an ever-changing world.

DOD Contract Obligations

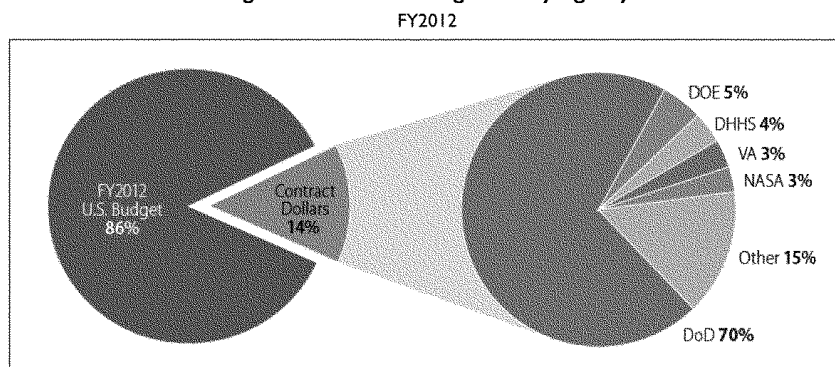
In FY2012, the U.S. government obligated \$515 billion for contracts for the acquisition of goods, services, and research and development. The \$515 billion obligated on contracts was equal to approximately 14% of the entire FY2012 U.S. budget of \$3.5 trillion (**Figure 1**).² DOD obligated \$360 billion on federal contracts, which was more than all other government agencies combined.

¹ Department of Defense, *Quadrennial Defense Review Report*, February 2010, p. 93. U.S. See also Government Accountability Office, *Stabilizing And Rebuilding Iraq: Actions Needed to Address Inadequate Accountability over U.S. Efforts and Investments*. GAO-08-568T. March 11, 2008. p. 4, 6; *Urgent Reform Required: Army Expeditionary Contracting*. Op. Cit., p. 2-3.

² Calculations are based on total contract obligations data as recorded in the Federal Procurement Data System—Next Generation, January, 2013. See also: the Budget of the United States Government for Fiscal Year 2012 (see <http://www.treasury.gov/press-center/press-releases/Pages/tg1734.aspx>).

DOD's contract obligations were equal to 10% of the entire U.S. budget. In FY2012, contract obligations represented 52% of total DOD obligations.³

Figure 1. Contract Obligations by Agency

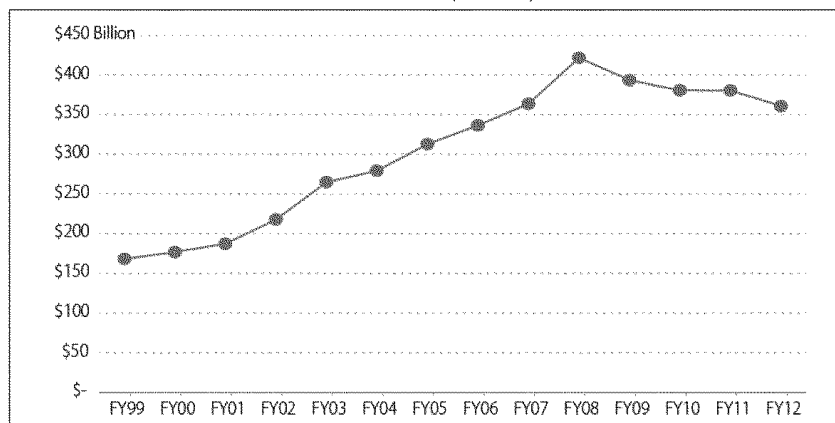


Source: Federal Procurement Data System-Next Generation, January, 2013. Figure by CRS Graphics.

From FY1999 to FY2012, adjusted for inflation (FY2012 dollars), DOD contract obligations increased from \$170 billion to \$360 billion (see **Figure 2**). Over the first part of this period—FY1999-FY2008—DOD contract obligations increased 150%, from \$170 billion to \$420 billion. This trend reversed itself in FY2008: from FY2008-FY2012, DOD contract obligations decreased by 14%, dropping from \$420 billion in FY2008 to \$360 billion in FY2012.

³ For purposes of this statement, total obligations are defined as total direct obligations. See Department of Defense, *Budget for Fiscal Year 2005-FY2012*, Financial Summary Tables. Deflators for converting into constant dollars derived from Office of the Under Secretary of Defense (Comptroller), Department of Defense, *National Defense Budget Estimates for FY2012*, "Department of Defense Deflators – TOA 'Total Non-Pay,'" Table 5-5, p. 58, March 2011.

Figure 2. DOD Contract Obligations (FY2012 dollars)
FY1999-FY2012 (in billions)



Source: CRS analysis of data from the Federal Procurement Data System—Next Generation, January, 2013.

The Quest for Acquisition Reform

Congress and the executive branch have long been frustrated with waste, mismanagement, and fraud in defense acquisitions, and they have spent significant resources seeking to reform and improve the process. In the early 1980s, a number of major weapons systems programs were experiencing dramatic cost overruns, overruns that increased the defense budget by billions of dollars but resulted in the same number, or in some cases fewer, weapons. These programs included the Patriot missile system (37% cost growth over original estimates), the Hellfire missile (48% growth), the Blackhawk helicopter (24% growth), and the F-18 (21% growth). According to the December 1980 Selected Acquisition Report, there was a \$47 billion cost increase for 47 major weapon systems in just the last three months of 1980.

Public and congressional concern over cost growth led to several reform efforts. In 1982, Congress passed the Nunn-McCurdy Act, which created a reporting requirement for programs experiencing cost overruns.⁴ In 1985, President Reagan established the *President's Blue Ribbon Commission on Defense Management*, which issued a final report (known as the Packard Commission Report) that contained far-reaching recommendations "intended to assist the Executive and Legislative Branches as well as industry in implementing a broad range of needed reforms." Many of DOD's current initiatives to improve acquisitions can be traced back to the ideas and recommendations in the Packard Report.

Efforts to address cost overruns, schedule slips, and performance shortfalls have continued unabated, with more than 150 major studies on acquisition reform since World War II. Every administration and virtually every Secretary of Defense has embarked on an acquisition reform

⁴ The Act was included in the Department of Defense Authorization Act, 1983 (P.L. 97-86)

effort.⁵ Congress has also been active in pursuing reform efforts, by legislating changes through the annual National Defense Authorization Acts as well as through stand-alone legislation, such as the Federal Acquisition Streamlining Act of 1994,⁶ Clinger-Cohen Act of 1996,⁷ and Weapon System Acquisition Reform Act of 2009.⁸

The various studies and reform efforts have dramatically altered the process by which DOD procures goods and services. Major changes include

- creating the Federal Acquisition Regulation to develop uniform acquisition regulations across DOD and the federal government,
- establishing the Defense Acquisition University to improve the performance of the acquisition workforce,
- instituting a streamlined management chain (Program Manager-Program Executive Office-Service Acquisition Executive-Under Secretary of Defense) to foster accountability and authority,
- implementing a milestone decision process to improve oversight,
- using multi-year procurement to promote cost efficiency (with Congressional approval),
- requiring independent cost estimates to improve budgeting forecasting,⁹
- establishing a joint requirements board to improve requirements development and eliminate duplicative programs, and
- moving away from military standards and specification to promote the use of commercial technologies.

⁵ Robert F. Hale, *Promoting Efficiency in the Department of Defense: Keep Trying, Be Realistic*, Center for Strategic and Budgetary Assessments, January 2002, p. 7.

⁶ P.L. 103-355.

⁷ P.L. 104-106.

⁸ P.L. 111-23.

⁹ The Cost Analysis and Improvement Group was established in 1972 to develop independent cost estimates. Today, independent cost estimates are generated by the Office of the Director of Cost Assessment and Program Evaluation.

Cost, Schedule, and Performance Problems Still Persist¹⁰

There is much debate over how effective the numerous acquisition reform efforts have been and it is not clear whether the reform efforts of recent decades have generally accomplished their aims. According to many analysts, since the 1970s and 1980s, acquisition programs continue to experience significant cost increases.¹¹ As one RAND report stated, “despite the many acquisition reforms and other DoD management initiatives over the years, the development cost growth of military systems has not been reduced.”¹² Consider the following:

- Since 1993, development contracts have had a median of 32% cost growth (not adjusted for inflation).¹³
- Since 1997, 31% of all Major Defense Acquisition Programs have had cost growth of at least 15%.¹⁴
- During the period 1990-2010, the Army terminated 22 Major Defense Acquisition Programs; every year between 1996 and 2010, the Army spent more than \$1 billion on programs that were ultimately cancelled.¹⁵
- Aircraft development times have increased significantly since 1980.¹⁶

¹⁰ Cost, schedule, and performance are the benchmarks most commonly used to evaluate the acquisition system. It is important to note, however, that as paradoxical as it may seem, avoiding or minimizing procurement cost growth is not always synonymous with minimizing procurement cost, and that a sustained, singular focus on avoiding or minimizing procurement cost growth might sometimes lead to higher procurement costs for the government (See Statement of Ronald O'Rourke, Congressional Research Service, Before the House Armed Services Committee, Subcommittee on Seapower and Projection Forces, *On the Navy's FY2014 30-Year Shipbuilding Plan*, October 23, 2013). In addition to cost growth discussed in this report, DOD acquisition has experienced increasing total costs for weapon systems, driven in part by additions to weapon systems of technologies that provide marginal increases in capabilities relative to their cost. The process of gaining marginal operational benefit for substantial cost is often referred to as gold-plating requirements. Former Secretary of Defense Robert Gates argued that DOD needed to “shift away from the 99-percent exquisite service-centric platforms that are so costly and so complex that they take forever to build, and only then in very limited quantities. With the pace of technological and geopolitical change and the range of possible contingencies, we must look more to the 80-percent solution, the multi-service solution that can be produced on time, on budget and in significant numbers. As Stalin once said, ‘Quantity has a quality all of its own.’”

¹¹ See David S. Christensen, Ph.D., Capt. David A. Searle, USAF, and Dr. Caisse Vickery, “The Impact of the Packard Commission's Recommendations on Reducing Cost Overruns on Defense Acquisition Contracts,” *Acquisition Review Quarterly*, Summer 1999, p. 251.; Obaid Yousossi, Mark V. Arena, and Robert S. Leonard, et al., *Is Weapon System Cost Growth Increasing?*, RAND, Santa Monica, CA, 2007; Deloitte Consulting LLP, *Can We Afford Our Own Future? Why A&D Programs are Late and Over-budget — and What Can Be Done to Fix the Problem*, 2008; U.S. Congress, Senate Committee on Homeland Security and Governmental Affairs, Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Comments of Michael J. Sullivan, Government Accountability Office, Tools to Prevent Defense Department Cost Overruns, 112th Cong., 1st sess., March 29, 2011.

¹² See Obaid Yousossi, Mark V. Arena, and Robert S. Leonard, et al., *Is Weapon System Cost Growth Increasing?*, RAND, Santa Monica, CA, 2007, p. xx.

¹³ Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013, p. 28.

¹⁴ Based on the percentage of programs experiencing a Nunn-McCurdy breach. Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013, p. 20.

¹⁵ U.S. Army, *Army Strong: Equipped, Trained and Ready*, Final Report of the 2010 Army Acquisition Review, January 11, 2011, p. ix.

¹⁶ Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013.

- Procurement costs for the aircraft carrier CVN-78 have grown more than 20% since the submission of the FY2008 budget, and 4% since the submission of the FY2013 budget, prompting the Navy to program more than \$1.3 billion in additional procurement funding for the ship in FY2014 and FY2015.¹⁷
- Part of the acquisition plan for the F-35 was referred to as “acquisition malpractice” by then acting Pentagon acquisition chief Frank Kendall.¹⁸
- A number of analysts have argued that the successive waves of acquisition reform have yielded limited results, due in part because of poor workforce management. A recent DOD report stated, “There is little doubt that acquisition reforms produce limited, positive effects because they have not changed the basic incentives or pressures that drive the behavior of the participants in the acquisition process.”¹⁹

Increased Complexity of the Acquisition Process

Until World War II, the regulations and rules governing government contracting in general, and defense contracting in specific, were minimal. After WWII, the growth in defense acquisition regulations was so rapid and uncoordinated that an Office of Federal Procurement Policy study conducted in the late 1970s found that DOD had 79 different offices issuing procurement regulations, and that these offices had developed a procurement process that consisted of some 30,000 pages of regulations.

Concerned that the defense acquisitions process was an overly complex and unwieldy system, Congress enacted the Federal Acquisition Streamlining Act of 1994 (P.L. 103-155) to overhaul the process. Despite this act and various other congressional and executive branch efforts, contracting with the federal government remains a highly regulated process governed by a myriad of statutes and regulations.²⁰ These regulations govern such issues as

- how DOD solicits, negotiates, and awards a contract;
- what costs DOD will reimburse and how contractors account for those costs;
- the information systems used by contractors;
- and how contractors must comply with rules regarding such socio-economic goals as affirmative action, combatting trafficking in persons, and maintaining a drug-free workplace.²¹

A number of analysts have argued that rather than improving the system, acquisition reform efforts have made the process less efficient and effective.²² A recent report on Army acquisitions

¹⁷ CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke, p. 9.

¹⁸ CRS Report RL30563, *F-35 Joint Strike Fighter (JSF) Program*, by Jeremiah Gertler, p. 7.

¹⁹ J. Ronald Fox, *Defense Acquisition Reform 1960-2009: An Elusive Goal* (Center of Military History, 2011), p. 190.

²⁰ <http://www.edc.gov/od/pgo/funding/contracts/contractmain.shtm>

²¹ Carl L. Vacketta, *Federal Government Contract Overview*, <http://library.findlaw.com/1999/Jan/1/241470.html>.

²² U.S. Institute for Peace, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century*, Final Report of the Quadrennial Defense Review Independent Panel, July 28, 2010, p. 83; Department of Defense, *Defense Acquisition Performance Assessment Report*, January 2006, p. 6; Business Executives for National Security, (continued...)

argued “in an attempt to not repeat past failures, additional staff, processes, steps, and tasks have been imposed. While well intended, collectively these modifications are counterproductive.”²³ One observer noted, “If someone were asked to devise a contracting system for the federal government, it is inconceivable that one reasonable person or a committee of reasonable people could come up with our current system.”²⁴

Acquisition reform is not the only factor leading to the complexity of the acquisition system. Other factors include the increased complexity of military systems and inclusion of public policy goals into the acquisition process. Examples of regulations that reflect public policy goals include the requirement to purchase certain goods from domestic suppliers (such as the Berry Amendment and Buy American Act),²⁵ preferences for buying goods and services in Afghanistan to support campaign objectives in theatre, requirements to take steps to combat trafficking in persons,²⁶ set asides to promote small businesses and other entities perceived as disadvantaged, and the International Traffic in Arms Regulations.

In some instances, the goals of obtaining the best value for the government and promoting public policy goals are in conflict with one another. For example, some analysts debate the value of the various regulations requiring certain defense items to be manufactured domestically. Some analysts argue that these requirements are necessary to ensure domestic sources of supply during war time. Other analysts argue that domestic sourcing regulations unnecessarily increase the cost to government, that the regulations could be implemented in a more cost-efficient manner, and that some items are on the list for protectionist reasons, not to preserve military capabilities.

From the Wright Brothers to the Modern Tanker

In December 1907, the War Department issued a two-page procurement notice for what some observers have called one of the most important government contracts in U.S. history: a contract to build a flying machine that is heavier than air. By the February 1908 deadline, the War Department received 41 proposals.

The contract, awarded to Orville and Wilbur Wright, is noteworthy for its brevity (less than 10 pages), focusing on engineering requirements and contractor compliance. In contrast, according to a Boeing official, the original signed contract for the KC-46 tanker that was awarded to Boeing on February 24, 2011 consisted of 1,233 pages when originally signed—70 pages of the basic contract, with references to 27 attachments consisting of an additional 1,163 pages.

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Getting to Best: Reforming the Defense Acquisition Enterprise, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. iii.

²³ U.S. Army, *Army Strong: Equipped, Trained and Ready*, Final Report of the 2010 Army Acquisition Review, January 11, 2011, p. iv

²⁴ J. Ronald Fox, *Defense Acquisition Reform 1960-2009: An Elusive Goal* (Center of Military History, 2011).

²⁵ See DFARS, Part 225.7002; FAR Part 25. See also CRS Report RL31236, *The Berry Amendment: Requiring Defense Procurement to Come from Domestic Sources*, by Valerie Bailey Grasso.

²⁶ FAR Subpart 22.17, Combating Trafficking in Persons.

The complexity of the regulations can make it difficult for some companies to enter the government contracting arena.²⁷ Many analysts believe that the rules and regulations governing defense acquisitions need to be further streamlined and simplified in a manner that reduces the burden on private industry and controls the increase in costs while preserving sufficient oversight.

Constantly Changing Acquisition Rules

Some analysts believe that the successive reform efforts have discouraged some companies from seeking government contracts out of concern that the rules could be changed in the middle of the game. Implementing successive changes to the acquisition system can also add to the cost of doing business with DOD, and make it more difficult for DOD and Congress to determine whether individual changes are having a positive or negative effect on the acquisition process.

Changes to the rules governing defense acquisitions generally are a result of legislation or executive branch rules and regulations.

Legislative Changes

In recent years, the primary mechanism by which Congress has exercised its legislative powers to reform defense acquisitions has been the annual National Defense Authorization Act (NDAA). Sections of these acts have prescribed requirements applicable to both specific acquisition programs and the acquisition structure overall, the latter of which has typically been addressed in Title VIII, which is usually called “Acquisition Policy, Acquisition Management, and Related Matters.” Over the last six years, the Title in the NDAA dealing with acquisitions included more than 275 sections.²⁸

Other titles within the NDAA can also include legislation that affects companies seeking to reform with DOD.²⁹ At times, Congress has chosen to enact legislation affecting defense acquisitions in a stand-alone bill. For example, in May 2009, Congress passed and the President signed into law the Weapon Systems Acquisition Reform Act of 2009 (S. 454/P.L. 111-23), which contained a number of sections that impacted defense acquisitions, ranging from issues related to competition to conflicts of interest.

Regulatory Changes

DOD procurement activities are generally governed by three sets of federal government regulations:

²⁷ Ibid. See also Grant Thornton, 16th Annual Government Contractor Industry Survey Highlights Book, Industry Survey Highlights 2010, p. 7.

²⁸ Based on CRS review of the National Defense Authorization Acts for FY2008-2012. Not all sections in the Title impact private industry; rather, the volume of sections portray the challenges in keeping abreast of legislative changes that could significantly impact industry.

²⁹ For example, the FY2010 NDAA, Title III (*Operation and Maintenance*) included a section effecting defense acquisitions. See P.L. 111-84, sec. 325.

- the first set of regulations, which applies to the entire federal government (including DOD unless stated otherwise), are found in the Federal Acquisition Regulation (FAR),
- the second set of regulations applies only to DOD and is found in the Defense Federal Acquisition Regulation Supplement, and
- the third set of regulations applies only to individual DOD components and is found in component-unique FAR Supplements.³⁰

Procurement actions in DOD must adhere to the various regulations, and program managers must take the regulations into account during the planning and execution of their programs. The rules and regulations governing defense acquisitions can change at a rapid pace. For example, the DOD Directive 5000 series was established in 1971 to regulate the acquisition of major weapon systems. Over the next 40 years, the process for acquiring weapon systems set forth in the 5000 series was revised more than a dozen times—a change approximately once every three years. In some cases, the changes have been dramatic. The 5000 series documents have been issued and reissued, with different versions varying in length, ranging from as few as eight to as many as 840 pages. These regulatory changes also modified the number of milestones and other decision points required for approval from two, to three, to as many as seven. The documentation required for milestone reviews has ranged from one document in 1971 to dozens of documents in 2008.³¹

Successful Acquisition Reform Efforts

Given the results of past acquisition reforms, some analysts have argued that acquisition reform is a fruitless effort; that the fundamental problems with DOD acquisitions lie not in policy but in execution and expectations. In an article entitled *Let's Skip Acquisition Reform This Time*, MIT professor Harvey Sapolsky writes

The limited number of available reforms have all been recycled. You can centralize or decentralize. You can create a specialist acquisition corps or you can outsource their tasks. You can fly before you buy or buy before you fly. Another blue-ribbon study, more legislation, and a new slogan will not make it happen.³²

Other analysts point out that some past reform efforts have had modest success, generating savings in certain areas and keeping pace with a changing world. These analysts argue that defense acquisitions can and must be improved,³³ that learning from past reform efforts—understanding what worked, what didn't work, and why—is critical to successful acquisition

³⁰ The Army, Air Force, Navy and Marine Corps, Defense Logistics Agency, and U.S. Special Operations Command each have unique supplements.

³¹ Based on discussions with analysts and government officials, CRS review of regulations and documentation, and review of academic working papers that have not yet been published. See J. Ronald Fox, *Defense Acquisition Reform: An Elusive Goal - 1960 to 2010*, Harvard Business School, Working Paper 11-120, p. Appendix B, referenced with permission of the author.

³² Harvey Sapolsky, "Let's Skip Acquisition Reform This Time," *DefenseNews*, February 9, 2009, p. 29.

³³ Robert F. Hale, *Promoting Efficiency in the Department of Defense: Keep Trying, Be Realistic*, Center for Strategic and Budgetary Assessments, January 2002, p. 11; Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. iii.

reform.³⁴ A number of analysts have argued that Congress is critical to significantly improving DOD acquisitions.³⁵

Some acquisition reforms have been judged successful. For example, most analysts view the original consolidation of disparate acquisition rules into a single, uniform Federal Acquisition Regulation as an improvement to the system. More recently, Congress has embarked on select acquisition reform efforts that analysts believe have contributed to improving defense acquisitions, including the *Weapon Systems Reform Act of 2009* and legislation and oversight connected with Operational Contract Support.

Weapon Systems Acquisition Reform Act of 2009

In developing the *Weapon Systems Acquisition Reform Act of 2009*, Congress considered reports by government and other analysts that focused on the early stages of weapon system development, prior Congressional hearings and investigations, and extensive consultations with DOD, industry, and outside experts. The Act did not seek to rectify all of the problems related to the acquisition process. Rather, it focused primarily on improving the early stages of weapon system development. Key provisions in the act included

- The appointment of a Director of Cost Assessment and Program Evaluation (CAPE),
- The appointment of a Director of Developmental Test and Evaluation,
- The appointment of a Director of Systems Engineering,
- A requirement that the Director of Defense Research and Engineering periodically assess technological maturity of MDAPs and annually report finding to Congress,
- A requirement that combatant commanders have more influence in the requirements generation process.

Given how recently the Weapon System Acquisition Reform Act was enacted, the full effect of the Act may not be felt until the next generation of weapon systems are in production. However, a number of analysts believe that the Act is having a positive effect.³⁶ Senior officials within the offices of the CAPE, Developmental Test and Evaluation, and Systems Engineering, believe that their offices are being better resourced and empowered to positively impact weapon system acquisitions.³⁷ These offices have been given access to senior leaders within the department, opportunities to provide input at key points in the acquisition system, and resources to carry out their responsibilities. For example, the CAPE has contributed to a better understanding of potential costs for a number of major programs, such as the F-35 Joint Strike Fighter program.³⁸

³⁴ See: Robert F. Hale, *Promoting Efficiency in the Department of Defense: Keep Trying, Be Realistic*, Center for Strategic and Budgetary Assessments, January 2002, 7.

³⁵ See: Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. 3.

³⁶ U.S. Government Accountability Office, *Defense Acquisition Reform: Reform Act is Helping DOD Acquisition Programs Reduce Risk, but Implementation Challenges Remain*, GAO-13-103, December 14, 2012.

³⁷ Based on meetings these senior officials had with CRS in early 2011.

³⁸ Based on discussions with senior officials from the Joint Staff, J-8 (Force Structure, Resources, and Assessment (continued...))

Operational Contract Support

In recent years, DOD has significantly improved its use of operational contract support. Many analysts and senior DOD officials have stated that without the efforts of Congress, DOD would not have been as successful at improving operational contract support.³⁹ Congressional efforts have included establishing the Special Inspector General for Iraq, the Special Inspector General for Afghanistan, and the Commission on Wartime Contracting in Iraq and Afghanistan. Congress has also held numerous hearings, published committee reports, and maintained focus on the issue.

These efforts combined to elevate the importance of the use of contractors and resulted in the development of a body of work that informed DOD and Congress. Examples of Congressional action often cited as having contributed to improving operational contract support include:

- legislation that led to establishment of the office of the Deputy Assistant Secretary of Defense (Program Support),
- legislation establishing general/flag officer billets for acquisition,
- legislation establishing the Defense Acquisition Workforce Development Fund, and
- oversight hearings that raised awareness of contractor abuses and led to the creation of Task Force 2010.⁴⁰

The Changing Landscape of Defense Acquisitions

Much of the foundation of the defense acquisition system was developed during the early years of the Cold War. Over recent years, the defense acquisition landscape has changed significantly and a number of analysts believe that the acquisition system has not been sufficiently responsive to an ever changing world.⁴¹ A 2009 study by the Defense Science Board argued that current DOD acquisition practices are inadequate in a changing industrial world.⁴² Significant changes often cited by analysts include the following:

- *The defense industrial base has consolidated significantly over the last 25 years.* According to a study by the Defense Science Board, over the last 25 years, the number of major defense contractors decreased from fifty to six.⁴³ Such consolidation can hurt competition and innovation.

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Directorate) and Joint Operations Support (Acquisition, Technology & Logistics), December 2011.

³⁹ CRS Report R43074, *Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress*, by Moshe Schwartz.

⁴⁰ For a detailed discussion of reform in operational contract support, see CRS Report R43074, *Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress*, by Moshe Schwartz.

⁴¹ Department of Defense, *Defense Acquisition Performance Assessment Report*, January 2006, p. 7.

⁴² Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Buying Commercial: Gaining the Cost/Schedule Benefits for Defense Systems*, Defense Science Board Task Force on Integrating Commercial Systems into the DOD, Effectively and Efficiently, February 2009, p. xvii.

⁴³ Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, *Creating an Effective National* (continued...)

- *DOD is becoming a less influential buyer.* Fewer and fewer U.S. industries are dominated by defense spending.⁴⁴ For example, in 1965 DOD accounted for over 75% of all U.S. semiconductor purchases. In 1990, government-wide purchases represented less than 10% of the market; by 2012, government represented less than 2% of semi-conductor purchases.⁴⁵
- As DOD becomes a less important customer, an increasing number of companies are diversifying their revenue streams. In 2012, the top 100 defense companies received 28% of their revenue from defense contracts, down from 38% of revenue in 2007.⁴⁶ Other companies are choosing not to compete for defense contracts because of the extensive and ever-changing regulations, increased costs, auditing requirements, and the instability of funding associated with defense contracting, including sequestration, continuing resolutions, and lapses in appropriations.
- *Weapon and information technology systems are more complex and sophisticated.* Some analysts believe that the acquisition system is not nimble enough for acquisition programs that rely heavily on rapidly changing technologies. These technologies are posing new challenges to acquisitions. For example, according to U.S. Air Force Lt. Gen. Christopher Bogdan, the biggest risk to the F-35 program is software development.⁴⁷ Some analysts believe that the increasing complexity of systems is the reason that aircraft development times have increased significantly since 1980.⁴⁸
- *U.S. Military Spending is declining.* U.S. defense spending is declining, necessitating cuts to force structure and modernization programs.⁴⁹ Despite decreased spending, the U.S. must still be prepared for a diverse range of security challenges.⁵⁰ Given current defense spending trends and potential security threats, DOD acquisitions may need to be more efficient to ensure sufficient resources to protect U.S. interests. Increased cost-efficiency could free up resources that can

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Security Industrial Base for the 21st Century: An Action Plan to Address the Coming Crisis, Defense Science Board Task Force on Defense Industrial Structure for Transformation, July 2008, p. 15. See also: Kenneth Flamm, "Post-Cold War Policy and the U.S. Defense Industrial Base," *National Academy of Engineering of the National Academies*, vol. 35, no. 1 (Spring 2005); Barry D. Watts, *Sustaining the U.S. Defense Industrial base as a Strategic Asset*, Center for Strategic and Budgetary Assessments, Background, September 2013, p. 15.

⁴⁴ Kenneth Flamm, "Post-Cold War Policy and the U.S. Defense Industrial Base," *National Academy of Engineering of the National Academies*, vol. 35, no. 1 (Spring 2005); See: Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. 4.

⁴⁵ Data provided to CRS by Semiconductor Industry, October, 2013.

⁴⁶ Zachary Fryer-Biggs, "Looking Beyond Defense: Firms Grow Revenue--By Diversifying," *DefenseNews*, July 22, 2013, p. 11.

⁴⁷ Andrea Shalal-Esa, "Pentagon Sees Some Risk of Delay in F-35 Software," *NBCnews.com*, April 24, 2013, at http://www.nbcnews.com/id/51649848/ns/technology_and_science-tech_and_gadgets/t/pentagon-sees-some-risk-delay-f-software/#.U1WMmm3zByU.

⁴⁸ Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013, p. 57.

⁴⁹ Department of Defense, *Defense Budget Priorities and Choices*, Fiscal Year 2014, April 2013, p. 5.

⁵⁰ Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, January 2012, p. 1, 4-7.

be used to maintain a robust force structure or fund research and development aimed at maintaining a qualitative advantage over potential adversaries.

- Some analysts have argued that the United States may not dominate defense spending in the future as much as it did in recent years, further requiring a more efficient and effective allocation of resources. These analysts point to China's military modernization, which has been fueled by two decades of steadily increasing military spending. According to a DOD report to Congress, China's officially disclosed military budget increased an average of 9.7% annually in inflation-adjusted terms over the decade from 2003 to 2012. At \$114 billion, China's officially announced budget for 2013 represents an increase of 10.7% over 2012. The Pentagon believes China's actual military spending is higher than the officially disclosed figures, with the report to Congress estimating that China's military spending for 2012 was in the range of \$135 to \$215 billion.⁵¹
- *Industry is playing an increasingly important role in innovation and development.*⁵² DOD is spending a smaller share of its contracting dollars on research and development (R&D) contracts. In FY1998, 18% of contract obligations were dedicated to R&D contracts compared to just 10% in FY2012 (see **Figure 3**). One analyst pointed out that even though the military is still an important funder of specific, leading-edge technologies such as supercomputers and microelectromechanical systems devices, "commercial demand for these products has far outstripped the requirements of the military."⁵³ At the same time, technologies developed for the commercial market are commonly adapted for military use. As one general officer stated, whereas the military used to go to industry and tell them to create a technology to meet a requirement, increasingly the military is going to industry and asking them to adapt an existing commercial technology to military requirements.⁵⁴

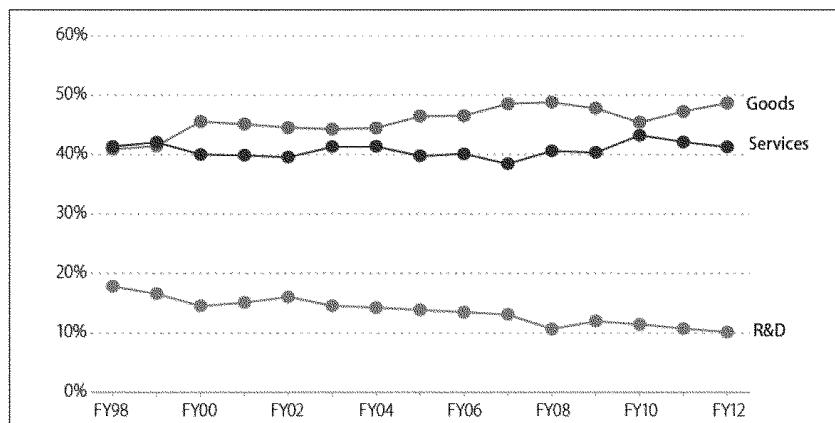
⁵¹ See CRS Report R41108, *U.S.-China Relations: An Overview of Policy Issues*, by Susan V. Lawrence, p. 16.

⁵² See Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. 4.

⁵³ Kenneth Flamm, "Post-Cold War Policy and the U.S. Defense Industrial Base," *National Academy of Engineering of the National Academies*, vol. 35, no. 1 (Spring 2005).

⁵⁴ Based on discussion with CRS analyst, May 8, 2013.

Figure 3. Percentage of Contract Obligations Dedicated to R&D Contracts
FY1998-FY2012



Source: Analysis of data from the Federal Procurement Data System, October 14, 2013.

Many analysts believe that an acquisition system designed to meet the challenges of the Cold War is not sufficiently nimble or efficient to address the security and economic realities of today.⁵⁵ They argue that in light of the evolving landscape the current cost overruns, schedule delays, and performance shortfalls in acquisitions have a debilitating effect on our military and threaten America's technological advantage and military capabilities.⁵⁶ Some of these analysts argue that a comprehensive acquisition reform is urgently needed.⁵⁷ Norman Augustine (former CEO of Lockheed Martin) and former Senators Gary Hart and Warren Rudman jointly wrote that the defense acquisition system operates

too slowly and at vastly greater cost than necessary. In earlier times we could arguably afford such flaws in efficiency, but we can afford them no longer.... We must examine the status quo systemically, in all its aspects, in order to make necessary and long overdue changes. If we do not, we will be in an increasingly sclerotic defense acquisition process that may one day no longer be able to supply American war fighters with the means to assure this nation's freedom and security.⁵⁸

⁵⁵ Department of Defense, *Defense Acquisition Performance Assessment Report*, January 2006, p. 6.

⁵⁶ See: Business Executives for National Security, *A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight*, July, 2009, p. 4. Then Secretary of Defense William Perry used the same logic to implement acquisition reforms in the 1990s. He stated "Because the world in which DoD now must operate has changed beyond the limits of the existing acquisition system's ability to adjust or evolve -- the system must be totally re-engineered. If DoD is going to be capable of responding to the demands of the next decade, there must be a carefully planned, fundamental re-engineering or re-invention of each segment of the acquisition process." See Honorable William J. Perry, *Acquisition Reform: A Mandate for Change*, Department of Defense, February 9, 1994, p. 9.

⁵⁷ See Department of Defense, *Defense Acquisition Performance Assessment Report*, January 2006, p. Introductory Letter by Chairman Ronald Kadish.

⁵⁸ Business Executives for National Security, *A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight*, July, 2009, p. iii.

Just as the acquisition landscape has changed in recent years, many analysts and DOD officials argue that DOD has also undergone changes that may make significant reform possible. Some DOD officials and analysts detect a culture shift underway within the Department - a shift that reflects a better understanding of the importance of defense acquisitions, and a fuller commitment on the part of senior leadership, uniform personnel and civilian personnel, to support efforts to improve defense acquisitions. Changes contributing to the culture shift include the following:

Operations in Iraq and Afghanistan have highlighted the importance of acquisitions. In the early years of the conflicts, contracting in Iraq and Afghanistan was done on an ad-hoc basis, without significant consideration of implications for foreign policy and without putting in place necessary oversight systems. Insufficient resources were dedicated to oversight, resulting in poor performance, billions of dollars of waste, and failure to achieve mission goals.⁵⁹ However, the experiences of the operational force have highlighted the critical role of contractors in military operations. These experiences underscored the importance of acquisitions to senior leaders and prompted numerous internal efforts to examine contractor support, such as the report of the Commission on Army Acquisition and Program Management in Expeditionary Operations (known as the Gansler report).

Constrained budgets are fostering a culture of better decision making. Former Secretary of Defense Robert Gates stated that as a result of defense spending more than doubling between FY2001 and FY2010, "we've lost our ability to prioritize, to make hard decisions, to do tough analysis, to make trades."⁶⁰ Declines in defense acquisition spending since FY2008 require, and have resulted in, efforts to prioritize programs, reign in the 'gold-plating' of requirements, and increased the focus on costs.⁶¹

*Data is improving.*⁶² Data reliability is a critical element in making informed policy decisions.⁶³ If data is lacking or is unreliable, there may not be an appropriate basis for measuring or assessing the effectiveness of contracting, making policy decisions, or providing transparency into government operations. In some circumstances, a lack of reliable data could lead analysts and decision makers to draw incorrect or misleading conclusions. The result could be policies that squander resources, waste taxpayer dollars, and threaten the success of the mission.⁶⁴

⁵⁹ CRS Report R43074, *Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress*, by Moshe Schwartz.

⁶⁰ Department of Defense, "DOD News Briefing with Secretary Gates and Adm. Mullen from the Pentagon," press release, June 6, 2011, <http://www.defense.gov/transcripts/transcript.aspx?transcriptid=4747>.

⁶¹ See Yamil Berard, "Former Pentagon leader says defense cuts are necessary," *Fort Worth Star-Telegraph*, October 16, 2013; Barry D. Watts, *Sustaining the U.S. Defense Industrial Base as a Strategic Asset*, Center for Strategic and Budgetary Assessments, Background, September 2013, p. 15.

⁶² Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013, p. 106.

⁶³ CRS Report R41820, *Department of Defense Trends in Overseas Contract Obligations*, by Moshe Schwartz, Wendy Ginsberg, and Daniel Alexander; U.S. Government Accountability Office, *Reliability of Federal Procurement Data*, GAO-04-295R, December 30, 2003, p. 1. For an additional discussion on the importance of having reliable data to develop policies affecting acquisitions, see U.S. Government Accountability Office, *Defense Acquisitions: Tailored Approach Needed to Improve Service Acquisition Outcomes*, GAO-07-20, November 9, 2006.

⁶⁴ For a discussion on the importance of good contract data to improving government efficiency and saving taxpayer money, see U.S. Government Accountability Office, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue: Collecting improved data on interagency contracting to minimize duplication could help the government leverage its vast buying power*, GAO-11-318SP, March, 1, 2011, p. 70.

Advances in information technology are making it possible to better track and analyze larger amounts of data. DOD is improving its IT systems and has embarked on a number of wide-ranging efforts to gather and analyze data to inform policy decisions, often at the behest of Congress. For example, the *Weapon System Acquisition Reform Act of 2009* required DOD to conduct a root cause analysis of the cost, schedule and performance of Major Defense Acquisition Programs that experience cost growth that surpasses the thresholds set forth in the Nunn-McCurdy Act.⁶⁵ Over the years, these analyses have provided insight into what drives cost growth. Despite the progress being made, there continue to be significant gaps in the data available and reliability of some existing data.⁶⁶

A Framework for Improving Acquisitions

Improving the Workforce

Despite the hundreds of disparate recommendations to improve defense acquisitions, most reports seeking to address the fundamental weaknesses of the system arrive at the same conclusion: the key to good acquisitions is having a good workforce and giving them the resources, incentives, and authority to do their job.⁶⁷ As David Packard, co-founder of Hewlett-Packard and former Deputy Secretary of Defense wrote in a report to President Reagan,

Excellence in defense management cannot be achieved by the numerous management layers, large staffs, and countless regulations in place today. It depends...on reducing all of these by adhering closely to basic, common sense principles: giving a few capable people the authority and responsibility to do their job, maintaining short lines of communication, and holding people accountable for results.⁶⁸

Workforce is not the only area that analysts believe need to be improved—numerous recommendations are aimed at the budget process, requirements development, cost estimating, and other structural problems. However, without a culture that promotes good acquisition decisions, reform efforts will not achieve their fullest potential. This is true not only for the acquisition workforce but also for other people involved in the process, such as those involved in developing requirements and budgets. As DOD Comptroller Robert Hale wrote in 2002

Efficiency requires change, and change is difficult to implement in any organization—public or private. To have any chance of success, there must be an incentive to change. Incentives start with the climate created by top leaders... But commitment must extend beyond the senior leadership to the Defense Department's field commanders and managers. Efficiencies

⁶⁵ P.L. 111-23, section 103.

⁶⁶ Office of the Under Secretary of Defense Acquisition, Technology and Logistics, *Performance of the Defense Acquisition System*, 2013 Annual Report, June 28, 2013, p. 105; U.S. Army, *Army Strong: Equipped, Trained and Ready*, Final Report of the 2010 Army Acquisition Review, January 11, 2011, p. iv. The report found that “The Army lacks a sufficiently robust and trustworthy database on acquisition programs, workforce and lessons learned,” p. 42.

⁶⁷ See below. For additional discussions, see Thomas Christie, “Sound Policy, Awful Execution,” *DefenseNews*, December 15, 2008, p. 53. Thomas Miller, “Rearranging Deck Chairs on the Titanic: Why Does Acquisition Reform Never Work?,” *Defense AT&L*, November-December 2010, p. 27; Scott Reynolds, “Let’s Fix It: A Five-Step Plan for Improving Acquisitions,” *Defense AT&L*, November-December 2009, p. 18.

⁶⁸ *A Quest for Excellence*, Final Report to the President by the Blue Ribbon Commission of Defense Management, June 30, 1986.

achieved at the base or installation level could add up to substantial savings, and the individuals running these bases will be more likely to implement changes if they have incentives to do so.⁶⁹

It is this belief that prompted Under Secretary of Defense Frank Kendall to introduce guidance on implementing the Better Buying Power initiatives with the following overarching principle:

Policies and processes are of little use without acquisition professionals who are experienced, trained, and empowered to apply them effectively. At the end of the day, qualified people are essential to successful outcomes and professionalism, particularly in acquisition leaders, drives results more than any policy change.⁷⁰

⁶⁹ Robert F. Hale, *Promoting Efficiency in the Department of Defense: Keep Trying, Be Realistic*, Center for Strategic and Budgetary Assessments, January 2002, p. 20.

⁷⁰ Frank Kendall, *Implementation Directive for Better Buying Power 2.0 - Achieving Greater Efficiency and Productivity in Defense Spending*, Office of the Under Secretary of Defense Acquisition, Technology and Logistics, Memorandum, April 24, 2013.

The Importance of People and Proper Incentives

Numerous reports have highlighted the importance of people in successful acquisitions. Below are conclusions from some of the most influential reports on defense acquisitions from 1970 to the present.

- "Regardless of how effective the overall system of Department procurement regulations may be judged to be, the key determinants of the ultimate effectiveness and efficiency of the Defense Procurement process are the procurement personnel.... The importance of this truism has not been appropriately reflected in the recruitment, career development, training, and management of the procurement workforce ." ⁷¹ *Fitzhugh Report (1970)*
- "DOD must be able to attract, retain, and motivate well qualified acquisition personnel."⁷² *Packard Report (1986)*
- "Making fundamental improvements in acquisitions will require attaching the cultural dimension of the problem. Changes of the type needed will not come easily. They must be directed at the system of incentives."⁷³ *GAO (1992)*
- "Give line managers more authority and accountability (reward results, not just compliance with rules; focus on the customer)."⁷⁴ *Perry Report (1994)*
- "The department should focus on creating incentives so that commanders and managers seek efficiencies."⁷⁵ *Robert Hale (2002)*
- "To repeat: the emphasis must be on the individuals in line management... the key to effective execution of any contract is not the quality of the contract, it is the quality of the program management responding to clear assignment of authority and accountability for each program."⁷⁶ *QDR Independent Panel (2010)*
- "There is little doubt that acquisition reforms produce limited, positive effects because they have not changed the basic incentives or pressures that drive the behavior of the participants in the acquisition process."⁷⁷ *Defense Acquisition Reform: 1960-2000 (2011)*

Most analysts believe that a number of steps need to be taken to improve the performance of the acquisitions workforce.⁷⁸ Three common recommendations for doing this include the following:

1. recruiting talented people and providing them with the right training,
2. providing the right incentives, and

⁷¹ Department of Defense, *Report to the President and the Secretary of Defense on the Department of Defense by the Blue Ribbon Panel*, July 1, 1970, p. 94.

⁷² *A Quest for Excellence*, Final Report to the President by the Blue Ribbon Commission of Defense Management, June 30, 1986, p. xxv.

⁷³ U.S. General Accounting Office, *Weapons Acquisition: A Rare Opportunity for Lasting Change*, NSIAD 93-15, December 1992, pp. 2-3.

⁷⁴ Honorable William J. Perry, *Acquisition Reform: A Mandate for Change*, Department of Defense, February 9, 1994, p. 9.

⁷⁵ Robert F. Hale, *Promoting Efficiency in the Department of Defense: Keep Trying, Be Realistic*, Center for Strategic and Budgetary Assessments, January 2002, p. iii.

⁷⁶ U.S. Institute for Peace, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century*, Final Report of the Quadrennial Defense Review Independent Panel, July 28, 2010, p. 86.

⁷⁷ J. Ronald Fox, *Defense Acquisition Reform 1960-2009: An Elusive Goal* (Center of Military History, 2011), p. 190.

⁷⁸ For example, one report found that Army acquisition competencies have eroded in the last two decades; the Army has reduced the number of qualified people essential to acquiring modern equipment. See U.S. Army, *Army Strong: Equipped, Trained and Ready*, Final Report of the 2010 Army Acquisition Review, January 11, 2011.

3. granting the authority to make decisions and holding people accountable for those decisions.

Building a Capable, Trained, and Sufficiently Sized Workforce

Insufficient resources or shortages in the numbers properly trained acquisition personnel increase the risk of poor contract performance, which in turn can lead to waste, fraud, and abuse.⁷⁹ The issue is not just the number, but also the quality and capability of the workforce.⁸⁰

In an effort to improve the size and quality of the acquisition workforce, the FY2008 NDAA mandated the establishment of the Department of Defense Acquisition Workforce Fund to enable the “recruitment, training, and retention of acquisition personnel.”⁸¹ From FY2008 through FY2012, DOD obligated \$2.3 billion through the fund. According to DOD, this funding was used to augment training and hire an additional 8,300 people and in contracting, cost estimating, systems engineering, auditing, and other related fields. Many analysts believe that while DOD and congressional efforts are starting to have a positive impact on the acquisition workforce, additional support and focus is needed.⁸²

DOD has recognized the need to dedicate sufficient resources to develop a good, capable workforce. According to the 2010 Quadrennial Defense Review, “to operate effectively, the acquisition system must be supported by an appropriately sized cadre of acquisition professionals with the right skills and training to successfully perform their jobs.... We will continue to significantly enhance training and retention programs in order to bolster the capability and size of the acquisition workforce.”⁸³

Creating the Right Incentives

Many analysts argue that even with a sufficiently robust, highly trained and capable workforce, the right incentives must be in place. Yet often the incentives in the acquisition process encourage people to make poor decisions.⁸⁴ For example, there is a culture within DOD that encourages the obligation of funds before they expire out of fear that if money is not spent, funding for

⁷⁹ J. Ronald Fox, *Defense Acquisition Reform 1960-2009: An Elusive Goal* (Center of Military History, 2011), p. 195, 199. See also, Commission on Wartime Contracting in Iraq and Afghanistan, *At What Risk? Correcting over-reliance on contractors in contingency operations*, Second Interim Report to Congress, February 24, 2011, p. 17; United States Institute of Peace, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century*, 2010, p. 39; U.S. Government Accountability Office, *Military Operations: High-Level DOD Action Needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces*, GAO-07-145, December 18, 2006; Commission on Wartime Contracting in Iraq and Afghanistan, *Transforming Wartime Contracting: Controlling costs, reducing risk*, Final Report to Congress, August, 2011, p. 83-84.

⁸⁰ See: Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. 3.

⁸¹ P.L. 110-181, section 852.

⁸² Data provided by DOD. See also Department of Defense, *Defense Acquisition Workforce Development Fund (DAWDF) FY2012 Report to Congress*, Department of Defense, April 2013, p. 4.

⁸³ QDR, p. 77-78

⁸⁴ J. Ronald Fox, *Defense Acquisition Reform 1960-2009: An Elusive Goal* (Center of Military History, 2011), p. 197-199; Department of Defense, *Defense Acquisition Performance Assessment Report*, January 2006, p. 5; See: Business Executives for National Security, *Getting to Best: Reforming the Defense Acquisition Enterprise*, A Business Imperative for Change from the Task Force on Defense Acquisition Law and Oversight, July, 2009, p. 3.

future budgets will be cut. This belief can drive managers to prioritize spending money based on an arbitrary calendar deadline instead of sound business decisions.⁸⁵ Resetting incentives to ensure that they align with desired outcomes can improve the decisions of the workforce.

Another example of incentives driving poor acquisition decisions relates to cost estimating. Senior Defense officials, both past and current, acknowledge that program advocates have strong incentives to underestimate program acquisition costs. Contractors use low cost estimates to win the contract; program representatives use low estimates to argue for approval of the system against competing systems.⁸⁶ In 1981, then-Deputy Secretary of Defense Frank C. Carlucci testified that low cost estimates “are fueled by optimistic contractor proposals to win competitions and program managers who want to see their programs funded.”⁸⁷ Almost 30 years later, then-Under Secretary of Defense for Acquisition, Technology, and Logistics John Young echoed this sentiment, stating “the enterprise will often pressure acquisition teams and industry to provide low, optimistic estimates to help start programs.”⁸⁸

The absence of more reliable cost estimates denies Congress the ability to decide on competing strategic and budget priorities based on realistic cost assumptions and denies DOD the opportunity to develop a well-conceived acquisition plan. The 2010 Quadrennial Defense Review stated, “our system of defining requirements and developing capability too often encourages reliance on overly optimistic cost estimates. In order for the Pentagon to produce weapons systems efficiently, it is critical to have budget stability—but it is impossible to attain such stability in DOD’s modernization budgets if we continue to underestimate the cost of such systems from the start.”⁸⁹

Establishing Authority and Accountability

Authority and accountability is viewed as a critical element in building an effective workforce.⁹⁰ Without authority, even the most skilled and incentivized professionals cannot effectively run and manage a program. Yet many analysts believe that the management structure is too bureaucratic; that too many people can say no or influence a program. As one program manager recently quipped, the inside joke among program managers is that “We are not really sure who runs the program.”⁹¹ Without anyone having practical authority to manage a program, there is no one to effectively hold accountable. As the QDR Independent

⁸⁵ Robert F. Hale and Frank Kendall, *Department of Defense Management of Unobligated Funds; Obligations Tenets*, Office of the Secretary of Defense, Memorandum, September 10, 2012.

⁸⁶ House Armed Services Hearings, 97th Cong., 1st Sess., Volume 11, 1981. Op. Cit. p. 883.

⁸⁷ House Armed Services Hearings, 97th Cong., 1st Sess., Volume 11, 1981. Op. Cit. p. 1086.

⁸⁸ John J. Young, Jr., *Reasons for Cost Changes for Selected Major Defense Acquisition Programs (MDAPs)*, Memorandum, January 30, 2009.

⁸⁹ Department of Defense, *Quadrennial Defense Review Report*, February 2010, p. 76.

⁹⁰ The Packard, for example, stated “We must give acquisition personnel more authority to do their jobs. If we make it possible for people to do the right thing the first time and allow them to use their common sense, then we believe that the Department can get by with far fewer people.” See p. xxiv.

⁹¹ Based on conversation with program managers and other acquisition personnel, September 14, 2013.

concluded, “the fundamental reason for the continued underperformance in acquisition activities is *fragmentation of authority and accountability for performance*.”⁹²

Targeted Reform Efforts

In addition to improving workforce management, as discussed above, targeted reform efforts, similar to the Weapon System Acquisition Reform Act of 2009 and efforts to improve Operational Contract Support can generate significant financial savings and operational benefits. Examples of possible targeted areas ripe for reform include

- Streamlining acquisition laws and regulations and
- Focusing on contract logistics.

Streamlining Acquisition Laws and Regulations

In some instances, regulations aimed at improving the acquisition process or promoting important public-policy goals impose unintended cost or regulatory burdens to industry. A number of analysts have argued that repealing or amending regulations that no longer provide a benefit could serve to simplify the acquisition process, remove unnecessary regulatory burdens on industry, and entice more companies to compete for defense and other federal government contracts. Sometimes, the laws and regulations governing defense procurement can add to the costs of doing business, as may occur in the case of certain domestic source restrictions like the Berry Amendment. Such a perspective does not necessarily argue for wholesale removal of regulations and oversight, but at a minimum argues for adopting an approach of weighing the costs to industry and government against the policy and oversight benefits of the regulations in question.⁹³ Congress could also choose to amend certain statutes and regulations in such a way as to alleviate the regulatory or financial impact while preserving the fundamental intent of the regulation.

Contract Logistics

Some government officials and industry experts have identified logistics as an area where significant cost savings could be generated without having an impact on operational capabilities.⁹⁴ Recent reports have identified instances of wasteful spending in this area. For example, the DOD Inspector General has developed a body of work that found

- Boeing charged the Army about \$13 million more than fair and reasonable prices for 18 parts on a support contract,⁹⁵

⁹² U.S. Institute for Peace, *The QDR in Perspective: Meeting America's National Security Needs in the 21st Century*, Final Report of the Quadrennial Defense Review Independent Panel, July 28, 2010, p. 85. Italics as in original.

⁹³ Honorable William J. Perry, *Acquisition Reform*, Department of Defense, A Mandate for Change, February 9, 1994, p. 8.

⁹⁴ Based on conversations of these officials with CRS analysts, July 2013 through October 2013.

⁹⁵ Department of Defense Inspector General, “Excess Inventory and Contract Pricing Problems Jeopardize the Army Contract with Boeing to Support the Corpus Christi Army Depot,” Report D-2011-061, May 3, 2011.

- Sikorsky charged the Army approximately \$12 million more than fair and reasonable prices for 28 parts,⁹⁶ and
- Boeing charged DLA Aviation \$13.7 million more than fair and reasonable prices for 27 parts associated with 1,469 delivery orders.⁹⁷

Earlier this month, the Special Inspector General for Afghan Reconstruction reported that military forces in Afghanistan were unable to account for about \$230 million worth of spare parts and then ordered \$138 million of additional parts without sufficient accountability.⁹⁸ Given the examples of potential savings identified to date, Congress could consider logistics as a potential area for increased congressional oversight.

Chairman McKeon, Ranking Member Smith, this concludes my statement. I will be pleased to respond to any questions the Committee may have.

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⁹⁶ Department of Defense Inspector General, "Pricing and Escalation Issues Weaken the Effectiveness of the Army Contract with Sikorsky to Support the Corpus Christi Army Depot," Report D-2011-104, September 8, 2011.

⁹⁷ Department of Defense Inspector General, "Improved Guidance Needed to Obtain Fair and Reasonable Prices for Sole-Source Spare Parts Procured by the Defense Logistics Agency from the Boeing Company," Report DODIG-2013-090, June 7, 2013.

⁹⁸ Special Inspector General for Afghanistan Reconstruction, Afghan National Army: Combined Security Transition Command-Afghanistan Lacks Key Information on Inventory in Stock and Requirements for Vehicle Spare Parts, SIGAR 14-3, October 16, 2013, p. 1.

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DEFENSE ACQUISITIONS

Where Should Reform Aim Next?

Statement of Paul L. Francis, Managing Director
Acquisition and Sourcing Management

GAO Highlights

Highlights of GAO-14-145T, a testimony before Committee on Armed Services, House of Representatives.

Why GAO Did This Study

DOD's acquisition of major weapon systems has been on GAO's high risk list since 1990. Over the past 50 years, Congress and DOD have continually explored ways to improve acquisition outcomes, including reforms that have championed sound management practices, such as realistic cost estimating, prototyping, and systems engineering. Too often, GAO reports on the same kinds of problems today that it did over 20 years ago.

The topic of today's hearing is: "25 Years of Acquisition Reform: Where Do We Go From Here?" To that end, this testimony discusses (1) the performance of DOD's major defense acquisition program portfolio; (2) the management policies and processes currently in place to guide those acquisitions; (3) the incentives to deviate from otherwise sound acquisition practices; and (4) suggestions to temper these incentives. This statement draws from GAO's extensive body of work on DOD's acquisition of weapon systems.

View GAO-14-145T. For more information, contact Paul Francis at (202) 512-4841 or francisp@gao.gov.

October 29, 2013

DEFENSE ACQUISITIONS

Where Should Reform Aim Next?

What GAO Found

The Department of Defense (DOD) must get better outcomes from its weapon system investments, which in recent years have totaled around \$1.5 trillion or more. Recently, there have been some improvements, owing in part to reforms. For example, cost growth declined between 2011 and 2012 and a number of programs also improved their buying power by finding efficiencies in development or production and requirements changes. Still, cost and schedule growth remain significant; 39 percent of fiscal 2012 programs have had unit cost growth of 25 percent or more.

DOD's acquisition policy provides a methodological framework for developers to gather knowledge that confirms that their technologies are mature, their designs stable, and their production processes are in control. The Weapon Systems Acquisition Reform Act of 2009 and DOD's recent "Better Buying Power" initiatives introduced significant changes that, when fully implemented, should further strengthen practices that can lead to successful acquisitions. GAO has also made numerous recommendations to improve the acquisition process, based on its extensive work in the area. While recent reforms have benefited individual programs, it is premature to say there is a trend or a corner has been turned. The reforms still face implementation challenges and have not yet been institutionalized within the services.

Reforms that focus on the methodological procedures of the acquisition process are only partial remedies because they do not address incentives to deviate from sound practices. Weapons acquisition is a complicated enterprise, complete with unintended incentives that encourage moving programs forward by delaying testing and employing other problematic practices. These incentives stem from several factors. For example, the different participants in the acquisition process impose conflicting demands on weapon programs so that their purpose transcends just filling voids in military capability. Also, the budget process forces funding decisions to be made well in advance of program decisions, which encourages undue optimism about program risks and costs. Finally, DOD program managers' short tenures and limitations in experience and training can foster a short-term focus and put them at a disadvantage with their industry counterparts.

Drawing on its extensive body of work in weapon systems acquisition, GAO sees several areas of focus regarding where to go from here:

- at the start of new programs, using funding decisions to reinforce desirable principles such as well-informed acquisition strategies;
- identifying significant risks up front and resourcing them;
- exploring ways to align budget decisions and program decisions more closely; and
- attracting, training, and retaining acquisition staff and managers so that they are both empowered and accountable for program outcomes.

These areas are not intended to be all-encompassing, but rather, practical places to start the hard work of realigning incentives with desired results.

Chairman McKeon, Ranking Member Smith, and Members of the Committee:

I am pleased to be here today to discuss weapon systems acquisition and where reform should focus next. Weapon systems acquisition has been on GAO's high risk list since 1990.¹ Over the past 50 years, Congress and the Department of Defense (DOD) have explored ways to improve acquisition outcomes, including recent actions like the Weapon Systems Acquisition Reform Act and the department's own "Better Buying Power" initiatives. These and other reforms have championed sound management practices, such as realistic cost estimating, prototyping, and systems engineering. DOD's declining budgets and the impact of sequestration have lent additional impetus to reduce the costs of weapons. While some progress has been made on this front, too often we report on the same kinds of problems today that we did over 20 years ago. The cost growth of DOD's 2012 portfolio of weapon systems about \$411 billion and schedule delays average more than 2 years. To get better results the focus should not be on adding to or discarding acquisition policies, but on the incentives that work against them.

Today, I will (1) provide summary cost and schedule information on DOD's portfolio of major weapon systems; (2) describe the policies and processes in place to guide those acquisitions; (3) discuss incentives to deviate from otherwise sound acquisition practices; and (4) suggest ways to temper these incentives. This statement draws from our extensive body of work on DOD's acquisition of weapon systems and the numerous recommendations we have made both on individual weapons and systemic improvements to the acquisition process. The work on which this testimony is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

¹GAO, *High Risk Series: An Update*, GAO-13-283 (Washington, D.C.: February 2013).

**Trends in DOD's
Portfolio of Major
Acquisitions**

There can be little doubt that we can—and must—get better outcomes from our weapon system investments. As seen in table 1, the value of these investments in recent years has been on the order of \$1.5 trillion or more, making them a significant part of the federal discretionary budget.

Table 1: Analysis of DOD Major Defense Acquisition Program Portfolios

Fiscal year 2014 dollars	Fiscal year		
	2008	2011	2012
Portfolio size			
Number of programs	95	95	85
Total planned commitments	\$1.6 trillion	\$1.7 trillion	\$1.5 trillion
Commitments outstanding	\$898 billion	\$813 billion	\$744 billion
Portfolio indicators			
Change in development costs from first full estimate	42 percent	54 percent	49 percent
Change in total acquisition cost from first full estimate	25 percent	40 percent	38 percent
Estimated total acquisition cost growth	\$323 billion	\$465 billion	\$411 billion
Share of programs with 25 percent or greater increase in program acquisition unit cost since first full estimate	42 percent	41 percent	39 percent
Average delay in initial operating capability	22 months	23 months	27 months

Source: GAO analysis of DOD data.

Note: The Ballistic Missile Defense System is excluded from the analysis of both portfolio size and portfolio indicators as it does not have comparable cost and schedule data. Other programs were also excluded from the analysis of indicators when comparable data did not exist.

Large programs have an outsized impact on the aggregate portfolio. For example, Joint Strike Fighter costs have now consumed nearly a quarter of the entire portfolio. Yet, as indicated in table 1, 39 percent of programs have had unit cost growth of 25 percent or more. Recently, we have seen some modest improvements. For example, cost growth has declined between 2011 and 2012.² We have also observed that a number of programs have improved their buying power by finding efficiencies in

²GAO, *Defense Acquisitions: Assessments of Selected Weapon Programs*, GAO-13-294SP (Washington, D.C.: Mar. 28, 2013).

development or production, and requirements changes. On the other hand, cost and schedule growth remain significant when measured against programs' first full estimates. The performance of some very large programs are no longer reflected in the latest data as they are no longer acquisition programs. For example, the Future Combat Systems program was canceled in 2009 after an investment of about \$18 billion and the F-22 Raptor program has completed aircraft procurement. In addition, the Ballistic Missile Defense System are not included in any of the analysis as those investments have proceeded without a baseline of original estimates, so the many difficulties experienced in the roughly \$130 billion program are not quantifiable.

The enormity of the investment in acquisitions of weapon systems and its role in making U.S. fighting forces capable, warrant continued attention and reform. The potential for savings and for better serving the warfighter argue against complacency.

One Side of the Acquisition Process: Stated Policy

When one thinks of the weapon systems acquisition process, the image that comes to mind is that of the methodological procedure depicted on paper and in flow charts. DOD's acquisition policy takes the perspective that the goal of acquisition is to obtain quality products that satisfy user needs at a fair and reasonable price.³ The sequence of events that comprise the process defined in policy reflects principles from disciplines such as systems engineering, as well as lessons learned, and past reforms. The body of work we have done on benchmarking best practices has also been reflected in acquisition policy.⁴ Recent, significant changes to the policy include those introduced by the Weapon Systems Acquisition Reform Act of 2009 and the department's own "Better Buying Power" initiatives which, when fully implemented, should further strengthen

³Department of Defense Directive 5000.01, *The Defense Acquisition System* (Nov. 20, 2007).

⁴GAO, *Best Practices: DOD Can Achieve Better Outcomes by Standardizing the Way Manufacturing Risks Are Managed*, GAO-10-439 (Washington, D.C.: Apr. 22, 2010); *Best Practices: Capturing Design and Manufacturing Knowledge Early Improves Acquisition Outcomes*, GAO-02-701 (Washington, D.C.: July 15, 2002); *Best Practices: Better Matching of Needs and Resources Will Lead to Better Weapon System Outcomes*, GAO-01-288 (Washington, D.C.: Mar. 8, 2001); and *Best Practices: Better Management of Technology Development Can Improve Weapon System Outcomes*, GAO/NSIAD-99-162 (Washington, D.C.: July 30, 1999).

practices that can lead to successful acquisitions.⁵ The policy provides a framework for developers of new weapons to gather knowledge that confirms that their technologies are mature, their designs are stable, and their production processes are in control.⁶ These steps are intended to ensure that a program will deliver the capabilities required utilizing the resources—cost, schedule, technology, and personnel—available. Successful product developers ensure a high level of knowledge is achieved at key junctures in development. We characterize these junctures as knowledge points. While there can be differences of opinion over some of the specifics of the process, I do not believe there is much debate about the soundness of the basic steps. It is a clear picture of “what to do.”

Table 2 summarizes these steps and best practices, organized around three key knowledge points in a weapon system acquisition.

⁵Pub. L. No. 111-23 as amended, Office of the Under Secretary of Defense, Acquisition, Technology and Logistics Memorandum: “Better Buying Power: Mandate for Restoring Affordability and Productivity in Defense Spending” (June 28, 2010). Office of the Under Secretary of Defense, Acquisition, Technology and Logistics Memorandum: “Better Buying Power 2.0: Continuing the Pursuit for Greater Efficiency and Productivity in Defense Spending” (Nov. 13, 2012).

⁶Department of Defense Instruction 5000.02, *Operation of the Defense Acquisition System* (Dec. 8, 2008).

Table 2: Best Practices for Knowledge-based Acquisitions

Knowledge Point 1: Start of product development activities (Milestone B)
Demonstrate technologies sufficiently to ensure they are mature and work as intended
Ensure that requirements are informed by a preliminary system design
Establish cost and schedule estimates based on the preliminary design and other system engineering tools (such as prototyping)
Constrain development to 5 years or so in anticipation of future upgrades
Conduct independent assessment of risks and cost
Develop a suitable contract strategy
Fully fund the planned development work
Hold major milestone decision review to begin product development
Knowledge Point 2: Critical design review midway through product development
Complete 90 percent of engineering design drawing packages to ensure design is stable
Demonstrate with system integration prototype that design performs as intended
Identify critical manufacturing processes and key system characteristics
Establish targets and growth plan for product reliability
Conduct independent cost estimate
Conduct system critical design review to ensure design meets requirements
Knowledge Point 3: Initiation of production for delivery to customer (Milestone C)
Demonstrate critical manufacturing processes on a pilot production line
Build and test production-representative prototypes to demonstrate product in operational environment and to achieve reliability goal
Collect data on critical manufacturing processes and demonstrate that they are in statistical control to ensure quality
Conduct independent cost estimate
Conduct major milestone decision review to begin production

Source: GAO.

Our work over the last year shows that, to the extent reforms like the Weapon Systems Acquisition Reform Act and DOD's Better Buying Power initiatives are being implemented, they are having a positive effect on individual programs. For example, several programs we have reviewed are:

- making early trade-offs among cost, schedule, and technical performance requirements;
- developing more realistic cost and schedule estimates;
- increasing the amount of testing during development; and

-
- placing greater emphasis on reliability.

These improvements do not yet signify a trend or suggest that a corner has been turned. The reforms themselves still face implementation challenges such as staffing and clarity of guidance and will doubtless need refining as experience is gained. We have made a number of recommendations on how DOD can improve implementation of the Weapon Systems Acquisition Reform Act.⁷

To a large extent, the improvements we have seen tend to result from external pressure exerted by higher level offices within DOD on individual programs. In other words, the reforms have not yet been institutionalized within the services. We still see employment of other practices—that are not prescribed in policy—such as concurrent testing and production, optimistic assumptions, and delayed testing. These are the same kinds of practices that perpetuate the unsatisfactory results that have persisted in acquisitions through the decades, such as significant cost growth and schedule delays. They share a common dynamic: moving forward with programs before the knowledge needed to make decisions is sufficient.

We have reported that most programs still proceed through the critical design review without having a stable design, even though we have made a number of recommendations on the importance of this review and how to prepare for it.⁸ Also, programs proceed with operational testing before they are ready. Other programs are significantly at odds with the acquisition process. Among these I would number Ballistic Missile Defense System, Future Combat Systems (since canceled), Littoral Combat Ship, and airships. We recently reported on the Unmanned Carrier-Launched Airborne Surveillance and Strike program which proposes to complete the main acquisition steps of design, development, testing, manufacturing, and initial fielding before it formally enters the acquisition process.⁹

⁷GAO, *Weapons Acquisition Reform: Reform Act Is Helping DOD Acquisition Programs Reduce Risk, but Implementation Challenges Remain*. GAO-13-103 (Washington, D.C.: Dec. 14, 2012).

⁸GAO-02-701

⁹GAO, *Defense Acquisitions: Navy Strategy for Unmanned Carrier-Based Aircraft System Defers Key Oversight Mechanisms*, GAO-13-833 (Washington, D.C.: Sep. 26, 2013).

The fact that programs adopt practices that run counter to what policy and reform call for is evidence of the other pressures and incentives that significantly influence program practices and outcomes. I will turn to these next.

Another Side of Acquisition: Incentives

An oft-cited quote of David Packard, former Deputy Secretary of Defense, is: "We all know what needs to be done. The question is why aren't we doing it?" To that point, reforms have been aimed mainly at the "what" versus the "why." They have championed sound management practices, such as realistic estimating, thorough testing, and accurate reporting. Today, these practices are well known. We need to consider that they mainly address the mechanisms of weapon acquisitions. Seen this way, the practices prescribed in policy are only partial remedies. The acquisition of weapons is much more complex than policy describes and involves very basic and strongly reinforced incentives to field weapons. Accordingly, rival practices, not normally viewed as good management techniques, comprise an effective stratagem for fielding a weapon because they reduce the risk that the program will be interrupted or called into question.

I will now discuss several factors that illustrate the pressures that create incentives to deviate from sound acquisition management practices.

Several Factors Create Incentives to Deviate from Sound Acquisition Practices

Conflicting Demands

The process of acquiring new weapons is (1) shaped by its different participants and (2) far more complex than the seemingly straightforward purchase of equipment to defeat an enemy threat. Collectively, as participants' needs are translated into actions on weapon programs, the purpose of such programs transcends efficiently filling voids in military capability. Weapons have become integral to policy decisions, definitions of roles and functions, justifications of budget levels and shares, service reputations, influence of oversight organizations, defense spending in localities, the industrial base, and individual careers. Thus, the reasons "why" a weapon acquisition program is started are manifold and acquisitions do not merely provide technical solutions.

While individual participants see their needs as rational and aligned with the national interest, collectively, these needs create incentives for pushing programs and encouraging undue optimism, parochialism, and other compromises of good judgment. Under these circumstances, persistent performance problems, cost growth, schedule slippage, and difficulties with production and field support cannot all be attributed to errors, lack of expertise, or unforeseeable events. Rather, a level of these problems is embedded as the undesirable, but apparently acceptable, consequence of the process. These problems persist not because they are overlooked or under-regulated, but because they enable more programs to survive and thus more needs to be met. The problems are not the fault of any single participant; they are the collective responsibility of all participants. Thus, the various pressures that accompany the reasons why a program is started can also affect and compromise the practices employed in its acquisition.

Funding Dynamics

I would like to highlight three characteristics about program funding that create incentives in decision making that can run counter to sound acquisition practices. First, there is an important difference between what investments in new products represent for a private firm and for DOD. In a private firm, a decision to invest in a new product, like a new car design, represents an expense. Company funds must be expended that will not provide a revenue return until the product is developed, produced, and sold. In DOD, new products, in the form of budget line items, can represent revenue. An agency may be able to justify a larger budget if it can win approval for more programs. Thus, weapon system programs can be viewed both as expenditures and revenue generators.

Second, budgets to support major program commitments must be approved well ahead of when the information needed to support the decision to commit is available. Take, for example, a decision to start a new program scheduled for August 2016. Funding for that decision would have to be included in the fiscal year 2016 budget. This budget would be submitted to Congress in February 2015—18 months before the program decision review is actually held. DOD would have committed to the funding before the budget request went to Congress. It is likely that the requirements, technologies, and cost estimates for the new program—essential to successful execution—may not be very solid at the time of funding approval. Once the hard-fought budget debates put money on the table for a program, it is very hard to take it away later, when the actual program decision point is reached.

Third, to the extent a program wins funding, the principles and practices it embodies are thus endorsed. So, if a program is funded despite having an unrealistic schedule or requirements, that decision reinforces those characteristics, not sound acquisition processes. Pressure to make exceptions for programs that do not measure up are rationalized in a number of ways: an urgent threat needs to be met; a production capability needs to be preserved; despite shortfalls, the new system is more capable than the one it is replacing; or the new system's problems will be fixed in the future. It is the funding approvals that ultimately define acquisition policy.

Industry Relationship

DOD has a unique relationship with the defense industry that differs from the commercial marketplace. The combination of a single buyer (DOD), a few very large prime contractors in each segment of the industry, and a limited number of weapon programs constitutes a structure for doing business that is altogether different from a classic free market. For instance, there is less competition, more regulation, and once a contract is awarded, the contractor has considerable power.¹⁰ Moreover, in the defense marketplace, the firm and the customer have jointly developed the product and, as we have reported previously, the closer the product comes to production the more the customer becomes invested and the less likely they are to walk away from that investment.¹¹ While a defense firm and a military customer may share some of the same goals, important goals are different. Defense firms are accountable to their shareholders and can also build constituencies outside the direct business relationship between them and their customers. This relationship does not fit easily into a contract.

J. Ronald Fox, author of *Defense Acquisition Reform 1960-2009: An Elusive Goal*, sums up the situation as follows. "Many defense acquisition problems are rooted in the mistaken belief that the defense industry and the government-industry relationship in defense acquisition fit naturally into the free enterprise model. Most Americans believe that the defense industry, as a part of private industry, is equipped to handle any kind of development or production program. They also by and large distrust

¹⁰Barry D. Watts and Todd Harrison, *Sustaining Critical Sectors of the Defense Industrial Base* (Washington, D.C.: Center for Strategic and Budgetary Assessments, 2011).

¹¹GAO, *Best Practices: Successful Application to Weapon Acquisitions Requires Changes in DOD's Environment*, GAO/NSIAD-98-56 (Washington, D.C.: Feb. 24, 1998).

government 'interference' in private enterprise. Government and industry defense managers often go to great lengths to preserve the myth that large defense programs are developed and produced through the free enterprise system." But neither the defense industry nor defense programs are governed by the free market; "major defense acquisition programs rarely offer incentives resembling those of the commercial marketplace."¹²

The Right People

Dr. Fox also points out that in private industry, the program manager concept works well because the managers have genuine decision-making authority, years of training and experience, and understand the roles and tactics within government and industry. In contrast, Dr. Fox concludes that DOD program managers lack the training, experience, and stature of their private sector counterparts, and are influenced by others in their service, DOD, and Congress.¹³ In 2006, we reported that program managers indicated to us that the acquisition process does not enable them to succeed because it does not empower them to make decisions on whether the program is ready to proceed forward or even to make relatively small trade-offs between resources and requirements as unexpected problems are encountered. Program managers said that they are also not able to shift personnel resources to respond to changes affecting the program.¹⁴

We have also reported on the lack of continuity in the tenure of key acquisition leaders across the time frames of individual programs. A major acquisition can have multiple program managers during product development. Other key positions throughout the acquisition chain of command also turn over frequently. For example, DOD acquisition executives do not necessarily stay in their positions long enough to develop the needed long-term perspective or to effectively change traditional incentives. Moreover, their decisions can be overruled through the cooperative actions of other acquisition participants. The effectiveness of reforms to the acquisition process depends in large measure on a cadre of good people who may be inadequately prepared

¹²J. Ronald Fox, *Defense Acquisition Reform, 1960-2009: An Elusive Goal* (Washington, D.C.: U.S. Army Center of Military History, 2011).

¹³Fox, *Defense Acquisition Reform*.

¹⁴GAO, *Best Practices: Better Support of Program Managers Needed to Improve Outcomes*, GAO-06-110 (Washington, D.C.: Nov. 30, 2005).

for their position or forced into the near-term perspective of their tenures. In this environment, the effectiveness of management can rise and fall on the strength of individuals; accountability for long-term results is, at best, elusive.

Where Do We Go from Here?

In my more than 30 years in the area, I do not know of a time or era when weapon system programs did not exhibit the same symptoms that they do today. Similarly, I do not subscribe to the view that the acquisition process is too rigid and cumbersome. Clearly, this could be the case if every acquisition followed the same process and strategy without exception. But they do not. We repeatedly report on programs approved to modify policy and follow their own process. DOD refers to this as tailoring, and we see plenty of it.

At this point, we should build on existing reforms—not necessarily by revisiting the process itself but by augmenting it by tackling incentives. To do this, we need to look differently at the familiar outcomes of weapon systems acquisition—such as cost growth, schedule delays, large support burdens, and reduced buying power. Some of these undesirable outcomes are clearly due to honest mistakes and unforeseen obstacles. However, they also occur not because they are inadvertent but because they are encouraged by the incentive structure. I do not think it is sufficient to define the problem as an objective process that is broken. Rather, it is more accurate to view the problem as a sophisticated process whose consistent results are indicative of its being in equilibrium. The rules and policies are clear about what to do, but other incentives force compromises. The persistence of undesirable outcomes such as cost growth and schedule delays suggests that these are consequences that participants in the process have been willing to accept.

Drawing on our extensive body of work in weapon systems acquisition, I have four areas of focus regarding where to go from here. These are not intended to be all-encompassing, but rather, practical places to start the hard work of realigning incentives with desired results.

Reinforce desirable principles at the start of new programs: The principles and practices programs embrace are determined not by policy, but by decisions. These decisions involve more than the program at hand: they send signals on what is acceptable. If programs that do not abide by sound acquisition principles win funding, then seeds of poor outcomes are planted. The highest point of leverage is at the start of a new program. Decision makers must ensure that new programs exhibit desirable principles before they are approved and funded. Programs that

present well-informed acquisition strategies with reasonable and incremental requirements and reasonable assumptions about available funding should be given credit for a good business case. As an example, the Presidential Helicopter, the Armored Multi Purpose Vehicle, the Enhanced Polar System, and the Ground Combat Vehicle are all acquisitions estimated to cost at least a billion dollars, in some cases several billions of dollars, and slated to start in 2014. These could be viewed as a "freshman" class of acquisitions. There is such a class every year, and it would be beneficial for DOD and Congress to assess them as a group to ensure that they embody the right principles and practices.

Identify significant program risks upfront and resource them: Weapon acquisition programs by their nature involve risks, some much more than others. The desired state is not zero risk or elimination of all cost growth. But we can do better than we do now. The primary consequences of risk are often the need for additional time and money. Yet, when significant risks are taken, they are often taken under the guise that they are manageable and that risk mitigation plans are in place. In my experience, such plans do not set aside time and money to account for the risks taken. Yet in today's climate, it is understandable—any sign of weakness in a program can doom its funding. This needs to change. If programs are to take significant risks, whether they are technical in nature or related to an accelerated schedule, these risks should be declared and the resource consequences acknowledged. Less risky options and potential off-ramps should be presented as alternatives. Decisions can then be made with full information, including decisions to accept the risks identified. If the risks are acknowledged and accepted by DOD and Congress, the program should be supported.

More closely align budget decisions and program decisions: Because budget decisions are often made years ahead of program decisions, they depend on the promises and projections of program sponsors. Contentious budget battles create incentives for sponsors to be optimistic and make it hard to change course as projections fade in the face of information. This is not about bad actors; rather, optimism is a rational response to the way money flows to programs. Aside from these consequences, planning ahead to make sure money is available in the future is a sound practice. I am not sure there is an obvious remedy for this. But I believe ways to have budget decisions follow program decisions should be explored, without sacrificing the discipline of establishing long-term affordability.

Attract, train, and retain acquisition staff and management: Dr. Fox's book does an excellent job of laying out the flaws in the current ways DOD selects, trains, and provides a career path for program managers. I refer you to these, as they are sound criticisms. We must also think about supporting people below the program manager who are also instrumental to program outcomes, including engineers, contracting officers, cost analysts, testers, and logisticians. There have been initiatives to support these people, but they have not been consistent over time. The tenure for acquisition executives is a more challenging prospect in that they arguably are at the top of their profession and already expert. What can be done to keep good people in these jobs longer? I am not sure of the answer, but I believe part of the problem is that the contentious environment of acquisition grinds good people down at all levels. In top commercial firms, a new product development is launched with a strong team, corporate funding support, and a time frame of 5 to 6 years or less. In DOD, new weapon system developments can take twice as long, have turnover in key positions, and every year must contend for funding. This does not necessarily make for an attractive career.

Mr. Chairman, this concludes my statement and I would be happy to answer any questions.

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Bio for Paul Francis

- Current Position:** Managing Director, Acquisition and Sourcing Management, U.S. Government Accountability Office
- Education:** Bachelor's degree in Accounting (University of Scranton)
Masters Degree in Public Administration (George Washington University)
Senior Executive Fellow, Kennedy School of Government
- Work Experience:** Mr. Francis has been with GAO since June 1975, with most of his work experience being in the area of major weapon acquisitions. He has been a member of the Senior Executive Service since 2002. Since March 2009, he has led GAO's Acquisition and Sourcing Management team, which has responsibility for assessing the acquisition of weapon systems, services, NASA projects, and Coast Guard systems, as well as the execution of efforts to manage Federal contracting, acquisition workforce, and protection of critical technologies. He has previously conducted or been involved with reviews of many individual weapon programs, including Army helicopters, Future Combat Systems, unmanned aerial vehicles, tactical communications, shipbuilding programs, and missile defense. He has also conducted or been involved with cross-cutting reviews, several of which involved benchmarking with leading commercial firms and successful Department of Defense programs. These included acquisition culture, transition to production, technology maturation, requirements setting, supplier relationships, integrated product teams, requirements setting, training, test and evaluation, earned value management, milestone authorization, and affordability. He has also done work in the areas of wartime medical requirements and detection of landmines and unexploded ordnance. He has testified before congressional committees numerous times. Mr. Francis spent one year with the House Science and Technology Committee early in his career.

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DEFENSE ACQUISITION REFORM

J. Ronald Fox, Tiampo Professor of Business Administration, Emeritus
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During the past fifty years, the Department of Defense has been plagued with significant cost overruns, schedule slippages, and technical performance shortfalls in the development and production of weapons and equipment. During the same period, more than twenty-eight major studies of defense acquisition reform have been commissioned by presidents, Congress, secretaries of defense, government agencies, studies and analyses organizations, and universities. The U.S. General Accountability Office (formerly U.S. General Accounting Office) has also published numerous studies on defense acquisition. The GAO studies and the 28 reform studies (see Table 1) arrived at most of the same findings and made similar recommendations.

To place the topic of acquisition reform in perspective, it is useful to note that 50 years ago (from 1960 to 1962) the Harvard Business School conducted a major research project dealing with the development of advanced weapons: *The Weapons Acquisition Process: An Economic Analysis*, by Merton J. Peck and Frederic M. Scherer. The report described the basic structure of the defense acquisition process and presented a comprehensive economic analysis. Peck and Scherer examined six specific problems in the management of large research, development and production programs conducted by the Department of Defense (DoD): (1) schedule slippages, (2) cost growth, (3) lack of qualified government personnel to manage acquisition programs, (4) high frequency of personnel turnover, (5) inadequate methods of cost estimation, and (6) insufficient training of government acquisition managers in the measurement and control of contractor performance. It is frustrating and disappointing that fifty years later, acquisition reforms continue to seek remedies for the same problems.

In 2013, major defense acquisition programs continue to require ten years or more to design, develop, produce, and deploy initial operationally-capable units. Cost increases of 25 to 40 percent occur frequently on major weapon programs, with significant numbers of programs experiencing larger cost increases and delivering less capability than planned. Virtually all attempts to implement improvements in the management of defense acquisition programs have fallen short of their objectives. It is increasingly evident that barriers to improving the acquisition process derive, not from a lack of ideas, but from the difficulties encountered by senior government managers (in Congress as well as the Department of Defense) in identifying and changing counterproductive incentives that apply to government and industry personnel participating in defense acquisition programs. There seems to be little hope of solving these chronic problems if the usual attempts at reform are tried once again. A more comprehensive approach is required—one that changes the *incentives* that stimulate and reinforce the seemingly intractable problems.

Defense acquisition programs contain a number of built-in, even cultural, challenges that resist change. These include a government acquisition workforce frequently having too little industrial training and experience, frequent turnover of government personnel assigned to monitor and manage huge defense acquisition programs; the short tenure of senior politically-appointed acquisition officials, averaging only eighteen months in office; an irregular and erratic flow of weapons systems appropriations; the very nature of cutting-edge research and development; an ill-informed requirements process that virtually mandates changes to contracts as requirements are added or changed; and the many financial incentives that reward lowball contractor bids and provide negative sanctions for failing to spend all the allocated funds. These cultural challenges within the current acquisition system have great value to many key participants in industry, the services, and Congress and predispose them to be generally resistant to change.

Twenty-one years ago, in 1992, the U.S. General Accounting Office (GAO) conducted a comprehensive study of defense acquisition, issuing an insightful report describing why the acquisition process had not been more responsive to reform efforts. The report entitled *Weapons Acquisition: A Rare Opportunity for Lasting Change* was based on a review of several hundred weapon system reports conducted during a fifteen-year period and was prepared by a team under the project direction of Paul L. Francis.

In reviewing its own acquisition studies, the GAO offered a valuable and somewhat unusual analysis of a seemingly intractable problem. The report was unique among acquisition reform studies in that it stressed the impact of the acquisition “culture” as erecting formidable barriers to acquisition reform, thereby enabling persistent problems of cost growth, schedule slippage, and technical performance shortfalls to continue.

The defense acquisition culture has changed little in the twenty-one years since the 1992 report was issued. GAO identified counterproductive incentives for government and industry as key sources of reinforcers of the counterproductive culture. In 2013, these incentives continue to exist despite the procedural changes resulting from the acquisition reforms conducted throughout the past fifty years. It seems clear to GAO researchers and to this author that the Defense Department must remove and replace the counterproductive incentives before improved results can be realistically expected.

GAO also pointed out that in a collective process that favors compromise, decision makers in the military services preferred to maintain more programs under way at lower funding levels rather than to fund fewer programs. In that culture, program sponsors were motivated to make optimistic (i.e., low-cost) assumptions and to reduce quantities and program scope or prolong schedules to make programs affordable and thereby avoid cancellations.

Most acquisition programs have been initiated to respond to perceived deficiencies in the ability to carry out military missions against projected threats. Program sponsors in the

military services are encouraged to specify demanding performance requirements that further distinguish their programs as the preferred solution to a perceived threat. These demands frequently produce what is known as “goldplating,” in which design features are added, even when their cost exceeds their expected value. The GAO stated that while it may be easy to criticize the authors of such requirements, it should be kept in mind that “this approach works: it is a successful, if not an essential, way to win program support from higher-level participants.” As a result of their actions, the higher-level participants in the services often reinforce the formulation of optimistic schedules and technical performance levels that are exorbitantly expensive, if they are achievable at all. Contractors contribute to the optimism by bidding low in their desire to participate in an acquisition program, anticipating that government will later initiate changes in the contract schedule, funding, or technical performance that provide opportunities in the program for the government and contractor to increase the price.

As acquisition programs proceed through development, it is not surprising for program advocates to continue to forecast program technical progress optimistically and to forecast cost estimates as low as can be rationalized. Cost estimators and program advocates do so to overcome the challenges that threaten a program’s existence as it experiences schedule, cost, or technical difficulties and encounters criticism. At the same time, program support grows because the time and money already invested in a program build active sponsors for its continuation.

Each of the seventeen secretaries of defense since 1960 has made commitments to bring about more effective and efficient management of the defense acquisition process. Indeed, each has taken specific steps to identify problems and to initiate improvements. But each has left office before reform implementation has become institutionalized.

The GAO pointed out, appropriately, that “even when the very underpinnings of a program are badly shaken, strong arguments are made by participants at all levels to continue the program as planned.” That tactic is common for programs that have entered the engineering and manufacturing development phase (formerly full-scale development), by which time it is generally conceded that programs are committed to production.

In 2013 as in 1992, it is clear that the incentives inherent in the acquisition culture are major factors in understanding why weapon acquisition problems persist despite numerous attempts at reform. While acquisition reforms seek to promote sound management practices, such as realistic estimating, thorough testing, and accurate reporting, these practices, while recognized as improved acquisition management, are frequently not widely adopted because they are seen as inconsistent with the very basic and strongly reinforced incentives to continue the development and production of a weapon system irrespective of problems encountered. In contrast, practices not normally viewed as good management techniques (i.e., concurrency and unrealistically low estimates) can be useful to continuing acquisition development and production programs because they minimize the risk that programs will be

reduced, or canceled. There is little doubt that acquisition reforms produce limited, positive effects because they have not changed the basic incentives or pressures that drive the behavior of the participants in the acquisition process.

Throughout the past fifty years, procedural and organizational solutions have often been adopted to correct acquisition problems without conducting effective root cause analyses to determine *why* the problems occurred in the first place. New organizational structures were proposed in attempts to reduce the strong tendency of program managers to report optimistic schedule and cost information to senior defense executives and to Congress. But the recommendations intended to improve the realism of cost estimates had not offset the incentives to submit excessively optimistic cost estimates.

Acquisition reform proposals calling for prototype competition and the practice of “fly-before-buy” have been resisted, not because they were unsound or because program sponsors had an affinity for increasing technical risks. The resistance to fly-before-buy and testing is a logical reaction to the additional time and up-front cost required, and to the reality that testing could jeopardize the continuation of acquisition programs. This is particularly true of operational testing because it occurs outside the program manager’s control, exposes the weapon to harsh operating conditions, and at times poses the threatening question of whether the weapon can reliably carry out its mission. As such, one of the best ways program sponsors can insulate their program from the perils of the acquisition process is by adopting a strategy of concurrency, rather than fly-before-buy.

Most acquisition reform studies point out that the short tenures of program managers and high-level DoD acquisition executives, make it difficult for them to change the system of incentives because other participants can wait out the reforms they oppose. In the 1990s, the GAO reported that to protect programs from criticism, the services were reluctant to provide OSD with current program information, such as updated cost estimates. In fact, congressional or OSD demands for more realistic program information can intensify the protectionism of program advocates.

The Defense Marketplace

The U.S. economic system is built on the concept of free enterprise regulated by competition. The private-sector marketplace is the testing ground for products and methods of production and management. A well-managed, efficient firm will prosper, and a poorly managed one will fail. Lower costs usually mean higher profits. Investors take risks that, if successful, will be rewarded by higher profits. But the defense industry does not fit that model.

Many defense acquisition problems are rooted in the mistaken belief that the defense industry and the government-industry relationship in defense acquisition fit naturally into the free-enterprise model. Most Americans believe that the defense industry, as a part of private industry, is equipped to handle any kind of development or production program. They also

by and large distrust government “interference” in private enterprise. Government and industry defense managers often go to great lengths to preserve the mistaken belief that large defense programs are developed and produced through the free-enterprise system. But major defense acquisition programs rarely offer incentives resembling those of the commercial marketplace. The limited positive effects of efforts to reform defense acquisition frequently fail to address the causes of acquisition problems.

In the defense industry, most of the major producers depend heavily on one customer, the Defense Department, for business. Defense firms hire and maintain throughout their projects large groups of engineers, draftsmen, scientists, technicians, production workers, and managers to retain their capabilities for defense work and to increase their chances of selection for the next defense contract. Few, if any, commercial projects would enable a firm to support such a large and varied workforce. On many large defense projects, the federal government also supplies a major part of a contractor’s working capital and investment. Once a weapon system contract has been signed, a firm risks little likelihood of cancellation for default because the close interaction of government and industry managers involved makes it difficult to ascribe separate responsibilities. The firms are further protected because contract cancellations have the undesirable side effects of delaying programs and increasing the risk of program cancellations by Congress.

Relationships between Government and Industry

The functions of DoD managers of large acquisition programs are not those classically associated with the term *manager*. This is because DoD does not develop or produce its weapon systems in-house; rather, the development and production work is contracted by the government to prime contractors. Hence, the principal functions of the government program manager and staff are planning, contracting, monitoring, controlling, and evaluating the schedule, cost, and technical performance of contractors and the government agencies that provide services and support. This range of activities includes design, development, procurement, production, training, testing, and field support. The term *technical performance* is used here in the broadest sense to include not only the engineering aspects of a weapon system or a software program but also the contractor’s management of resources (costs) and subcontractors.

Managing technical performance, in this sense, poses demanding industrial management challenges. Government managers are required to oversee the performance of several private-sector industries involving many of the largest firms in the United States—firms managed by well-trained, experienced managers, familiar with the defense acquisition process, and with methods of estimating costs, measuring progress, allocating overhead, calculating profits, and measuring return on investment for high-tech programs. Most of the recurring problems of cost growth, schedule delays, and failure to achieve technical performance on large acquisition programs cannot be solved or avoided simply by better engineering, better forms of contracting, multiyear procurement, or more prototypes. Solutions require frequent negotiations between government and industry (monthly, weekly,

and sometimes daily) in situations that require government managers to be knowledgeable about their acquisition programs and the industries in which they work, experienced in the acquisition process, and highly skilled in applying the planning and control tools of industrial management.

One of the conclusions from studying the management of defense acquisition is that it requires specific technical knowledge and skills well beyond what many recent government managers, senior military officers, and assistant secretaries in the office of the secretary of defense and the military services have acquired. There has always been an implicit assumption within parts of the military services that natural leaders with little or no advanced training and experience in the management of large industrial programs could function effectively at any level of acquisition management. This assumption has been a significant factor leading to the disappointing results of virtually every acquisition reform program during the past fifty years. If the complex defense acquisition process is to be managed more effectively and efficiently, the Defense Department must develop more skilled, experienced acquisition managers and support staffs to manage the complex, continuing negotiations between one part of government and another and between government and large industrial firms. These tasks cannot all be delegated to contracting officers.

The relationship between a government program office and its major contractor is necessarily a close one. Government and industry managers must work together to solve complex technical problems, and, on finding solutions, initiate contract changes to the work being performed. In this environment, rigorous day-to-day evaluations and negotiations between managers in government and industry is a necessity.

Defense contractors, though usually motivated by a commitment to a strong defense program as well as economic gain, have three important goals: achieving the program's technical performance objectives, meeting payrolls, and satisfying stockholders. Therefore, industry managers continually strive to obtain additional contracts that will provide work for their research, development (R&D), and production workforce.

Government Program Managers

For decades, many have observed that government program managers and their staffs are intelligent and hardworking. Program managers, along with most other managers in defense acquisition, genuinely want to acquire advanced weapon systems that meet performance standards at reasonable costs. But in practice, too few government managers know much about industry financial incentives or the industry processes of controlling costs, schedules, and technical performance in large private-sector contractor organizations. As a result, government managers, often with the best intentions, may have great difficulty making the decisions required to create and reward lean industrial organizations.

The challenge of managing major acquisition programs effectively and efficiently requires government program managers and contracting officers skilled in achieving a

critical balance between the arms-length negotiation role and the pure partnership role between government and industry—a balance that produces what is referred to as a defense acquisition *wise buyer*. Achieving that balance requires years of acquisition training and experience; learning to cope with the complexities of the acquisition process; the day-to-day negotiations; and the marketing tactics within government, within industry, and between government and industry. What is needed is not an adversarial relationship characterized by animosity, suspicion, and mistrust, but a business relationship characterized by acquisition professional managers trained and experienced to perform rigorous analyses, bargaining, and a tenacious regard for the best interests of one's own side. But military and government civilian assignment policies often fall short of enabling government program managers and their superiors to acquire these capabilities.

A government manager is not simply a partner with private industry but an independent manager charged with supervising the use of public funds. Army, Navy, Air Force, and Marine Corps program managers and contracting officers are nominally responsible for monitoring three areas of contractor activity: achieving technical performance called for in the contract, meeting the program's schedule requirements, and performing work within the specified budget. If a major defense acquisition program is to run smoothly and efficiently, it should be structured so that contractors have a reasonable opportunity to earn a return on investment comparable to commercial returns, without undermining government program objectives. That balance is often very difficult to achieve.

When contractors meet their obligations at reasonable costs, government program managers should be trained and empowered to recognize that performance and to reward contractors with attractive profits and improved opportunities for future defense business. On the other hand, when contractors fail to perform effectively at reasonable costs, government program managers and contracting officers should be sufficiently trained, experienced, and motivated to discover and report inadequate performance to higher echelons of the Defense Department and to take corrective actions. Members of Congress and government officials at all levels from program managers to the secretary of defense must be qualified and motivated to conduct this kind of responsible management. But the current acquisition process is often structured to frustrate that behavior.

At present, government managers who handle crises effectively are given high performance ratings. Often, however, timely preventive action could have corrected problems before they became crises. Because preventive action requires attention to management detail, government program managers with limited experience may be unlikely to appreciate the highly-technical engineering and development work being performed by contractors. As a result, there may be limited capability in a government program management office to exercise effective program control.

The Well-Qualified Active Manager. Some government acquisition managers and officials describe the program manager's role as one of planning and making key decisions associated with rigorous oversight of, negotiation with, and control of industrial firms

performing the development and production work on an acquisition program. This is called the well-qualified active manager view. It is based on the belief that in the defense acquisition environment, the competitive forces of the marketplace do not alone produce the desired cost, schedule, and technical performance, often frustrated by contract changes occurring throughout the life of a program.

The Less-Qualified Manager. Other less qualified government managers and officials believe the job of a government program manager is primarily one of promoting a program, preparing progress reports and briefings, communicating with officials at the Pentagon and at various military commands and contractors. They often act as though the responsibility for cost control belongs solely to the contractor. This is often called the less-qualified manager view. Those holding this mistaken view believe that general leadership training and leadership experience added to two or three years of acquisition experience are sufficient qualifications to manage a major acquisition program. They mistakenly believe that substantial knowledge of industry and skills in industrial practices are not essential for them and that relying on functional subordinates and “presiding” over a team of functional managers can substitute for personal knowledge and involvement by the program manager.

Those who hold the “less-qualified” manager view often talk about cost control in managing programs but fail to understand that the planning and control of large industrial programs are achieved neither by proclamation nor by good intentions. They occur only as the result of careful analyses and trade-offs associated with their program and with the rigorous control of engineering changes. The skills needed for these tasks require intensive practical training and acquisition experience in dealing with contractors, users, and other stakeholders, first on smaller acquisition programs, then on larger ones.

In reality, the responsibility for cost control belongs to the government program manager, the contracting officer, and the contractor. Cost reductions are often possible, depending on the government managers’ knowledge and skills in establishing and implementing challenging productivity and cost incentives, formal and informal, throughout the life of a program.

Reexamining the Program Manager Concept

The program manager concept works well in private industry. Why then does it experience serious problems so often in government?

Consider the unique characteristics of industry program managers, who usually report to the company president.

- They have genuine decision-making authority regarding personnel assignments, promotions, technical matters, and budgets.

- They usually have years of training and experience in the work of their industry (e.g., development and production of missiles, aircraft, tanks, ships, and guidance systems).
- They understand the goals and constraints of their customers and the ways in which their customers operate.
- They understand the roles performed and the tactics employed within government, within industry, and between government and industry. They are experienced practitioners in dealing with these situations.

DoD program managers, lacking the more extensive training, experience, and stature of their private-sector counterparts, often encounter another serious obstacle to performing their jobs. Namely, they are required to respond to (indeed, often placate) many individuals in government capable of influencing their careers: senior officers and civilians in the buying commands, the using commands, the service headquarters staff, the service secretariat, OSD, and Congress. Within these groups there are diverse elements: some who support a particular acquisition program, some who oppose it, and some who are undecided. The people representing one or more of these stakeholder groups can change every few months, as assignments change. These groups have voracious appetites for data from DoD program managers: How much will it cost to reduce the aircraft by 200 pounds? What is the consequence of reducing the budget by \$100 million? How much can we save by reducing the production rate by 50 percent? What will be the impact of replacing the radar? What caused the program delay? What will it take to regain the lost schedule? How much can we save by competing the next production contract?

It is long past time to reexamine the current method of manning and operating government program management offices. The current job descriptions portray program managers as supermen and superwomen who

- cut through the red tape generated by several hundred “interested” government managers;
- obtain budget approvals from the service headquarters, OSD, and Congress;
- work as partners with industry in solving technical problems;
- motivate contractor managers to perform effectively and efficiently;
- obtain reliable measurement data from which to determine independently the schedule, cost, and technical performance status of a program; and
- provide incentives for industry and report any contractor failures to perform effectively at the lowest reasonable cost.

Today, all this is often expected of government program managers relatively inexperienced compared to their industry counterparts, yet responsible for directing and controlling complex engineering development programs with budgets of hundreds of millions of dollars.

After fifty years, we know that an Army or Air Force colonel or Navy captain (at the rank of O-6) with limited industrial management knowledge and experience is ill prepared to direct and oversee a first-of-a-kind, multi-hundred-million-dollar industrial program with hundreds of complex challenges and dilemmas. If DoD is to perform the role of the wise buyer on major acquisition programs, a senior O-6 or a one- or two-star military officer or equivalent government civilian must be highly skilled and experienced in the acquisition process and business management, and committed to effective and efficient performance. There is too much at stake for on-the-job training in these positions. Too often, the training and experience have been too shallow and brief. As Lt. General Lawrence Farrell, USAF (ret.) states: “We have a system that doesn’t properly select, grow and nurture acquisition talent.”

What steps can be taken now to improve defense acquisition management?

Managing taxpayer-funded acquisition programs costing hundreds of millions of dollars is too important and too complex to be conducted by government military and civilian personnel with part-time acquisition careers. There appears to be no realistic alternative to providing clear and more comprehensive career paths for government acquisition managers to acquire the needed skills and experience, from the level of functional managers, program managers, and program executive officers. Acquisition career paths for both military and civilian personnel need to include genuine promotion opportunities at least comparable to those provided in operational career fields. Short of these steps, the Defense Department can expect yet one or more decades of studies and recommendations for improvements, with little accomplished in the way of lasting change.

It seems only reasonable that the heads of the Army, Navy, and Air Force acquisition organizations should be among the most qualified acquisition managers available, based on years of acquisition training and practical acquisition experience. When selected for these positions, they should have sole responsibility for materiel acquisition and personnel recruitment, selection, and assignments of their acquisition workforce. To separate these responsibilities is to invite the problems of the past five decades.

Course offerings at the Defense Acquisition University (DAU) currently provide important steps in training program managers and their staffs. Nonetheless, more training time is required to enable students to practice dealing with more real-life examples of the difficult challenges they will encounter on their jobs. Future program managers should be required to complete six months or more of formal, advanced training, in which they learn to deal effectively with hundreds of realistic examples of the challenges and dilemmas both they and contracting officers will encounter on acquisition programs. Managers in training

should analyze these challenges, discuss the strengths and weaknesses of the options available for dealing with them, and plan the implementation of selected options. Instructors will need to be familiar with industrial management practices, skilled in conducting practical training with interactive sessions, and current in practical knowledge of the opportunities, challenges, and constraints that exist in the field. These Instructors are not easy to find and attract to teaching. Instructors do not need to be academics or theorists; they need to be, or have been, effective practitioners.

The training program should develop the “wise buyer” skills needed to resolve the complex problems that occur on major engineering development and production programs. The emphasis should be on students making analyses and decisions, using simulations of contractor negotiations, exercises, case studies, and other techniques to plan effective implementation programs. DAU courses currently provide a useful start toward accomplishing these goals. Student assignments in a program management office would ideally precede *and* follow a one-year practical training program; carefully chosen experienced program managers need to serve as mentors and supervisors.

There should also be a more-effective screening process for selecting candidates for demanding acquisition positions; only those with the requisite talent, skill, and motivation should be accepted. In addition, a personnel board, comprising senior military and civilian acquisition officials, should review applicants for major positions and be authorized and motivated to remove government personnel whose performance is marginal or inadequate. Ideally, the board should also have the authority to provide significant financial rewards for outstanding performance.

Government and Contractor Incentives

If, as has been the case for five decades, the military promotion system will not respond to repeated attempts to provide attractive promotions and career opportunities for acquisition managers to attain flag or civilian equivalent grade, then the Defense Department should provide other incentives, such as additional pay and incentive compensation. If an extra \$30,000 or more per year were paid to selected military officers and civilians (at the rank of O-6 and above) and career regulations permitted them to remain in the acquisition field, the incentives to retire and join private industry would be greatly minimized. The extra cost would be negligible compared to the benefits achieved by retaining experienced acquisition managers on large, costly acquisition programs.

Such a proposal is not without precedent. Military officers on flight status and submarine duty as well as medical and dental officers and other special-skilled officers currently receive additional pay. Indeed, Sweden’s government acquisition agency addresses the problem of attracting and retaining qualified people—military and civilian—by a special law that allows an added salary increase for crucial acquisition positions. Thus, a Swedish colonel serving as a program manager can receive a significantly higher salary than other colonels and even the

director general of the agency. This incentive provides prestige and draws highly qualified, experienced people to critical acquisition positions.

If more attractive and more stable government careers are available in DoD acquisition management assignments, it would then be possible to minimize the conflicts associated with frequent turnover of military personnel. The basic goal of any legislative remedy must be achieving and maintaining outstanding competence and integrity for the defense acquisition system.

With respect to contractors, the Defense Department customarily does business with an inverted system of rewards and penalties. As noted earlier, contractors are often rewarded for higher than planned program costs with increased sales, higher contributions to overhead, and higher profits. The system also encourages government and industry managers to place far higher priority on gaining congressional approval to begin a new acquisition weapon program or obtain additional funding for an ongoing program than it does on controlling the cost of a program. In a *New York Times* article, Arthur E. Fitzgerald noted that the acquisition cost problems of the 1980s, 1990s, and 2000s are not aberrations; they are the result of many government and industry participants reacting in perfect accord with the distorted rewards and penalties inherent in the acquisition process. These observations correspond to similar observations now held by GAO analysts studying defense acquisition programs.

Reluctance to establish more appropriate incentives has been a serious deficiency in most DoD improvement programs during the past five decades. Contractors should be rewarded with higher profits for complying with schedules, achieving promised technical performance standards, and delivering goods and services at or below contracted cost. Prospects for obtaining future contracts should be closely linked to performance on existing contracts. New contract forms; better planning, control, and reporting systems; and improved cost estimating and change control systems are unlikely to be effective unless government managers are skilled in the implementation and use of these techniques and are rewarded, along with contractors, for effective results. This is an essential step toward achieving better management control of defense acquisition programs.

The Need for Extended Follow-up Actions

A persistent problem associated with previous attempts at acquisition reform has been the failure of senior defense management to take vigorous action to ensure effective implementation of acquisition reform initiatives. The results of the acquisition reform efforts of the 1970s, 1980s, 1990s, and 2000s have taught us that communicating acquisition reform actions from the Office of the Secretary of Defense down to the services, without significant follow-up by managers throughout the government hierarchy, produces no more than temporary or marginal improvements at best. Much activity is often directed toward initiating reform efforts but insufficient activity toward following through to ensure that lasting changes occur and become institutionalized.

Many in government and industry want to improve the acquisition process. But it is unrealistic to expect any lasting improvement if an appropriate system of incentives and disincentives is not established and enforced. Specifically,

- Unless in-depth root cause analyses are performed routinely for each major acquisition cost growth, schedule slippage, and technical performance shortfall and corrective measures taken and institutionalized to prevent future recurrences, the cycle of major acquisition problems will continue. The Air Force learned that lesson long ago when they required root cause analyses and implemented corrective actions in response to aircraft accidents.
- Unless changes are made in the current profit system that demands higher costs as a prerequisite for higher profits, it is futile to expect lower costs. Because profits are largely cost based, there is little economic motivation for contractors to reduce direct or indirect costs. The profit system needs a major overhaul to relate a significant portion of profit to contractor investment and performance.
- Unless changes are made in the current military personnel system that make short-term assignments necessary for military officers to acquire the number and variety of assignments needed for promotion, any significant reduction in personnel turnover in defense program offices is unlikely.
- Unless changes are made in the current OSD and congressional practice of routinely accepting program stretch-outs as a tactic for funding new programs, it is unrealistic to advocate economical production rates.
- Unless changes are made in the current DoD practice of waiving training requirements and offering only short training courses, of two or three months which limit coverage to introductory rather than in-depth skill building with respect to industrial planning and control, it is unrealistic to expect improved training for acquisition managers.
- Unless changes are made in military careers that currently provide few opportunities beyond age 45 or 50, it is reasonable for military officers to leave the service and seek second career in industry. In addressing this problem, DoD needs to listen to Army and Air Force lieutenant colonels and colonels and to Navy commanders and captains to learn their views on the advantages and disadvantages of the acquisition career field.
- Without genuine promotion opportunities for military and civilian personnel who make the difficult decisions associated with successful negotiating and wise buying, it is unrealistic to expect to retain in government service experienced, well-qualified program managers.

- Unless changes are made in the current contractor source selection process, which makes optimistically low-cost estimates a significant advantage in competing for a contract, it is useless to discuss more realistic contractor proposals. The source selection process must give far more weight to a contractor's record of realistic cost estimates and past performance.

After nearly fifty years of initiatives to improve the acquisition process, it is increasingly evident that the schedule, cost, and technical performance problems of defense acquisition programs conducted by thousands of government and industry participants will not be corrected by short-term fixes. The persistence of acquisition problems is not due to lack of understanding of what practices need to be changed. The field of defense acquisition abounds with thoughtful recommendations developed by senior acquisition managers who have studied the acquisition process with care. The underlying stumbling block has been and continues to be one of inadequate implementation and failure to institutionalize the recommendations required to bring about more professional management.

Future attempts to correct the persistent and costly problems of defense acquisition must include more effective follow-up by senior and mid-level government managers who must understand and agree with the changes that need to be made. Today's practice of reassigning military acquisition managers, at most levels every two or three years on acquisition programs that require ten years or more to complete, is unlikely to produce lasting improvements in managing those programs.

The instruments required to bring about substantial improvements in defense acquisition management must be a strong secretary of defense and well-qualified government acquisition executives. The latter need to be managers chosen for their industrial experience, with expert knowledge and skills in defense acquisition, who understand why acquisition reform efforts of the past have failed to achieve lasting improvements, and who have strong commitments to achieving efficient as well as effective acquisition program outcomes. Unfortunately, current conflict of interest laws make it difficult to appoint qualified industry managers to DoD acquisition executive positions.

It is clear that military and civilian acquisition managers need tenure longer than two or three years in program manager assignments, and need to be unambiguous in taking steps to improve management of acquisition programs. There is little likelihood that the cost of major acquisition programs will stabilize or decrease unless and until more skilled government acquisition managers, at all levels, have the ability and commitment to accomplish these objectives. Minor adjustments or corrections to the present acquisition process simply will not accomplish this vital job.

In the second decade of the twenty-first century, the alarmingly high federal deficit, the continuing need for a strong defense, and a growing awareness of the need to deal more effectively with the high cost of defense acquisition can provide the stimulus

needed to bring about more effective acquisition reform producing major improvements in the control of acquisition schedules, costs, and technical performance.

Table 1

Twenty-Eight Studies of Defense Acquisition Reform, 1960 - 2010

The following major studies on acquisition reform were conducted from 1960 to 2009:

1962 --	The Weapons Acquisition Process—Harvard Business School, Merton J. Peck and Frederic M. Scherer
1970 --	Blue Ribbon Defense Panel (Fizhugh Commission)
1972 --	Congressional Commission on Government Procurement
1974 --	Arming America: How the U.S. Buys Weapons—Harvard Business School, J. Ronald Fox
1979 --	Defense Resources Board Report on Defense Acquisition
1979 --	DoD Defense Resource Management Study
1981 --	DepSecDef Carlucci Thirty-Two Acquisition Initiatives
1982 --	Special Panel on Defense Procurement, House Armed Services Cmte
1982 --	The Defense Industry Study, Jacques S. Gansler
1985 --	Defense Acquisition, Center for Strategic and International Studies
1986 --	DoD Blue Ribbon Commission (Packard Commission)
1988 --	The Defense Management Challenge—Harvard Business School, J. Ronald Fox
1989 --	Secretary of Defense Management Review Report
1989 --	Affording Defense, Jacques S. Gansler
1989 --	New Weapons, Old Politics—Thomas L. McNaugher
1990 --	Defense Science Board Streamlining Study
1992 --	Weapons Acquisition: A Rare Opportunity for Lasting Change, GAO/NSIAD-93-15
1993 --	Defense Science Board Streamlining task Force
1994 --	Critical Issues in the Defense Acquisition Culture, Defense Systems Management College
1995 --	Defense Conversion, Jacques S. Gansler
1998 --	DoD Defense Acquisition Reform Initiatives
2005 --	Reexamining Military Acquisition Reform—Rand Corporation

- 2006 -- Comparative History of DoD Management Reform,
Naval Post Graduate School
- 2006 -- Office of the Secretary of Defense Acquisition Performance Assessment—
DAPA
- 2007 -- Report of the Commission on Army Acquisition and Program
Management in Expeditionary Operations
- 2007 -- Defense Acquisition: Options for Congress, Congressional Research
Service (CRS), Stephen Chadwick
- 2009 -- Creating a DoD Strategic Acquisition Platform—Department of Defense
and the Defense Science Board
- 2009 -- CNA Independent Assessment: Air Force Acquisition

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QUESTIONS SUBMITTED BY MEMBERS POST HEARING

OCTOBER 29, 2013

QUESTIONS SUBMITTED BY MR. MILLER

Mr. MILLER. Dr. Michael Gilmore, Director of Operational Test & Evaluation, consistently speaks about developmental test & evaluation (DT&E) as being key to successful operational test & evaluation (OT&E). Prior to enactment of the Weapons Systems Acquisition Reform Act (WSARA) of 2009, the GAO and the Defense Science Board found that 50% of programs completing initial operational test & evaluation since 2000 were assessed as “not operationally effective or suitable.” GAO suggested that “... beginning production before successfully demonstrating that the weapon system will work as intended increases the potential for discovering costly design changes ... and usually requires substantial modification costs at a later time.”

- Do you believe enhancing the authority and resourcing of the Deputy Assistant Secretary of Defense for Developmental Test & Evaluation would improve that office’s oversight effectiveness, resulting in reduced cost overruns and schedule delays?
- How would you recommend enhancing that authority and resourcing?

Mr. ZAKHEIM. It is not clear why the DASD for DT&E requires additional resourcing. OSD is already overstuffed. At most, personnel should be dropped from other OSD offices in order to add a few more slots to the DT&E office.

The key is additional authority, rather than resources. In order to ensure that DT&E has the desired impact in the acquisition cycle, the DOD 5000 series should require that the DASD DT&E certify to the Defense Acquisition Board that developmental testing and evaluation has been completed and that the program in question can move to production. The DOD Directive should make it clear that there will be no movement to production without such certification unless a waiver is explicitly granted in writing by the Deputy Secretary of Defense.

Mr. MILLER. Over the past several years, this committee has attempted to pass legislation that would provide authorities to enter into long-term and/or multi-year procurement contracts. The constant obstacle is the CBO and the manner in which they score these initiatives. What are your thoughts on CBO scoring methodology associated with multi-year procurements and do you think it is time for the Congress to provide new guidance to CBO regarding the scoring of long-term procurements?

Mr. ZAKHEIM. CBO scores multi-year programs in the year they were approved. This results in frontloading their costs and pushing aside other programs that cannot fit into budget caps or other prescribed spending ceilings.

Should the Congress wish to change the nature of CBO’s scoring, it could of course provide new guidance to that effect. However, doing so would compromise CBO’s independence by opening the door for other changes in CBO’s methodology ... something the Congress might do best to avoid.

Mr. MILLER. Termination liability is often cited by both CBO and OMB as an obstacle to adopting long-term and/or multi-year procurement contracts. Industry continues to tell the CBO and OMB that termination liability can be mitigated through contract terms. What are your thoughts on termination liability?

Mr. ZAKHEIM. There is no doubt that termination liabilities are a function of the contracts that are signed for a given program. Contracts, when amended or modified, are notoriously vague with respect to those liabilities. Engineering change proposals and other variations to the original contract change overall program cost and therefore affect the amount of termination liability, which arises when the Government chooses to terminate a contract for its convenience. In my testimony I suggested much more rigorous control over contract changes; included in that suggestion would be clarity regarding termination liability—a specific sum to be appended to every contract modification.

Mr. MILLER. Dr. Michael Gilmore, Director of Operational Test & Evaluation, consistently speaks about developmental test & evaluation (DT&E) as being key to successful operational test & evaluation (OT&E). Prior to enactment of the Weapons Systems Acquisition Reform Act (WSARA) of 2009, the GAO and the Defense Science Board found that 50% of programs completing initial operational test & evaluation since 2000 were assessed as “not operationally effective or suitable.”

GAO suggested that "... beginning production before successfully demonstrating that the weapon system will work as intended increases the potential for discovering costly design changes ... and usually requires substantial modification costs at a later time."

- Do you believe enhancing the authority and resourcing of the Deputy Assistant Secretary of Defense for Developmental Test & Evaluation would improve that office's oversight effectiveness, resulting in reduced cost overruns and schedule delays?
- How would you recommend enhancing that authority and resourcing?

Mr. CHAO. I would focus attention on whether the office of the DASD (DT&E) has the proper resources rather than on the tinkering of authorities. Generally it is a good practice to push testing and evaluation earlier into the process and more into the actual design and development process, as the GAO has noted. The best practices found in industry and the commercial world place a great deal of emphasis on testing as you go, and building in assessment into the development process rather than waiting until the end to discover whether a product or system works. It should be noted however that the more complex the system is and the more that the deliverable product is a system of systems, the more there is a reality that the weapon system can only be fully tested when completed—that is the nature of very complex system of systems.

Mr. MILLER. Over the past several years, this committee has attempted to pass legislation that would provide authorities to enter into long-term and/or multi-year procurement contracts. The constant obstacle is the CBO and the manner in which they score these initiatives. What are your thoughts on CBO scoring methodology associated with multi-year procurements and do you think it is time for the Congress to provide new guidance to CBO regarding the scoring of long-term procurements?

Mr. CHAO. I believe serious consideration should be given to re-examining how multi-year procurements are scored and assessed. While very aware of the issues of annual appropriations, the anti-deficiency act and the prerogatives of Congress, there are sufficient advantages to multi-year procurements from a cost perspective that the topic should be examined. It will be particularly important as defense budgets decline and cost savings and the need to provide some stability to the defense industrial base becomes critical. The rules regarding multi-year procurement scoring in many ways offset the exact reason that they are useful/efficient—for long term visibility and stability the customer gets lower cost. Force the entire contract or large portion to be accounted for in one year and it naturally creates a huge disincentive to use the mechanism and short circuits the normal economics. These are ultimately rules that Congress has set for itself, and therefore can only be addressed by Congress.

Mr. MILLER. Termination liability is often cited by both CBO and OMB as an obstacle to adopting long-term and/or multi-year procurement contracts. Industry continues to tell the CBO and OMB that termination liability can be mitigated through contract terms. What are your thoughts on termination liability?

Mr. CHAO. Multi-year contracts have a known and well studied set of economic benefits. By buying in economically efficient lots they lower cost; they potentially reduce the overhead burden; they incentivize standardization and reduce start up costs (which also lowers cost); stabilize work forces and incentivize investments in productivity by the contractors. While they are not useful for every case, they can be ideal for situations where the requirement/need is stable, there is a base level of demand, and the costs are amenable to multi-year efficiencies.

An issue raised, as you note, is termination liability with the big risk being the cancellation of a program early in its life. Given that the budgeting rules require the funding of the termination liability it certainly creates a disincentive to using multi-years. Ultimately this is a cultural issue—the component that creates the greatest fear ("I don't have flexibility, what if I need to change the contract"), is exactly the element that generates the savings ("this is stable, they can't change the contract"). The core topic is therefore risk mitigation, and as any business person will note risk can be managed/negotiated via contract terms. For example, termination liabilities can be scaled or risk adjusted. The issue of termination liabilities should not a priori preclude the examination of using a multi-year.

Mr. MILLER. Dr. Michael Gilmore, Director of Operational Test & Evaluation, consistently speaks about developmental test & evaluation (DT&E) as being key to successful operational test & evaluation (OT&E). Prior to enactment of the Weapons Systems Acquisition Reform Act (WSARA) of 2009, the GAO and the Defense Science Board found that 50% of programs completing initial operational test & evaluation since 2000 were assessed as "not operationally effective or suitable." GAO suggested that "... beginning production before successfully demonstrating

that the weapon system will work as intended increases the potential for discovering costly design changes ... and usually requires substantial modification costs at a later time.”

- Do you believe enhancing the authority and resourcing of the Deputy Assistant Secretary of Defense for Developmental Test & Evaluation would improve that office’s oversight effectiveness, resulting in reduced cost overruns and schedule delays?
- How would you recommend enhancing that authority and resourcing?

Mr. SCHWARTZ. A number of analysts and government officials have echoed GAO’s suggestion that beginning production before successfully demonstrating that systems will work as intended increases the potential for costly modifications at a later time. As Vice Admiral David Venlet reportedly stated, DOD was surprised at the extent of the changes required—and the associated cost—that resulted from the high rate of concurrency found in the Joint Strike Fighter program.¹

In the DOT&E FY2012 Annual Report to Congress, Dr. Gilmore stated that since 2009 (the year the Weapon System Acquisition Reform Act was enacted into law), there has been progress in a number of areas related to testing, including significant progress in increasing the scientific and statistical rigor; early engagement with the requirements community to develop realistic, feasible, and testable requirements; and increased attention in reliability management, design, and growth testing.² The report also stated that DOD recognizes “the significant adverse long-term life cycle cost impacts and reduced operational capability resulting from systems being unreliable.”³

An example of DOD’s increased recognition and focus on the importance of testing in general, and developmental testing in particular, can be seen in the recently released draft DOD Instruction 5000.02, which contains a more robust discussion on testing than the current instruction. The draft instruction states that developmental test and evaluation

demonstrates the ability of the system to meet its stated and derived requirements, including the approved KPPs, and that system production or fielding can be supported. The effort requires completion of DT&E activities consistent with the Test and Evaluation Master Plan and may include operational assessments. Successful completion of adequate developmental testing with production or fielding representative prototype test articles will normally be the primary basis for entering LRIP or Limited Fielding.

The draft instruction also contains two enclosures dedicated exclusively to test and evaluation requirements, including Enclosure 2–3, which is an eight page discussion of developmental test and evaluation. The current instruction does contain such a focus on DT&E.

Despite the progress cited above and the increasing attention being paid to the importance of testing, there are numerous areas ripe for improvement, such as the rate of systems meeting required reliability thresholds. According to the annual report, “reliability continues to lag; only 7/13 systems (54 percent) evaluated in 2012 met their reliability thresholds and overall between 1997 and 2012 only 67/118 systems (57 percent) were reliable.”⁴

Given the progress cited by Dr. Gilmore, the draft of the 5000.02 instruction, the Weapon System Acquisition Reform Act, and other reform efforts currently underway (including a heightened focus on program cost), there is little consensus as to what impact enhancing the authority and resourcing of the Deputy Assistant Secretary of Defense for Developmental Test & Evaluation would have on the goal of improving that office’s oversight effectiveness, and its ability to address cost overruns, and schedule delays. Some could argue that enhancing the authority and resources of DT&E activities will improve the process, particularly in those areas where observable progress has not occurred; others can argue that implementing further changes could have unintended consequences or may hinder the progress currently underway.

Mr. MILLER. Over the past several years, this committee has attempted to pass legislation that would provide authorities to enter into long-term and/or multi-year procurement contracts. The constant obstacle is the CBO and the manner in which they score these initiatives. What are your thoughts on CBO scoring methodology

¹ Richard Whittle, “JSF’s Build and Test Was ‘Miscalculation,’ Adm. Venlet Says; Production Must Slow,” *Breaking Defense*, December 1, 2011, at <http://breakingdefense.com/2011/12/jsf-build-and-test-was-miscalculation-production-must-slow-v/>.

² Office of the Director, Operational Test & Evaluation, *FY 2012 Annual Report*, December 2012, p. X.

³ *Ibid.*, p. v.

⁴ *Ibid.*, p. 6.

associated with multi-year procurements and do you think it is time for the Congress to provide new guidance to CBO regarding the scoring of long-term procurements?

Mr. SCHWARTZ. The statutory authority for executing MYPs include 10 U.S.C. 2306b (providing for the use of MYP for the procurement of goods) and 10 U.S.C. 2306c (providing for the use of MYP for the procurement of services). MYPs are further governed by DOD acquisition regulations.⁵ Generally, CBO does not score authorizations for MYP that are executed under existing legislation such as 10 U.S.C. 2306b. However, CBO does score new legislation that would provide new types of MYP contracts, increase the maximum term of such contracts, or add additional goods and services to those authorized under current law.⁶ In conducting its analysis, CBO adheres to the principle that MYPs incur future obligations in excess of currently available appropriations. When scoring MYPs, CBO includes the total expected obligation for all out years, not just the current obligation and the termination cost if the contract is cancelled after the first year.

The Congressional Budget Act (P.L. 93–344 section 312(a)) provides that for purposes of enforcement, spending and revenue levels “shall be determined on the basis of estimates made by the Committee on the Budget of the House of Representatives or the Senate, as applicable.” As such, Congress need not consider CBO scoring or analysis. Congress could also choose to provide new guidance to CBO as it relates to MYP scoring methodology, such as whether scoring should be based on termination costs or on all out-year costs in the contract. Such guidance may not be binding on CBO unless appropriately enshrined in statute.

Mr. MILLER. Termination liability is often cited by both CBO and OMB as an obstacle to adopting long-term and/or multi-year procurement contracts. Industry continues to tell the CBO and OMB that termination liability can be mitigated through contract terms. What are your thoughts on termination liability?

Mr. SCHWARTZ. There is a general consensus that MYPs generate cost savings for DOD. Compared with estimated costs under annual contracting, estimated savings for programs being proposed for MYP have ranged from less than 5% to more than 15%, depending on the particulars of the program in question, with many estimates falling in the range of 5% to 10%.⁷ In practice, actual savings from using MYP rather than annual contracting can be difficult to observe or verify because of cost growth during the execution of the contract that was caused by developments independent of the use of MYP rather than annual contracting.

The anticipated government savings generated from MYPs explain why DOD seeks to pursue such contracts. Generally, contractors are interested in signing multi-year contracts to book future work; contractors are more likely to make long-term investments in support of a contract if the contract period is long enough to ensure that the contractor will recoup its investment (and increase profits). However, because the federal government can terminate contracts for convenience, companies may forgo making long-term investments to guard against the government terminating the contract before the contractor recoups its investment. Generally, two main factors give contractors the confidence that DOD will not terminate an MYP contract and that the multiyear stream of business will materialize:

- For a program to qualify for MYP, DOD must certify, among other things, that the minimum need for the items to be purchased is expected to remain substantially unchanged during the contract in terms of production rate, procurement rate, and total quantities.
- MYP contracts include a cancellation penalty intended to reimburse a contractor for costs that the contractor has incurred (i.e., investments the contractor has made) in anticipation of the work covered under the MYP contract. The undesirability of paying a cancellation penalty acts as a disincentive for the government against canceling the contract (and if the contract is canceled, the cancellation penalty helps to make the contractor whole).

A 2008 report by GAO found that, while DOD terminated hundreds of contracts for convenience each year, fewer than a dozen contracts terminated from 1995–2007

⁵ For more information on MYP, see CRS Report R41909, *Multiyear Procurement (MYP) and Block Buy Contracting in Defense Acquisition: Background and Issues for Congress*, by Ronald O'Rourke and Moshe Schwartz.

⁶ For example, see U.S. Government Accountability Office, *Department of Veterans Affairs Major Medical Facility Lease Authorization Act of 2013*, Cost Estimate: H.R. 3521, December 6, 2013, http://www.cbo.gov/sites/default/files/cbofiles/attachments/lr3521_1.pdf.

⁷ CRS Report R41909, *Multiyear Procurement (MYP) and Block Buy Contracting in Defense Acquisition: Background and Issues for Congress*, by Ronald O'Rourke and Moshe Schwartz.

were worth more than \$100 million.⁸ However, from FY1999–FY2008, DOD contract obligations (adjusted for inflation) increased every year. From FY2008–FY2013 (adjusted for inflation), DOD contract obligations have decreased every year. Shrinking contract spending and the accompanying focus on cost increases the risk that DOD will terminate a contract for convenience.

To the extent that there is an increased risk in contract termination or substantial funding changes, government officials have less of an incentive to enter into long-term or MYP contracts that carry a substantial termination liability. In the current environment, termination costs can also be the determining factor in deciding whether to continue or terminate a contract. The lack of reliable or complete information can lead to poor decisions, an issue discussed in a report by the DOD Inspector General which found that the Secretary of Defense did not have sufficient termination cost information to determine the cost-effectiveness of continuing or terminating the C-130J MYP contract.⁹

Part 49 of the Federal Acquisition Regulation is dedicated exclusively to contract terminations, including the responsibilities of the parties in determining and settling termination liabilities. In addition to the rules and regulations governing contract termination, termination liability can be addressed in the contract itself. However, the budget environment in recent years makes MYP a less attractive strategy for the government, particularly given the level of uncertainty in recent years related to

- what the future overall defense base budget will be;
- if DOD will be required to operate under a continuing resolution due to the lack of a budget being enacted;
- whether a continuing resolution will include language prohibiting DOD from signing MYP contracts for the life of the continuing resolution;
- whether sequestration will be triggered in future years; and
- the stability of funding for individual programs.

Mr. MILLER. Dr. Michael Gilmore, Director of Operational Test & Evaluation, consistently speaks about developmental test & evaluation (DT&E) as being key to successful operational test & evaluation (OT&E). Prior to enactment of the Weapons Systems Acquisition Reform Act (WSARA) of 2009, the GAO and the Defense Science Board found that 50% of programs completing initial operational test & evaluation since 2000 were assessed as “not operationally effective or suitable.” GAO suggested that “... beginning production before successfully demonstrating that the weapon system will work as intended increases the potential for discovering costly design changes ... and usually requires substantial modification costs at a later time.”

- Do you believe enhancing the authority and resourcing of the Deputy Assistant Secretary of Defense for Developmental Test & Evaluation would improve that office’s oversight effectiveness, resulting in reduced cost overruns and schedule delays?
- How would you recommend enhancing that authority and resourcing?

Mr. FRANCIS. We examined the staffing and influence of the DT&E office during our 2010, 2011, and 2012 assessments of DOD’s implementation of the Weapon Systems Acquisition Reform Act of 2009.¹ In our 2011 and 2012 assessments, we reported that the office had to drop virtually all but the largest programs from its oversight list and eliminate oversight of some major automated information systems because its staff could not adequately cover a portfolio of over 200 acquisition pro-

⁸U.S. Government Accountability Office, *Defense Acquisitions: Termination Costs are Generally Not A Compelling Reason to Continue Programs or Contracts that Otherwise Warrant Ending*, GAO-08-379, March 14, 2008, p. 1.

⁹See Department of Defense Office of the Inspector General, *Acquisition: Contracting and Funding for the C-130J Aircraft Program*, D-2006-093, June 21, 2006, p. 3. According to the report the Secretary of Defense wrote a letter to Congress stating that it was in the best interest of DOD to complete the multiyear contract based on the additional cost estimated to terminate the C-130J MYP contract. However, the IG found that “The Air Force acquisition personnel provided the Secretary of Defense with an unsupported cost estimate to use in deciding whether to terminate the C-130J aircraft MYP contract. This occurred because the Air Force included ambiguous language in the contract and did not have cost and pricing data needed to develop an accurate cost estimate. As a result, the Secretary of Defense did not have sufficient termination cost information to determine the cost-effectiveness of continuing or terminating the C-130J MYP contract.”

¹GAO, *Defense Acquisitions: DOD Needs to Develop Performance Criteria to Gauge Impact of Reform Act Changes and Address Workforce Issues*, GAO-10-774 (Washington, D.C.: July 29, 2010); GAO, *Weapons Acquisition Reform: Actions Needed to Address Systems Engineering and Developmental Testing Challenges*, GAO-11-806 (Washington, D.C.: Sept. 19, 2011); *Weapons Acquisition Reform: Reform Act Is Helping DOD Acquisition Programs Reduce Risk, but Implementation Challenges Remain*, GAO-13-103 (Washington, D.C.: Dec. 14, 2012).

grams. In addition, the office was providing minimal coverage to programs prior to the start of development, which is the most opportune time to influence a program's acquisition strategy. In our 2011 assessment, we also reported that the Deputy Assistant Secretary for DT&E would like his office to be staffed with a larger proportion of government employees as he believed it is important to maintain a core cadre of people with the required institutional knowledge and skills to support current and future program office needs. At that time, about two-thirds of the staff were contractors. Our 2011 report also discussed concerns about T&E's influence within DOD. However, we could not determine if the office had the appropriate amount of influence because it was not tracking the extent to which its recommendations were being adopted or impacting weapon programs. This type of information would provide some indication of whether additional authority is needed.

Accordingly, dedicating more resources to DT&E activities would allow the office to oversee activities on more programs. However, finding additional resources at a time when defense budgets are shrinking may be difficult to achieve. We do note (1) the difficulty in finding such resources given competing demands, and (2) the capability of the DT&E office is but one of many factors that could address cost growth and schedule delays. Collectively, the program offices and the offices of DT&E, Systems Engineering, Cost Assessment and Program Evaluation, and others need to address these issues. For example, while some of these risks could be addressed with additional testing earlier in a program, other risks may best be identified through increased attention to early systems engineering or more accurate cost estimating. In addition, while we have no analytical basis for recommending a change in the DT&E office's authority, we reported in our 2012 assessment that the department must address challenges related to cultural barriers between OSD and the services that make service officials reluctant to accept DT&E's recommendations.

Mr. MILLER. Over the past several years, this committee has attempted to pass legislation that would provide authorities to enter into long-term and/or multi-year procurement contracts. The constant obstacle is the CBO and the manner in which they score these initiatives. What are your thoughts on CBO scoring methodology associated with multi-year procurements and do you think it is time for the Congress to provide new guidance to CBO regarding the scoring of long-term procurements?

Mr. FRANCIS. While we are familiar with CBO's scoring methodology we generally do not comment on it as CBO is a sister legislative agency and we feel that Congress is best served by having one support agency on this topic. We do note that, according to OMB scorekeeping guidelines, when a law provides the authority for an agency to enter into a long-term or multiyear contract, it is to score the entire amount of the government's estimated legal obligation in the year in which the budget authority is first made available to make clear the Government's total estimated legal obligations over the life of the contract.

GAO has long supported such up-front disclosure of the full commitments of the government. We have advocated that it is the best way to ensure recognition of commitments embodied in budgeting decisions and maintain government-wide fiscal control. When certain costs are not fully recognized up-front, before funds are committed, important information on full budgetary effects may not be considered as trade-offs are made among competing priorities.

Mr. MILLER. Termination liability is often cited by both CBO and OMB as an obstacle to adopting long-term and/or multi-year procurement contracts. Industry continues to tell the CBO and OMB that termination liability can be mitigated through contract terms. What are your thoughts on termination liability?

Mr. FRANCIS. While it is true that termination liability can be negotiated up front, it is also true that multiyear contracts can entail higher costs if the contract is terminated. We have previously observed that a good understanding of potential termination costs can better position an agency to fulfill its mission. The amount of a termination settlement reflects costs for which the contractor is entitled to be reimbursed, including costs incurred in performance of the contract to date, and is typically limited in multiyear procurement contracts by a negotiated termination liability which places a ceiling on these costs. As a further limitation, under certain circumstances DOD procurement regulations provide for "special termination costs" clauses that may be used after negotiation and agreement with the contractor.² Multiyear contracts allow contractors to enter into contracts for a period of up to five years so they can purchase more than 1 year's worth of equipment or materials from their suppliers, thus incurring costs sooner. We have reported that compared to a series of annual contracts, this approach could result in cost savings when a multiyear contract is completed. However, if the contract is terminated, it may re-

²Defense Federal Acquisition Regulation Supplement, 48 C.F.R. § 249.501-70; 252.249-7000.

sult in higher incurred costs and thus a higher termination settlement.³ Termination liability is one factor to consider when looking at the stability of a program's funding, a key element in determining whether a multiyear contract should be awarded, and should be considered an added risk that an otherwise stable, realistically priced program can avoid. Immature, volatile programs and those at risk of future changes should not be proposed as multiyear candidates because such instability puts the savings attributed to efficiencies of production and buying at risk.

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. Better Buying Power (BBP) 1 and 2 focused much attention on training and processes, but absent from the discussion has been a focus on equipping the workforce with time saving, modern, analytical software.

- Have acquisition support systems such as the contract writing systems, cost estimating systems, auditing systems, and the like kept pace with acquisition reform and evolution?
- How could technology enable the acquisition workforce to forecast, estimate, compete, award, and monitor requirements better?
- Could there be a way to automate more of the acquisition processes, particularly small contract changes like unilateral modifications, and in doing so free up time to work more complex acquisition issues?

Mr. ZAKHEIM. While providing the types of software outlined in the question certainly could help improve the efficiency of the workforce, far more fundamental is the question of how the recommendations of both versions of Better Buying Power will be implemented. The two documents correctly identify the problems that best the acquisition system. Better Buying Power 2.0, in particular, outlines an exhaustive list of actions that must be taken to overcome those problems. Nevertheless, with some notable exceptions—for example, presenting affordability analyses to the Milestone Decision Authority; DAU incorporating Performance Based Logistics assets into its curricula; limiting the time for staff review of Acquisition Strategies and Decision Memoranda—even the lengthier and more detailed implementation memorandum for Better Buying Power 2.0 is full of words such as “review,” “evaluate,” “determine” and “study.” Directives that incorporate such language invariably are either circumvented or ignored by the bureaucracy. Acquiring expensive software or systems without ensuring bureaucratic performance invariably results in underuse or misuse of the software/systems. Only by basing bonuses, pay increases and promotions on actual performance, and by mandating far more stringent training requirements than are currently in force, will bureaucratic performance be improved. And at that point, it will be advantageous to acquire software/systems to further enhance that performance.

Mr. LANGEVIN. One area of focus in acquisition reform has been the state of the acquisition workforce. Are there any international examples of different approaches to acquisition workforce management policies that have potential benefit for application in the U.S.? Similarly, are there examples of international acquisition systems, organizational structures and procurement processes that are structured fundamentally differently than our own that could be adopted to the benefit of our own defense acquisition system?

Mr. ZAKHEIM. Because the American acquisition program and budget is so much larger than its equivalent anywhere else, there are limits to the lessons that might be learned from foreign acquisition systems. Those that tend to function more effectively, such as the Israeli system, involve fewer, and smaller, programs. What is noteworthy about the Israeli system is the emphasis on having operators involved in all aspects of a program's development. Matching requirements to developmental performance is key to a successful program; the Vice Chairman of the Joint Chiefs has begun to implement this process, but it can be carried much further.

There are some lessons to be learned from the French system as well. France has traditionally shared program management among the chiefs of staff and the Director General for Armaments (DGA). Since the late 1990s program teams have been organized in integrated, cross disciplinary fashion. While French acquisition has suffered from many of the same ailments as other nations, the system is far more tolerant of multi-year acquisition programs than the United States. The DGA also emphasizes harmonization of programs under a smaller number of contracts, to improve contract management, and the greater use of pilot programs. It may therefore

³GAO, Defense Acquisitions: Termination Costs Are Generally Not a Compelling Reason to Continue Programs or Contracts That Otherwise Warrant Ending, GAO-08-379 (Washington, D.C.: Mar 14, 2008).

be worth exploring whether these efforts might be applied within the American context.

There may also be much to be gleaned from the DGA's human resource management, education and training system. French engineers are generally drawn from the country's top school, the Ecole Polytechnique, where they earn the equivalent of a Master's degree. They will also have had a year of military training. They also can obtain up to two additional years of specialized engineering education at one of several advanced technical engineering schools, two of which are managed by the DGA itself. Many also train in foreign laboratories or earn doctorates. As a result, the leading career officials in the DGA not only have the highest level of technical education that France offers, but also military experience and, in many cases, foreign experience as well.

The DGA has a more demanding system of continuing education than its American counterpart. French continuing education includes a staff course taken jointly by civil servants and defense company executives, a 44 day course for program directors (compared to 80 hour requirements for senior program managers in the DOD system), and a program for confirmed managers in their tenth year of service.

The British acquisition system has suffered from cost overruns and schedule delays for some time. In 2004 the Ministry of Defense issued a series of "smart acquisition" guidelines (not dissimilar from the DOD's ongoing Better Buying Power initiatives) to address these challenges, but within a year a parliamentary committee found that cost overruns and schedule delays persisted. Other attempts to improve the process since then have also been unsuccessful. As a result, the Ministry of Defense is considering the option of outsourcing the management of its acquisition and support operations, a task that in the United States is considered "inherently governmental." The plan is highly controversial in Britain and has come under attack from former senior government officials such as Lord Peter Levene, who has argued that it would more efficient to revamp the government's own acquisition organization. The Royal United Services Institute, leading British think tank, is also opposed to the plan. The MoD may nevertheless proceed with an award of a one year pilot contract to one of two bidders who would manage the \$22 billion British program. Clearly, outsourcing acquisition and support would obviate the need for an acquisition workforce comparable to the one functioning in the MoD, or for that matter, in the US DOD. I am dubious that the British experiment, if undertaken, will succeed, however, nor, in the US context, would it be useful to extend inherently governmental functions to contractors. If anything, there should be greater scrutiny to ensure that contractors do not cross over the line the demarcates those activities that properly should only be carried out by the US government.

Several European states have attempted to coordinate their acquisition efforts. At one end of the spectrum, the Nordic nations—Denmark, Sweden, Norway, Iceland and Finland established Nordic Defense Cooperation (NORDEF) in 2009 to coordinate their defense capabilities. The nations work jointly on acquisition and life cycle support, delineating areas for cooperation. The states claim to have saved several tens of millions of Euros, but their budgets and acquisition programs are quite small, even when aggregated among them all (Iceland does not even have a defense force). On the other hand, France and Britain have repeatedly attempted to coordinate their acquisition efforts, with at best moderate success. In 2010 the two countries agreed to strengthen the UK-France High Level Working Group's efforts in the areas of industrial and armaments cooperation, which, if anything, was an indication of that Group's lack of success until that time.

Mr. LANGEVIN. One area of focus in acquisition reform has been the state of the acquisition workforce. Are there any international examples of different approaches to acquisition workforce management policies that have potential benefit for application in the U.S.? Similarly, are there examples of international acquisition systems, organizational structures and procurement processes that are structured fundamentally differently than our own that could be adopted to the benefit of our own defense acquisition system?

Mr. CHAO. The topic of lessons to be learned from acquisition workforce practices of our international peers has been studied by various think tanks, academics and FFRDCs over the last 10–15 years and there are several good reports that are worth reading. The focus of the studies has been mostly on our NATO allies and the larger, more technologically sophisticated countries. The common cautionary note in most of these studies is that no other country has an acquisition system required to purchase the scope, scale and sophistication of the U.S. It does not mean there are no lessons to be learned, simply that the practices cannot be applied directly to the U.S. acquisition system.

There are two key elements which stand out and are worthy of consideration:

The first is that certain countries, such as France, have a professionalized and independent acquisition work force. Unlike the U.S. system where an acquisition assignment is one of many that can be had during a military career, in the systems that have professional acquisition corps, it becomes a permanent avocation. This is culturally very different than the U.S. system and although the notion has been raised in prior acquisition reform studies, it has not gained much traction. The related topic, that is perhaps better suited for the U.S. acquisition system, is how the Services treat their acquisition cadre—in terms of promotion, flag officer billets, etc. If pursuing an acquisition track is deemed to be negative to a career, then naturally the best talent will stay away and it will impact the quality of the acquisition system.

The second element that one finds in the U.K., French and other allied acquisition workforces is a far greater exchange of professionals between industry and the government/civil service/military. This is achieved through military officer exchange programs and civilians moving back and forth between industry and government service throughout their careers. It creates a far better understanding of the industry, their capabilities and their motivations by the government; and I would submit better ability to perform oversight. The growing divide between industry and the acquisition system in the U.S. is a dangerous trend—without fail former government acquisition professionals who have joined industry say “I wish I knew then what I know now about industry and how it works”, and vice versa when members of industry go into government service. Examining how these countries enable that interchange, manage conflicts of interest and ethics issues would be areas of fruitful examination.

Aside from these two key areas, there are a few other practices also worth looking at. The Australian practice of charging programs a cost of money creates some very interesting and healthier behaviors—it places a premium on getting programs done quickly. Also countries that truly implement total cost of ownership evaluation have a better ability to analyze programs that require higher up front costs but save money once in operation—our current system with the different colors of money (procurement separate from O&M) makes this hard in the U.S. system.

Mr. LANGEVIN. One area of focus in acquisition reform has been the state of the acquisition workforce. Are there any international examples of different approaches to acquisition workforce management policies that have potential benefit for application in the U.S.? Similarly, are there examples of international acquisition systems, organizational structures and procurement processes that are structured fundamentally differently than our own that could be adopted to the benefit of our own defense acquisition system?

Mr. SCHWARTZ. A number of countries have undertaken efforts to reform or improve their defense acquisition system, resulting in novel and innovative approaches to acquisitions. Some analysts have suggested that the United States can benefit from looking at the defense acquisition practices of other countries.

1. Some analysts have suggested that DOD should emulate the approach taken by such countries as England, France, Sweden, Australia, Israel, and Germany, and create a centralized (joint) acquisition organization. Some of these analysts argue that just as Goldwater-Nichols created a ‘joint-ness’ in the operational forces, it is time to extend the principles of Goldwater-Nichols to the acquisition sphere and create a joint acquisition organization. Such an approach was outlined in HR 965, Independent Defense Procurement Corps Act of 1989 (the bill was not enacted into law).¹

Others have taken the opposite view, arguing that the military services should be endowed with more acquisition authority, at the expense of the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. This position

¹ Section 101 of the bill read as follows:

Congress finds the following:

(1) It is essential that Congress act to establish an independent procurement system for the Department of Defense that will minimize abuses and provide high quality, competitively priced, and effectively designed defense products.

(2) The frequent movement of individuals from the private sector to the Department of Defense, and from the Department of Defense to the private sector, fosters real and perceived conflicts of interest in defense acquisition.

(3) The parochial interests of each military department often lead to duplication of effort and higher costs.

(4) There should be an independent, well-trained, and well-paid team of professionals who have chosen the Independent Procurement Corps as a stable career path and who represent the public interest and the legitimate needs of the Department of Defense in all negotiations with defense contractors in all matters related to the procurement of property and services required by the Department of Defense, including research, development, production, and management.

is consistent with those analysts and officials from other countries who are not persuaded that a centralized acquisition organization is inherently more efficient or effective.

Below is a list of selected countries that some analysts or officials have suggested provide examples of approaches to defense acquisitions that can be emulated by the Department of Defense.

Israel²

The acquisition of goods and services for the Israeli military is generally executed by the Ministry of Defense's Directorate of Procurement and Production. The directorate is organized into five main divisions:

2. Air
3. Land
4. Sea
5. Information and Telecommunication
6. Maintenance and Services.

Each of these divisions corresponds to and works closely with its operational counterpart. Requirements are developed by the relevant service, not by the Directorate of Procurement and Production. A separate organization, the Directorate for Research and Development, focuses on R&D programs and can set its own operational requirements.

Some analysts and officials have suggested that another positive aspect of the Israeli requirements and acquisition process is that it allows for more rapid development and fielding of systems than the MDAP acquisition process in the United States.³

Sweden⁴

The Defense Materiel Administration (FMV) is the centralized organization that procures goods and services for the Swedish military. Starting January 1, 2014, the FMV will be expanded to also provide logistics. After January 1, the FMV will consist of six divisions:

7. Systems and Production
8. Logistics and Procurement
9. Storage, Service and Workshops
10. Tests and Evaluation
11. GRIPEN (Strategic Projects)
12. Commercial Operations.

Some analysts have suggested that the United States should emulate the pay structure used by the FMV to attract and retain its acquisition workforce. According to acquisition expert Ronald Fox, Sweden addresses the challenge of

attracting and retaining senior people—military and civilian—by a special law that allows an added salary increase for crucial acquisition positions. Thus, a Swedish colonel serving as a program manager can receive a significantly higher salary than other colonels and even the director general of the agency. This incentive provides prestige and draws highly qualified, experienced people to senior acquisition positions.⁵

The same policy applies to all FMV personnel in the acquisition workforce, including technical experts and project managers. Pay and benefits, which are influenced by the complexity of the task and the performance of the individual, are more flexible than DOD's GS (General Scale) or uniform pay structures. According to the Swedish government

Pay determination shall be individual, differentiated and adjusted to market conditions for all categories of personnel. It is the responsibility of each manager to ensure that his/her employees are evaluated and awarded based on performance.... In the pay review the individual evaluation shall be based on whether the employee has achieved the expected result and fulfills the competency requirements for his/her position.⁶

²Information provided to CRS by an official at the Embassy of Israel in Washington D.C., December 12, 2013. Information also based on discussions with Israeli officials throughout 2012.

³One example is Israel's Iron Dome system, which was developed and deployed within a time-frame that was faster than generally possible in the current DOD acquisition process.

⁴Based on information and documentation provided to CRS by an official of the Defense Materiel Administration, November 29, 2013 (unless otherwise cited). Documents available upon request.

⁵J. Ronald Fox, *Defense Acquisition Reform 1960–2009: An Elusive Goal* (2011), p. 204.

⁶Documentation provided by the Defense Materiel Administration.

A consequence of the pay system is that different positions have different salary ranges within which an individual's pay is determined.⁷

France

In 1961, France became one of the first nations to consolidate all defense acquisition under one bureau, the Direction Générale de l'Armement (DGA-General Directorate for Armement), which is responsible for virtually all aspects of weapon system development (including exports). Some analysts have argued that the French approach to defense acquisition can provide lessons in improved acquisition performance. One report found that cost overruns in French weapon acquisitions

tend to be relatively minor in scope; on the order of 5–10 percent per weapons platform, versus an average overrun of 26 percent per platform in the United States.⁸

The report argues that three related factors are substantially responsible for cost control:

13. hard budget constraints;
14. technical knowledge and experience of the acquisition workforce, coupled with a more collaborative relationship between the military department and industry; and
15. empowered program managers.

Another difference between the U.S. and French systems is the role of the legislative branch. The French legislature is viewed as having less authority in the budget process over individual weapon systems than the U.S. Congress.

Australia⁹

The Defense Materiel Agency (DMO), established in 2000, is the centralized organization responsible for the acquisition of goods and services for the Australian military. In 2012–2013, the DMO was responsible for 40% of the Australian military's budget. According to the Australian government, since the establishment of a centralized acquisition organization:

On average, projects are delivered *under* budget (using 98% of available funds).

Average schedule slips have decreased from 50% to 30% in 2007; the number of projects delivered on time has doubled.

One unique feature of the DMO is that it provides independent cost, schedule, and risk analysis to the military and civilian government, providing independent analysis from those executing the acquisition programs (the DMO does not weigh in on capability requirements). According to government documentation,

DMO is responsible for delivering military equipment to the ADF (Australian Defense Forces) according to the cost, schedule and specifications agreed by the Government. To be properly held to account for doing so, DMO needs to be able to provide independent advice to Government on matters which it remits.

Another unique feature of the Australian system is the role of Gate Review Boards. Gate Reviews are the rough equivalent to DOD milestones. Gate Reviews are conducted by Gate Review Boards. Each board is made up of

- Senior DMO management;
- DMO officials independent of the program in questions; and
- Independent non-DMO officials.

The board conducts in-depth analysis of the program, and the Chair of the board provides guidance to the program manager and the senior executive responsible for approving the program's readiness to advance to the next acquisition phase. Australian officials have indicated that this process has been very successful in improving the performance of the acquisition process.

⁷ Based on email discussion with official from the Defense Materiel Administration.

⁸ Ethan B. Kapstein and Jean-Michel Oudot, "Reforming Defense Procurement: Lessons from France," *De Gruyter Business and Politics*, vol. 11, no. 2 (August 2009). A policy brief written summarizing the full abstract was written by the author and issued by the Center for a New American Security. The policy brief can be found at http://www.cnas.org/files/documents/publications/CNAS%20Policy%20Brief%20-%20defense%20acquisition_1.pdf.

CRS has not determined the extent to which this comparative analysis adjusts, as appropriate, for size, complexity, or technological advances in weapon programs. The report points out that the methodology used by the Government Accountability Office to determine 'average' cost growth of 26% is unknown. As a result, the authors "look at both the arithmetic and geometric averages in our account of the French case, and thus the spread in averages from 5–10 percent."

⁹ Based on discussions with officials from the Australian Senate and the Embassy of Australia, December 2013, and documentation provided to CRS December 13, 2013. Documents available upon request.

Challenges to Adopting Foreign Practices

While there may be lessons to be drawn from the acquisition practices of other countries, it is worth noting the vast difference in scale between DOD and the military establishments of other nations, including the

1. comparative size of the defense acquisition workforce;
2. number of complex and challenging acquisitions undertaken by DOD; and
3. significantly larger acquisition budget of DOD.

Put in context, DOD obligated more money on just contracts in FY2012 (\$360 billion) than the combined value of the five largest non-U.S. total defense budgets in the world (\$335 billion). Some policies that appear effective in smaller acquisition organizations or in less complex procurements may not prove to be as effective when pursued on the scale of DOD.

Another challenge in adopting foreign practices is the difference in the organizational structure of DOD compared to that of most other countries. Title X of the U.S. Code endows the military services with a substantial role in the acquisition process. This is in marked contrast to the structure established in many other countries, including most European countries, where there is a centralized defense acquisition organization. Policies that work in a centralized acquisition organization may not be transferable to or as effective in the military service-oriented structure of the Department of Defense.

Mr. LANGEVIN. Better Buying Power (BBP) 1 and 2 focused much attention on training and processes, but absent from the discussion has been a focus on equipping the workforce with time saving, modern, analytical software.

- Have acquisition support systems such as the contract writing systems, cost estimating systems, auditing systems, and the like kept pace with acquisition reform and evolution?
- How could technology enable the acquisition workforce to forecast, estimate, compete, award, and monitor requirements better?
- Could there be a way to automate more of the acquisition processes, particularly small contract changes like unilateral modifications, and in doing so free up time to work more complex acquisition issues?

Mr. FRANCIS. Theoretically such systems could assist the department, but, in DOD's past experience, such systems have proven problematic. For example, in October 2011, the Under Secretary of Defense for Acquisition, Technology, and Logistics noted that the Standard Procurement System (SPS)—the department's contract writing system that supports nearly 27,000 procurement professionals in issuing solicitations, award contracts and modifications, approving payments, and closing out contracts—was difficult to maintain and improve and was technologically fragile. As a result, no new contracts, agreements or orders are to be awarded through SPS after September 30, 2015, and the use of the system is to cease two years later. As we noted in our February 2013 high-risk update, DOD needs to ensure that these types of business systems investments are managed with the kind of acquisition management rigor and discipline that is embodied in relevant guidance and best practices so that each investment will deliver expected benefits and capabilities on time and within budget.¹

GAO has not assessed specific technologies or software that could enable the acquisition workforce to better execute or automate contract management, but we have found means of achieving greater efficiency that are not software related but could improve acquisition practices. For example, one way that improved analytics and data can help DOD and other federal agencies potentially save billions of dollars is through the expanded use of strategic sourcing.² Generally speaking, strategic sourcing is a procurement process that seems to move an organization away from numerous individual procurements to a broader aggregate approach. The tools and techniques that come with strategic sourcing enable organizations to:

- develop a better picture of what they are spending on goods and services,
- better understand cost drivers,
- prioritize their requirements,
- better manage suppliers,
- take advantage of market trends, and
- target savings.

Leading companies strategically manage 90 percent of their procurement spending, and report savings of 10 percent or more of total procurement costs. We have found, however, that federal agencies have been slow to embrace this approach,

¹High-Risk Series: An Update, GAO-13-283 (Washington, D.C.: Feb. 2013).

²GAO, Strategic Sourcing: Improved and Expanded Use Could Provide Significant Procurement Savings, GAO-13-765T (Washington, D.C.: July 15, 2013).

even in a time of great fiscal pressure, due in part to the lack of leadership commitment, expertise, and data barriers among other factors. As a result, we found that while DOD and the Departments of Homeland Security, Energy, and Veterans Affairs accounted for 80 percent of the \$537 billion in federal procurement spending in fiscal year 2011, less than 5 percent of that spending was managed through strategic sourcing efforts.

In addition, our audits of civilian agencies have found that agencies did not always take full advantage of acquisition planning to develop a strong foundation for the services contracts they awarded.³ In particular, GAO found that agencies faced challenges defining their needs, documented cost estimates to varying degrees, and documented lessons learned to a limited extent.

Mr. LANGEVIN. One area of focus in acquisition reform has been the state of the acquisition workforce. Are there any international examples of different approaches to acquisition workforce management policies that have potential benefit for application in the U.S.? Similarly, are there examples of international acquisition systems, organizational structures and procurement processes that are structured fundamentally differently than our own that could be adopted to the benefit of our own defense acquisition system?

Mr. FRANCIS. We have not recently assessed other countries' acquisition workforce management policies, but our prior work found that the experiences of other nations in developing their workforce performance management systems as a whole could be instructive to U.S. agencies considering reforms. For example, in 2002, we noted that Australia, Canada, New Zealand, and the United Kingdom had begun to use their performance management systems to help their governments achieve results.⁴ To do so, these countries

- created a "line of sight" between individual and organizational goals,
- used competencies to provide a fuller assessment of individual performance,
- linked pay to individual and overall organizational performance, and
- fostered organization wide commitment to results-oriented performance management.

While the performance management initiatives in these countries reflected their specific organizational structures, cultures, and priorities, we concluded that their experiences provided a useful point of reference for U.S. agencies. In addition to the performance management practices used by other countries, our prior work has identified management practices that could help improve the capacity of the federal acquisition workforce. They include robust workforce planning, succession planning, and using practices that have shown to boost employee morale and engagement.

Similarly, while we have not assessed other nations' acquisition systems or procurement processes, we have participated in numerous forums, conferences, and meetings with our fellow auditors from around the world to compare experiences and exchange lessons learned. Acquisition systems, organizational structures, and procurement processes vary from country to country and may have similarities to or differences from our own. While British and Australian defense acquisition processes have a "gated" review processes similar to DOD, for example, they use a more portfolio-oriented approach for program execution. Regardless of acquisition structure or policy, however, foreign audit entities report outcomes similar to those here at home. For example, British and Australian audit agencies release an annual report on the performance of their defense acquisition programs much as we do. Those reports communicate the same kinds of cost and schedule overruns and note similar reasons for overruns such as poor cost and schedule estimating and a bias towards performance over cost when tradeoffs are needed. It should also be noted that Britain, Australia, and other countries procuring major defense systems do not tend to engage in as many, or as costly and complex, development programs as DOD.



³GAO, Acquisition Planning: Opportunities to Build Strong Foundations for Better Services Contracts, GAO-11-672 (Washington, D.C.: Aug. 9, 2011).

⁴GAO, Results-Oriented Cultures: Insights for U.S. Agencies from Other Countries' Performance Management Initiatives, GAO-02-862 (Washington, D.C.: Aug. 2, 2002).