

**DEPARTMENT OF DEFENSE AUTHORIZATION
OF APPROPRIATIONS FOR FISCAL YEAR
2015 AND THE FUTURE YEARS DEFENSE
PROGRAM**

WEDNESDAY, APRIL 30, 2014

U.S. SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

REFORM OF THE DEFENSE ACQUISITION SYSTEM

The committee met, pursuant to notice, at 9:35 a.m. in room SD-G50, Dirksen Senate Office Building, Senator Carl Levin (chairman) presiding.

Committee members present: Senators Levin, McCaskill, Manchin, Blumenthal, Donnelly, Hirono, Inhofe, McCain, and Ayotte.

Committee staff members present: Peter K. Levine, staff director; Leah C. Brewer, nominations and hearings clerk.

Majority staff members present: Jason W. Maroney, counsel; and Mariah K. McNamara, special assistant to the staff director.

Minority staff members present: John A. Bonsell, minority staff director; Daniel C. Adams, minority associate counsel; William S. Castle, minority general counsel; John D. Cewe, professional staff member; Ambrose R. Hock, professional staff member; and Sean J. Wolfe, research analyst.

Staff assistants present: Daniel J. Harder and Alexandra M. Hathaway.

Committee members' assistants present: Jason D. Rauch, assistant to Senator McCaskill; C. Patrick Hayes, assistant to Senator Manchin; Rachel H. Lipsey, assistant to Senator Donnelly; Nick Ikeda, assistant to Senator Hirono; Stephen M. Smith, assistant to Senator King; Jeremy H. Hayes, assistant to Senator McCain; George Elliott, assistant to Senator Sessions; and Bradley L. Bowman, assistant to Senator Ayotte.

OPENING STATEMENT OF SENATOR CARL LEVIN, CHAIRMAN

Chairman LEVIN. Good morning, everybody.

The committee meets today to assess the impact of the Weapon Systems Acquisition Reform Act of 2009, WSARA, and other acquisition reform measures adopted over the last decade and to consider the need for further legislative and administrative improvements to the defense acquisition system.

Six years ago, the committee held a similar hearing at a time of real crisis in the defense acquisition system. In 2008, half of the Department of Defense's major defense acquisition programs had exceeded the so-called Nunn-McCurdy cost growth standards which had been established by Congress to identify seriously troubled programs. On average, these programs had exceeded their research and development budgets by an average of 40 percent, seeing their acquisition costs grow by almost 30 percent, and had experienced an average schedule delay of almost 2 years.

The GAO's 2008 annual report on the Department of Defense's large weapon systems described an acquisition system in real disarray. The GAO report stated, quote, of the 72 weapons programs that we assessed this year, no program had proceeded through system development, meeting the best practices standards for mature technologies, stable design, and mature production processes. 88 percent of the programs, the GAO said, began system development without fully maturing critical technologies according to best practices. 96 percent of the programs had not met best practice standards for demonstrating mature technologies and design stability before entering the more costly system demonstration phase. And finally, the report said, no programs that we assessed had all of their critical manufacturing processes in statistical control when they entered production and most programs were not even collecting data to do so.

Now, the problem as described in 2008 by the GAO and others was that the Department of Defense was trying to build complex weapon systems without doing the upfront engineering, design, and cost estimating work needed to put an acquisition program on sound footing. We learned that as a rule of thumb it can cost 10 times more to fix a problem after you have built a weapon system than it does to get it right the first time. And that is why we should continue to insist on a "fly-before-we-buy" approach to major weapon systems, and that is why WSARA established a "design-before-you-build" policy for these acquisitions as well.

The Weapon Systems Acquisition Reform Act, which Senator McCain and I introduced in early 2009 and which was enacted several months later, focused on getting things right at the beginning of an acquisition program by, first, establishing new standards to ensure the technological maturity of key technologies before they are incorporated into major weapons systems; second, establishing a new director of cost assessment and performance evaluation to ensure accurate estimates for the cost of these systems; third, requiring the Department of Defense to make early tradeoffs between costs, schedule, and performance to ensure reasonable and achievable acquisition objectives; and fourth, restoring the Department of Defense's system engineering and development testing capabilities, that is, the skills and procedures necessary to solve tough problems on the drawing board before they become bigger, more expensive problems.

Now, there is now evidence that our 2009 legislation has brought about some significant improvements. The GAO's 2013 report states, quote, continuing a positive trend over the past 4 years, newer acquisition programs are demonstrating higher levels of knowledge at key decision points. Many of the programs are cap-

turing the critical manufacturing knowledge prior to production. As a result, the GAO has reported that, “a majority of programs in the portfolio gained buying power in the last year as their acquisition unit costs decreased.”

Similarly, the GAO’s 2014 report found that in the previous year, 50 of the 80 programs had reduced their overall costs, and 64 percent of the programs had increased their buying power, resulting in \$23 billion of savings. In short, improved acquisition practices have resulted in significant cost reductions on many of our major acquisition programs, a result that was rarely achieved 5 or 6 years ago.

Now, WSARA is not the only major acquisition reform legislation that we have enacted since 2008. For example, in the fiscal year 2008 National Defense Authorization Act, we enacted the Defense Acquisition Workforce Development Fund, which has enabled us to hire and train engineers, cost estimators, program managers, IT experts, logisticians, testers, and procurement specialists needed to successfully run the acquisition program. In the fiscal year 2009 National Defense Authorization Act, we required the military departments to establish configuration steering boards to prevent costly and unnecessary changes to program requirements for major weapon systems. And in the 2012 NDAA, we enacted measures to strengthen the detection, avoidance, and remediation of counterfeit electronic parts in defense systems.

In addition, we have enacted Senator McCain’s provisions to prevent abuses of cost-type contracts and multiyear contracts. We have enacted Senator McCaskill’s legislation to ensure proper oversight of wartime contracting. We have enacted measures to protect contractor whistleblowers to prevent contractor conflicts of interest, to establish a database of contractor misconduct, to end the abuse of interagency contracting, to address the problem of excessive pass-through charges to control the operating and support costs that constitute up to 70 percent of the lifecycle costs of many weapon systems. We have required business process reengineering before we buy new IT systems, and we have tied award and incentive fees to contractor performance.

Senior defense officials have reinforced some of these reforms beginning with the Better Buying Power initiative launched under Under Secretary Kendall and his predecessor, Ash Carter. The GAO has reported that a single element of that initiative, the more aggressive use of “should cost” analyses for major defense acquisition programs, will result in \$24 billion in savings on contracts negotiated last year.

Nonetheless, much more remains to be done. For instance, the GAO’s 2014 report on the acquisition of major weapon systems states that despite the improvements of the last 5 years, the Department of Defense has yet to fully implement a number of best practices such as fully maturing technologies before starting engineering and manufacturing development and bringing all manufacturing processes under control before starting production.

And the Department of Defense’s track record in the acquisition of new IT systems remains abysmal, with repeated examples of systems that take years longer than expected to field, run hun-

dreds of millions of dollars over budget, and end up being canceled without any benefit at all to the Government.

That is why I recently joined Senator McCain in sending letters in our capacities as chairman and ranking member of the Permanent Subcommittee on Investigations to several dozen acquisition experts seeking their views on deficiencies in the defense acquisition process, steps that should be taken to improve the efficiency and effectiveness of this process, and the extent to which recent legislative and policy reforms may have resulted in improvements. And it is why Senator Inhofe and I recently joined with our counterparts on the House Armed Services Committee in signing a series of letters to industry associations seeking their views on a similar set of issues.

Finally, I thank our witnesses for being here today. We look forward to their testimony, and I now recognize Senator Inhofe.

STATEMENT OF SENATOR JAMES M. INHOFE

Senator INHOFE. Thank you, Mr. Chairman.

I think it goes without saying that we cannot afford to continue to award contractors \$1.2 billion on a weapon system such as the Army Ground Combat Vehicle only to, shortly afterwards, terminate the program.

And I will have some specific questions about some of the other things that have happened such as the Crusader after \$2 billion of investment; the FCS, after \$19 billion of investment. So that has been touched upon by our chairman in his opening remarks.

Despite this, there has been progress in achieving defense acquisition reform. The Weapon Systems Acquisition Reform Act of 2009, as reported by the chairman, was largely written by the chairman and by Senator McCain, and it has made important strides. Secretary Kendall's Better Buying Power initiative and the reissuance of the interim DOD instruction 5002 have also contributed to this effort.

However, a lot of work has to be done. Recently I was informed in the case of one major defense acquisition program, it took 80,000 man-hours to complete the paperwork to pass the defense acquisition system's first milestone and an additional 100,000 man-hours to produce the documents to pass the second milestone. Now, this is wrong.

Therefore, I am happy to see Secretary Kendall has launched an effort to streamline the acquisition process. I also have tasked GAO to perform a similar review, which I hope will be the foundation for next year's acquisition reform effort.

But just streamlining the process will not suffice. We need to make sure that our acquisition professionals are properly trained. A 2009 DOD poll of senior program managers—it was called the Fox-Ahern Report—found in a strikingly large number of fundamental areas, these senior officials believed that training was not, quote, sufficiently practical or comprehensive.

WSARA has begun to remedy this. However, I added a request or a requirement in the last NDAA for the Department to redo the 2009 study to see if progress being made in training. Since the report is due soon, I hope that Secretary Kendall will be able to discuss some of those findings.

I am also concerned that program managers are constantly being rotated in and out of acquisition programs. This is having a major adverse impact on the execution of programs. Figuring out a way to overcome this must be a vital element in the new acquisition reform.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you very much, Senator Inhofe.

We now welcome our two witnesses this morning: Frank Kendall III, Under Secretary of Defense for Acquisition, Technology and Logistics; and Michael Sullivan, Director of Acquisition and Sourcing Management at the Government Accountability Office, the GAO. Secretary Kendall?

STATEMENT OF HON. FRANK KENDALL III, UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS, DEPARTMENT OF DEFENSE

Mr. KENDALL. Thank you, Mr. Chairman.

Chairman Levin, Ranking Member Inhofe, thank you for giving me the opportunity to discuss some of the measures the Department of Defense is taking to improve the productivity and performance of defense acquisition.

I want to begin by expressing my appreciation for the work this committee has done in this area. Statutes like the Defense Acquisition Workforce Development Fund authorization and the Weapon Systems Acquisition Reform Act and others, Mr. Chairman, that you mentioned that this committee has initiated and strongly supported have been very beneficial to the Department and to the Nation.

My written testimony has more detail, and I ask that it be admitted to the record.

Senator INHOFE. Without objection.

Mr. KENDALL. I spent most of my professional life in defense acquisition either on the Government side or in industry, a period of over 40 years. During that time, I have seen any number of attempts to improve defense acquisition. My view is that many of the things we have tried have had little discernible impact. The evidence, in terms of major program cost and schedule slips, shows very little statistical change over the years. I am tempted to draw three conclusions from that fact.

The first is that fixing defense acquisition is not as easy as a lot of people seem to think it is.

The second conclusion I am tempted to draw is that maybe we have been changing the wrong things. Defense acquisition is a human endeavor. And my view is that we have focused too much on organizational structures, processes, and oversight mechanisms and not enough on providing people with the skills and the incentives they need to be successful.

The third possibility is we have not been patient enough or sufficiently tenacious with the acquisition policies that we have tried to leave—and we have tried to leave in place long enough to find out whether they really work or not. The frequent rotation of leadership, particularly political appointees and career military people, makes it harder to sustain any given initiative.

The approach I am taking is one that Dr. Carter and I decided upon 4 years ago when he was Under Secretary and I was his Principal Deputy when we introduced the first set of what we called Better Buying Power initiatives. This is an approach of continuous incremental improvement based on pragmatism and evidence based on data. I can report to you today that after 4 years, I believe we are seeing changes for the better. Acquisition of a new cutting-edge weapon system is a complex job. It requires getting every one of hundreds of decisions right, an environment where the real incentive systems are not always aligned with the goal of increased efficiency. This is particularly true in the current budgetary situation. There is great uncertainty about future budgets and planning is excessively difficult.

The Better Buying Power approach tries to identify the areas of acquisition where the greatest good can be achieved and to attack those opportunities. As we learned from our experience, we periodically make adjustments and bring in new ideas. In my written statement, I discuss some of the many initiatives we are currently pursuing under the second iteration of Better Buying Power. Our third iteration is on the horizon. It is a pragmatic, incremental approach that spans actions like setting affordability caps to constrain program cost, bottoms-up "should cost" estimates, and a focus on the professionalism of the Department's acquisition workforce, the creation of competitive pressures wherever possible, and a new emphasis on the acquisition of services as opposed to products. This is hard, detailed work. It takes time, constancy of purpose, and tenacity to be effective. But I do not believe there is any other way to achieve lasting improvement.

Embedded within this process of continuous improvement on multiple fronts, there are some important cultural changes I am trying to implement. The academic business literature suggests that two things are necessary to effect major change in an organization: a period of 4 or 5 years of sustained commitment by senior leadership and a crisis. I am trying to supply the leadership. The budget situation is supplying the crisis.

The first culture change is to move our workforce from a culture that values spending over controlling cost. In Government, the built-in incentive system is to spend one's budget so that funds are not rescinded or reduced in subsequent budgets. Many of the Better Buying Power initiatives are intended to reverse this situation and force our managers to focus on cost.

The other culture change is to move the Government workforce away from a "check the box" or "school solution" approach to acquisition to one based on professionalism, sound business and technical analysis, and most of all, critical thinking. The vast array of products and service types that the Department buys makes this a necessity. One-size-fits-all rules are often not the right answer to a given situation or problem.

I do believe we are making progress, but I also believe we have ample room for additional improvement. With your support, I am determined to build upon the progress that we have made.

I look forward to your questions. Thank you.

[The prepared statement of Mr. Kendall follows:]

Chairman LEVIN. Thank you very much, Secretary Kendall.

Mr. Sullivan?

STATEMENT OF MICHAEL J. SULLIVAN, DIRECTOR, ACQUISITION AND SOURCING MANAGEMENT, GOVERNMENT ACCOUNTABILITY OFFICE

Mr. SULLIVAN. Thank you, Mr. Chairman, Ranking Member Inhofe, members of the committee. Thank you for inviting me to testify today.

I would like to briefly discuss the current state of weapon systems acquisitions, as well as potential new ideas for acquisition reform. And I have a more detailed written statement that I have submitted for the record.

Do we need to improve the acquisition process? Yes. Do we need new policies and legislation? In my estimation, while there is still room for improvement, the Weapon Systems Acquisition Reform Act of 2009 provided ample direction to move critical systems engineering knowledge to the front of the process. Likewise, the Department's Better Buying Power initiative provides sound, common sense business practices for controlling cost while still delivering needed capability.

This hearing, it seems to me, is important because it allows us to explore other ways to improve the process both inside the Department and in the industrial base.

Let me just run through some of the typical problems we face today.

First, in today's acquisition environment, there continues to be a mismatch at the front of the process between requirements and available resources to meet those requirements. The three key processes for generating requirements, providing funding, and developing the products are still disjointed.

Second, the stakeholders in this process sometimes have conflicting goals. Weapon systems often define budget levels, service reputations, defense spending in localities, and the influence of many different oversight organizations.

Third, the funding process is not as flexible as it should be. There are a few consequences when funds are not used efficiently, and budgets to approve large program commitments must be submitted well ahead of the program's start.

Fourth, the Department's relationship with industry forces less competition, more regulation, and once a development contract is awarded, it places considerable power in the hands of the contractor.

Fifth, the program management workforce for the Department currently lacks the training and the business experience and career opportunities to ensure a highly professional management workforce. In addition, the tenures of our program managers are so short and the length of our product developments so long that there is little accountability for executing an efficient product development. For example, the Joint Strike Fighter has seen six different program managers over an 11-year development so far. So there is not much accountability when you have that many.

I would add in addition to that at the higher levels, at the under secretary level, it would be great to see more continuity and longer tenures at that position. I think that also creates stability. And we

looked at that and found that since the position was created, I believe the average tenure of an under secretary for AT&L is about 22 months.

I also think that one of the reasons we have seen some of the trends—you know, I think WSARA has had a lot to do with it, but I also think there has been stability there since Ash Carter and now Under Secretary Kendall. I think that has helped as well.

So where do we go from here? Well, I do not profess to know the answers, but I think there are areas that we can explore within the confines of the current system and the current environment.

We must find practical ways to hold our top decisionmakers more accountable. The three separate processes that define an acquisition program should be able to work in concert. They need more incentive to view the process not as a zero sum game but a way to deliver the best capabilities within existing constraints by making appropriate trades across each of the processes. We should do more to attract, train, and retain a highly professional management force by establishing new career requirements such as experience in both engineering and business and require program managers to stay with the program from start to finish. We should also consider career tracks that reward program managers for execution of successful acquisition programs.

We can also reinforce proper risk management at the start of new programs. There are about a dozen programs that are approaching milestone B or are very close within the next year or 2. And when you total up all of their development cost estimates, it comes to over \$20 billion. Start with these programs to reinforce current policy and perhaps pilot new ideas that might bring more efficiencies.

We should also consider a funding mechanism that can give flexibility to programs as they do encounter problems.

Finally, we should consider new acquisition strategies that we have not used much before that show an understanding of and are able to leverage industry incentives. Some of these include more incremental acquisitions. I think we have seen a lot more of those in the last 3 or 4 years, and I think that is another reason why we have had better cost.

They need to have well understood requirements, of course. That helps.

I think it is worthwhile to look at time-certain development. If you have an incremental acquisition and you limit the development per increment to 4 or 5 years, I think you have a doable task, as long as the requirements are well understood.

And finally, we should identify and investigate more ways to use contracting tools that reward cost consciousness by perhaps allowing more profit to the industry. If you are able to control costs, that might be a good idea.

So, Mr. Chairman, these are just a few of the ideas to consider as we move forward. I am sure there are many more to consider.

And with that, I will conclude my oral statement, and I look forward to going into more depth on some of these ideas as we take questions.

[The prepared statement of Mr. Sullivan follows:]

Chairman LEVIN. Thank you.

Since I think we have the time to do it, how about an 8-minute round just for the first round. There very well could be second rounds today.

I think we are all familiar with the history, the acquisition history that has shown huge cost overruns, huge amounts of waste, cancellation of systems. The Army's Future Combat System was approved for engineering and manufacturing development based on little more than a set of viewgraphs. The Joint Strike Fighter was put into production years before it was scheduled for its first flight test. That was a decision which Mr. Kendall has, I believe, accurately characterized as "acquisition malpractice." The Future Combat System has since been canceled. The Joint Strike Fighter has gone on to become the most expensive acquisition program in history.

So we enacted WSARA in large part to try to do everything we could to ensure that future acquisition decisions would be based on sound knowledge rather than guesswork.

Mr. Sullivan, I think in your opening statement, you have indicated that WSARA has had some success and that the Department of Defense has achieved higher levels of knowledge at key decision points and achieved reduced cost on a significant number of major defense acquisition programs as a result. I think that is the good news part of the story.

But the second part of the story is still what we need to do because we obviously face continuing problems, and I think both of you acknowledge that and recognize that we need to do whatever we can do.

Now, Mr. Sullivan, you indicated that you do not think we need more legislation at this point. And that is important for us to understand because our instinct as legislators is not only to hold oversight hearings such as this and we do not hold enough of these hearings, but nonetheless, where legislation is useful, to promote that legislation. So you have, I think, already spoken on the fact that we do not need additional legislation in your judgment.

And I would just ask Secretary Kendall what legislation would you believe we could use to improve this acquisition system.

Mr. KENDALL. Senator, I do think we need some legislation, but I think in a different sense than the GAO was referring to, Mr. Sullivan was referring to.

I have a team working now, and it is working with the staff of this committee and with the staff of the House Armed Services Committee as well on a legislative proposal that would simplify the existing body of law that governs defense acquisition and make it more comprehensible and coherent. What has happened is that over time—I go back to Goldwater-Nichols with this—laws have been added incrementally over time. Senator, when I was redoing the DOD instruction that governs acquisition, I looked at the tables that we had to put into that document that showed all the things that are compliance requirements essentially for program managers, which is an extraordinarily complex body of rules that have to be followed. Senator, the idea is to take that body of rules, keep the good intentions behind all of it, but to simplify it so we have something that is easier for people to understand, easier to implement.

And there are a few things in that context that I think in retrospect and in practice have not turned out to be as effective as they were intended to be, and some of those things I think need to be changed. They are not major changes, but they are adjustments on the margins is the way I see it.

Chairman LEVIN. Would you give us any recommendations that you have in that regard?

Mr. KENDALL. We are working some near-term recommendations to try to get into this year's cycle, and we will have a more comprehensive proposal for next year's cycle.

A couple examples of things that I do not think are particularly helpful in the business systems area, which we have struggled with, I agree. There is a requirement that we certify at the Department level every million-dollar business system program where the million dollars is the threshold over the 5-year program, not just in a given year. That is an extraordinarily small number in Defense Department terms. What it leads to is what is essentially a rubber stamp certification process for a lot of those very small projects.

There is also—and I disagree with my colleague from GAO on this perhaps. The idea of time constraints on programs I think leads to some unintended consequences that can be problematic. And there is a time constraint on business systems of 5 years from initiation of the program to full deployment decision, which causes programs in some cases to distort their plans in an inefficient way, in a non-pragmatic way. So we need to be, I think, careful about time constraints as the variable we try to control the most on a program.

Chairman LEVIN. Now, as I understand it, the Department has implemented a more knowledge-based acquisition approach in compliance with the requirements of WSARA, but the GAO, I understand, does not believe that the Department of Defense has gone far enough and argues that to conform with commercial sector best practices, the Department should require an even greater level of information in advance of major acquisition decisions. Can you tell us, Mr. Sullivan—and perhaps give us examples—how much more knowledge does the GAO believe should be required and at what points specifically in the process?

Mr. SULLIVAN. Yes, sir. We have three points of knowledge that we think are the essential kind of waypoints. The first one is at the beginning of a program, and we want mature technologies. The Department has done a lot better over the years in getting to the levels of mature technologies that we have asked for. It is not perfect yet, but the trend is way up. So we would say there is a good effort going on there.

The second one is at the critical design review when ideally what we would like to see is reliability being worked on, prototypes that have been engineered so that you know when you move from design to manufacturing, that you have a very stable design that you are going to begin to replicate. And then that pushes forward—and I would say that the Department right now—we have a metric for that on completed engineering drawings, and they are doing very well with that as well, not perfect, but way up from where they were, say, 5 years ago.

We would like to see more prototyping. And I think if you continue to work on requirements that are more reasonable and with the systems engineering that is being done upfront now and understanding the designs more, they should be having more prototypes at critical design review. That really shows a stable design, basically an engineering prototype that you now work into a production type prototype.

The third knowledge point is production. That is where we ask for process controls. And we think that is very important and that is where the Department and the industry, quite frankly, do not do very well. And what that means is that as they move forward into production—this has a lot to do with concurrent testing too. As they move into production, there are key manufacturing processes that you want to have repeatable so that you have quality, as well as efficiency. They really do not have a lot of control over those critical processes. That last knowledge point that we talk about is where they need to improve. And that is essentially a production-oriented knowledge point.

Chairman LEVIN. Mr. Kendall, do you want to just comment on that third point then?

Mr. KENDALL. Yes. Let me just take that. First of all, I completely agree with the idea of knowledge-based decisions, that we have to have adequate understanding of where we are before we make major commitments. And it varies very much program to program. You have to look at the actual risk profile for a given program and really understand what the elements of risk are and what can be done to mitigate them at different phases.

At my level, I tend to look at the major commitment of resources as a key decision point. There is an early stage where you are doing analysis and you are trying to refine requirements and decide what is affordable, what is feasible, what is practical. So at that point, things are fairly in flux.

Chairman LEVIN. But as you go through here, tell us where you think the Department can do better or is falling short.

Mr. KENDALL. Well, I can just tell you what I am trying to do, what I have been doing. The two critical decisions for me are entry into full scale development for production. That is a major commitment of resources. An enormous amount of activity is initiated at that point. Generally we are doing that after a preliminary design review now. Usually we can take competition up to that point. So at that point in time, I want to, as Mr. Sullivan said, really understand that we have done what we need to do to reduce the risks of building that product so that we do not commit all those resources and the marching army that is necessary to do full-scale development without those risks well under control.

The second key decision point is the initiation of production because it is always hard to reverse that decision. Once you have committed to manufacturing components and start spending the project money, it is very hard to stop. So at that point, we need to have from prototypes, from developmental testing a thorough understanding that the design is stable. And this is where the issue of concurrency comes up. There is almost always going to be some development that occurs after that point, software being finished, some additional testing that has to be done. The amount of

concurrency that makes sense, that is rational for a given program depends upon how confident you are that the design is stable and that you are not going to have to make major changes later on. That is very much a knowledge-based decision.

Those are the two key commitments as far as I am concerned and those are where I am focused when I make decisions.

Chairman LEVIN. Do you agree there should be more prototyping than there is now?

Mr. KENDALL. I think you have to look at it on a case-by-case basis. In some cases, prototyping does not really reduce the risk. The VXX, which we are about to award—we are not doing prototypes. I waived prototypes for that because we are taking an off-the-shelf helicopter. We are taking a suite of equipment which we have already pulled together and tested to integrate into that aircraft. So what we need to do is that detailed integration effort. And we have assessed that carefully enough to know that that can be done with reasonable risk. So we did not need to do prototypes ahead of time. It would have been a waste of money, frankly. And we do the business case analysis on a case-by-case basis.

Sometimes it is blatantly obvious whether prototyping makes sense or not. Other times, it is a closer call and you have to go look at the cost/benefits much more carefully.

Chairman LEVIN. Thank you.

Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

Mr. Chairman, I know you covered this, but I would like to go a little bit further. In my opening statement, I commented about the \$1.2 billion in the weapon system that was the Ground Combat Vehicle, and then, of course, after that, money is spent, it is canceled. This is the one thing that has bothered me more than anything else in the whole acquisition process, something that you see in Government that you do not see in the private sector.

Now, I lived through this thing. I was actually in the House when they first came along and initiated the Crusader. We had the Crusader. That was going to be. Then they talked about, no, it has got to be heavier. It has got to be lighter. They actually had \$2 billion put in that thing when they terminated the program. I think that was Rumsfeld that did that. And I think there were, as I understand it, over 100 programs that were canceled with that. Now, we do not have a total on that, but \$2 billion is enough.

But then if you shift over and see the amount of money that we had invested in the Future Combat System, you are talking about \$19 billion.

I remember when General Shinseki, who was kind of in charge at that time—he was upset with the cancellation of the Crusader, and he wanted to build in what he called irreversible momentum so that this could not happen again. Do you remember that? So \$19 billion later, it is done. And of course, this was done by President Obama in the first budget he came out with.

So tell me what irreversible momentum is and why it does not work.

Mr. KENDALL. I think it is a bad concept. It is a political concept.

Senator INHOFE. Well, do you think the problem here is that in Government you have the power of one person just to terminate a

program? I blame Rumsfeld for that program on the Crusader. And there are some Members that were so upset with that, one very prominent House Member that retired as a result of it because you just cannot sit back and let things like that happen.

And then, of course, the FCS.

Is it because our system allows one person, whether that person is the President of the United States or the Secretary of Defense, to make these decisions that are so irresponsible? And you do not find that in the private sector.

Mr. KENDALL. Senator Inhofe, let me make a couple of comments on that because I have looked at those cancellations. We have canceled a number of programs without taking them into production or we produced very small quantities and then canceled them. Often that is for affordability reasons. We discover late in the process that a program is really not affordable in the budgets we can expect. The most recent example of that is the Marine Corps Expeditionary Fighting Vehicle which was canceled last year.

What I have been requiring for the last 4 years now is an affordability analysis of our programs before they are initiated and then firm affordability caps before we commit to full-scale development so that we do not get into situations like we did in that case.

Now, Crusader was a Cold War weapon system that was continued into development after the Cold War ended, and it was canceled for a variety of reasons I think. Part of it was, though, that the requirements for the Army had changed. And it came along at a time when the Army wanted to initiate the Future Combat System, which was designed around the idea of lightweight, very air-deployable forces that could move to a contingency very quickly. The Crusader was not consistent with that concept. So there were a number of things that I think came together to lead to the Crusader cancellation.

I am focused on affordability, making sure we do not start things we cannot afford. I am focused on making sure the risk and the requirements are reasonable when we start a program so that we do not do things that are not going to be feasible. We cannot foresee unforeseen major budget changes, which sometimes do occur. Sometimes that is a factor. But trying to get realistic planning from the point of view of the technology, the requirements, and the funding, not just the near-term 5-year program, but out for the life of that program is a very important factor in this.

Senator INHOFE. Well, you know, the part I have a hard time with is when—you were talking about the change in design, the change in the weight, and all these things. That is something that can be looked at in advance. And I think that is primarily the cause of the cancellation of certainly the Crusader program because I remember the discussion at that time, well, can we get it in a C-130, does it have to be in a C-17. But we know that going in. I have a hard time believing that the times changed to change the mission of a vehicle—in that case, the weight of the Crusader seemed to be the primary thing. That is the thing I think can be precluded from happening again.

Mr. KENDALL. The Crusader original design was intended for the planes of Europe fighting Soviet tank armies, and it was a high rate of fire, high volume, high capacity system. And what happened

subsequent to the end of the Cold War was the Army had an incredibly difficult time moving forces into Kosovo when the Kosovo crisis occurred. And as a result of that and under General Shinseki's leadership—and I think at the time probably appropriately—he was moving towards a much lighter scale force, a force that could be deployed essentially by C-130s, and there was a fundamental disconnect between those programs.

Senator INHOFE. Well, I understand that, but on the other hand, that was initially built to replace the M-109. So we can talk about an antiquated system anyway. It is almost like it was in the World War I.

Well, anyway, I mentioned in my opening statement about the recent program that spent 80,000 man-hours to produce the documents required to pass milestone A. An additional 100,000 was required to create the paperwork necessary on milestone B.

Now, are you working on something right now that is going to preclude that from continuing? The paperwork—the cost of that. We are paying for all that.

Mr. KENDALL. I completely agree with your thrust of your comments. There is a cottage industry out there of contractors who build these documents for programs so that they can be reviewed and then approved in order to get decisions made. It is an overhead burden on our programs, and I have been on both sides of it. It has been a struggle, and it is a continuing struggle to push back on that.

We have tried to simplify the content of those documents to make them focused more on the substantive information that we really need as opposed to a lot of boilerplate that people tend to generate which really does not have much value added.

There is also an initiative that is included in the latest round of Better Buying Power initiatives to go to something I am calling a Skunk Works approach, which is historically a Lockheed Martin approach that other companies have emulated. But basically that is to have as lean as possible both a Government and a contractor workforce and as lean as possible an oversight mechanism. And my concept for that, which we are just starting—we are still trying to find a program to pilot this with—is that in lieu of all these documents, these long documents that people have to generate, that we do something that is much more like a traditional design review, where we do on scenes, hands on, a week or 2-week review of all the technical material, the scheduling documents, and so on that the program is actually using as opposed to these documents which are submitted a couple months ahead of time and then go through staff review. I would like to pilot that approach, see if we can make it work. It will be more time intensive for some senior leadership than the current process is, but I think it will be much more efficient and I think, in addition, may be much more effective for the program offices to do it that way.

Senator INHOFE. Mr. Sullivan, you had listed some things. And I asked my staff to find out the specifics of that, and that was not in your written statement. You talked about something about the relationship with contractors? forces, certain things. Can you expand on that? That was not in your written statement.

Mr. SULLIVAN. Those are ideas that I do not have fully developed but I thought we should be interested in looking at. And a lot of that just has to do—well, I think time-certain development—

Senator INHOFE. It is kind of a preview of what you are doing right now in the GAO analysis?

Mr. SULLIVAN. The GAO analysis we are doing I think is going to be a very important analysis, and it almost parallels what the Under Secretary just went through. We are trying to look for efficiencies, and we are looking at best practices in the commercial world. We are looking at case studies where they operated in Skunk Works with a kind of a streamlined kind of an oversight mechanism. And we are trying to find good examples.

I think the key thing is at those three knowledge points when you make the critical decisions, you want to have good data. And that is really all you should be focused on. So all of the integrated product teams and the layers between the program manager and the under secretary or the chief—these are things that we are looking at. Do we really need these things? There are a lot of rice balls out there.

Senator INHOFE. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Senator Inhofe.

Senator HIRONO.

Senator HIRONO. Thank you.

Secretary Kendall, you mentioned that fixing the acquisition process is not as easy as some think. And we have only been trying to do this for over 100 years. So I think this committee fully appreciates how hard it is.

You mentioned some areas where you say that decisions that are made in these two critical areas should be done with as much knowledge as possible. So are you already applying that way of proceeding with acquisitions that we are currently engaged in?

Mr. KENDALL. Yes, we are. It starts at the very beginning phase when you assess the feasibility of requirements that the operators put on the table and the likelihood that you will be able to afford to build something that meets those requirements. That is very early on. Then there is a decision about the risk mitigation that has to be done before you are ready to commit to development. And then there is an examination of whether that has actually been accomplished or not and whether there is a sound plan to go into development. Then there is a question of whether prototypes are demonstrated through developmental tests that your design is stable and your manufacturing processes are stable so we can go into production. Those are the key decisions and the key criteria.

Senator HIRONO. And it is human beings who are going through the assessment and making these recommendations to you. So do you have those people? Do you have the people who are trained who have the knowledge, who can provide you with the kind of analysis that you need to make decisions at these critical points?

Mr. KENDALL. At my level I think that I do. We have been building the staff ever since I came back into Government. The WSARA provisions have encouraged us to do that. They directed us to do that. So in some cases in developmental test, for example, and system engineering in particular, we have been building up our capabilities over time, also building up our program management exper-

tise and our contracting expertise. So all the things that have to be looked at to evaluate a program I think at the OSD side. We still have work to do, but I think I am in reasonably good shape there. I am always trying to strengthen the workforce.

If I look throughout the workforce, I do not think I can say that as much. I think it is not as uniform and it is not as deep as I need it to be.

And what we have been doing to our workforce, frankly, really pushes us in the opposite direction. Salary freezes, shutdowns, furloughs, uncertainty about budgets, uncertainty about people's jobs is making Government service today very different than it has been traditionally, and I think we have a real problem with our workforce.

We also have a demographic problem. The workforce is like a two-humped camel shape, and we have a lot of people who are either at retirement age or very close to it. We are going to be exiting our workforce. They are our most experienced people. Then we have a big valley before a lot of the people we brought in, many of them under DAWDF, Mr. Chairman, who need to mature and gain experience. So we are trying to manage our way through that, but it is a fundamental problem for the Department.

Senator HIRONO. So since that is a fundamental problem, then I think that if you really wanted to make changes, appropriate changes, where we are going to get through our acquisition process the kind of products that we actually need, we should be paying a lot more attention to the workforce issues. Would you say?

Mr. KENDALL. I agree, and we are paying attention to the workforce. It is the critical feature I think beyond everything else that we can do. The capability of our Government people, our professionals, to oversee contracts, to get the business deal right, to understand the risk, to ensure the contractors are complying is central to our success.

Senator HIRONO. I agree with you.

Speaking of the workforce, I know that the 2008 NDAA required that the Department of Defense would take action and identify at-risk contracts. Are you familiar with what I am talking about, what I am referring to?

Mr. KENDALL. Generally, yes.

Senator HIRONO. So can you give the committee an update on fulfilling the requirements of this law, of the 2008 law that required you to identify these at-risk contracts?

Mr. KENDALL. Let me take that one for the record. I believe we are in compliance, but I would have to double check and make sure what exactly we are doing to comply with that provision.

[The information referred to follows:]

[COMMITTEE INSERT]

Senator HIRONO. For Mr. Sullivan, we have been talking about these critical points at which information and knowledge is really important. Secretary Kendall mentioned two areas that were different from what you acknowledged. The points that you raise—do they come at an earlier phase of the acquisition decision-making process?

Mr. SULLIVAN. I am not sure if we were in sync or not on that. I thought I heard the Under Secretary talk about at the start when

you want to have good systems engineering knowledge would be what we think is that at milestone B usually when you sign a big development contract for one of our major contractors to develop this weapon system, you need to have, at the very least, mature technologies. You should not take technology development into product development.

Senator HIRONO. So would you say that it would be a good thing—since the GAO said that there are different decision-makers involved in the process, that it would be a good thing if you and the Secretary were on the same page regarding what the critical points are where knowledge is really important.

Mr. SULLIVAN. What we believe and I think everyone believes—I think the Under Secretary would agree, and I think he has been working on this, along with the requirements community. The three communities that have to work in concert and do not very often are the requirements generation community, which is the JROC; Mr. Kendall's office, the acquisition community; and then the Comptroller. And if you start a program without having vetted requirements and understanding them—and WSARA brought all the systems engineering in up front to make sure you understand your requirements. If you start a program without that really solid understanding of what you are going to build, you wind up with a lot of cost growth and schedule delay.

Senator HIRONO. So are you doing those things that bring these three components that you acknowledge have not been working as well together as they could be? Are you moving to make sure that these processes and the communication is occurring now?

Mr. SULLIVAN. Well, we keep an eye on that and we report on that. And I would say in the past 3, 4, 5 years, they have been doing a lot better. Most of the programs that are going to that milestone B have requirements I think that are not as lofty, and they have done good systems engineering on them and they are more incremental in nature. So I think there is a trend, a good trend.

Senator HIRONO. Secretary Kendall, I do not know if you can respond to this at this hearing, but based on the process that you are engaging in to make sure that we are able to afford the acquisition, are there any acquisition programs that are arising to a questionable status with you where we may need to pull the plug?

Mr. KENDALL. I cannot name the specific program, but I am very concerned about our posture when we get into the 2020 decade time frame. We have a number of things that we need to do in that time frame. A lot of our strategic deterrence systems need to be refreshed or recapitalized, the submarine Ohio replacement, Minuteman III replacement, and the new bomber all coming at the same time. The *Ohio* replacement by itself makes the Navy shipbuilding program very difficult to execute. So we are going to need some budgetary relief in the 2020s or we are going to have to make some very hard decisions in that time frame.

Senator HIRONO. Thank you.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Senator Hirono.

Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

I thank the witnesses for their testimony.

And, Mr. Chairman, you went over some of the examples of the really unacceptable cost overruns we have seen in the past and apparently a failure to get a lot of it still under control. \$20 billion for the Future Combat System, \$1 billion for the Expeditionary Combat Support System. The Marine Corps spent 15 years and \$3 billion on the EFV. The lists goes on and on. We have had hearings just on the Joint Strike Fighter itself. The littoral combat ship continues to ignore the basic principle of "fly before you buy." Billions of dollars into ships intended to carry the mission modules have yet to be fully developed for testing, and now we are talking about 20 new presidential helicopters. The same people that were in charge before, and we spent \$3.2 billion with nothing to show, failing to field a single helicopter.

I appreciate, Mr. Sullivan, your report, including the fact that cost and schedule growth remains significant. 42 percent of programs have had unit cost growth of 25 percent or more.

Mr. Kendall, do you disagree with Mr. Sullivan's conclusion in his report that there have been 42 percent of the programs in the Department of Defense that have had unit cost growth of 25 percent or more?

Mr. KENDALL. I do not disagree with that as a factual point. No, sir.

Senator MCCAIN. You do not agree with that.

Mr. KENDALL. I do not disagree with that. I believe that is factual data.

Senator MCCAIN. Thank you.

On the presidential helicopter, I understand from media reports, one, that there was no competition for it. Is that right?

Mr. KENDALL. We undertook a competitive source selection, but we only received one bid on that source selection.

Senator MCCAIN. And that is the same corporation that was involved in the \$3.2 billion failure the last time around.

Mr. KENDALL. I am not sure. We have not announced the award yet, Senator. So I am not sure how much I can say about that at this point.

Senator MCCAIN. Well, the media reports it.

Mr. KENDALL. Why do we not proceed on that assumption?

Senator MCCAIN. And you do not want to build a prototype given the previous experience, and you do not want to build a prototype?

Mr. KENDALL. We have taken the last few years since VH-71 was canceled to make sure we did as careful a job on this acquisition as we could. I just published an op-ed on this actually yesterday. The requirements are firm in this case. One of the major problems the VH-71 had was the requirements changed once the contract was awarded. They were not well defined. We are using a fixed price vehicle this time as opposed to a cost-plus vehicle. We have done a lot of the integration risk reduction in the Navy to ensure that the com sweep that goes on the aircraft is well understood and defined, and we do not have risk there. So we are taking a much, much lower risk approach this time, which does not, in my view, require prototyping prior to going into development for production.

Senator MCCAIN. Well, I guess we will see again, but I do not quite understand that some huge cost would be involved in developing a prototype given the previous example of \$3.2 billion completely wasted. I do not get that, but I will be eager to listen to the arguments for it.

Mr. Sullivan, of all the cost growth programs, it is my understanding is that Evolved Expendable Launch Vehicle has had the highest inflation costs associated with it. Is that correct?

Mr. SULLIVAN. I believe that is. In the annual assessment we did this year, in fact it represented almost all of the cost growth in the portfolio. I think one of the reasons for that is it was a new entry into the portfolio, or I should say it was its second time into the portfolio. I believe they had terminated the program and it had a Nunn-McCurdy breach. And I think they went in and did the analysis of that, decided that we needed it for national security reasons, and more or less rebaselined the program and have a new cost estimate. So that came back into the portfolio with significantly more cost as a new baseline—significantly more.

Senator MCCAIN. And I think you will find that since the merger between Lockheed Martin and Boeing, that those costs have dramatically escalated again because of lack of competition.

So on that subject, which is significant amounts of money, the Air Force has decided to cut in half those launches that would be competitive. And the Air Force cited three reasons why it is proposing to cut competitive launches in half: one, extended life of its GPS satellites; two, the payload requirement for one of the launches became unliftable because of weight growth by any prospective new entrant company; and, “the need to fulfill its” longstanding commitment to ULA, the incumbent contractor.

That last one staggers the imagination. The company that is in charge of the program that has the highest cost overruns of any program, that you have a commitment to this corporation that there not be more competitive launches? I do not understand that, Mr. Secretary. And I want to say to you this smacks of the cynicism that we saw in the first tanker contract that ended up in a major scandal. And I am not saying that it is, but it does not make any fiscal sense, the decisions that you have just made, by cutting down on competitive launches for the EELV.

Mr. KENDALL. Senator McCain, let me just try to clarify a couple of things about the program, but let me caveat my comments by saying that, first of all, we have a lawsuit about this program and we also have the IG investigation that you asked for. So I would like to let those things proceed in the proper forum and not get ahead of that.

But let me just talk a little bit about my background with this. I brought the EELV back under my direct control. I brought it back under my direct control—it had been delegated previously to the Air Force—because I wanted to ensure adequate competition, as much competition as we could get. Competition is the single best tool that we have in the Department to get cost out of our programs.

So working with the Air Force, we looked at all the launches that we thought a competitor could possibly do, and that was the basis for the decision. That was my intention when we did the 36 COR

commitment to ULA. The commitment is in the form of a contract which we have negotiated. That contract is at a much better price than we had anticipated in our previous budgeting. We have saved on the order of \$3 billion in the negotiation. So it was a very successful negotiation from my perspective.

During the time frame when all this was happening, our budgets were being cut dramatically, and the Air Force had to slip some space launches to the right. And we did not want to break the contract and have to go open that contract back up and renegotiate that price. So I think that is part of the equation here.

But we are not trying to take competition away from anybody. We want to have as much competition as we can possibly get as soon as we can get it.

The other thing that I want to clarify on this is my direction in the ADM, the acquisition decision memorandum, that I signed. In order to get competition as early as possible, basically the intent was that in order to allow a new entrant to compete, a new entrant would not have had to finish the certification process at the time he submitted a proposal because there is about a 6-month period of a proposal evaluation before an award, and a certification process could be completed during that interval. I allowed people to bid without having completed the certification process. So they could compete before the certification was completely done, all the documentations were reviewed, et cetera. That gave us a larger window in which to consider competition. So that was the intent behind that guidance, and that is what the Air Force has been trying to execute.

Senator MCCAIN. Well, you know, facts are stubborn things. You have reduced the competitive launches by half, down to three, and that is just the reality of it. And using a rationale of a commitment—quote, commitment—to a contractor that has been guilty of the largest cost overruns of any program, I think they had some commitment, which obviously they did not keep.

Well, this is a very serious issue, and we are talking about billions of dollars here, Mr. Kendall. And I intend to do what I can to make sure that there is competition. Apparently, whatever the rationale, the decision has been made to reduce, if not nearly eliminate, competitive launches and also the fact that the motor made by the consortium is made in Russia. Right? That alone, that Vladimir Putin is responsible for our rocket motors, should be a reason why we should be looking desperately for competition rather than narrowing it.

I thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Senator McCain.

Senator McCaskill.

Senator MCCASKILL. Thank you.

First, let me associate myself with all the remarks and line of questioning of my colleague, Senator McCain. I agree that we have got a real crisis. You know, if you were talking about only 1 competitive in 15, I know I do not have to explain to you, Secretary Kendall, that you have got to get critical mass of work in the pipeline or you have no competition. So I will be trying to work with Senator McCain to figure out if there is something we can do to

change what I think was a very shortsighted decision on the part of the military.

First, I want to tell you you do not have to convince me how hard it is to do acquisition reform in the military. I am completely on your side in terms of that statement. It is incredibly hard. I do think you are well positioned to continue a path that is positive, and I hope you stay committed and I hope you stay a while.

Mr. KENDALL. Thank you.

Senator MCCASKILL. And that is one of the things I want to talk about first. Mr. Sullivan has talked about it. It has been a constant problem I mean going all the way down to CORs in the units. When I first began working in this area, you were handing a clipboard to somebody and saying, guess what, you are the CORs in a unit in Iraq, and they had no idea what being a contracting officer had meant in that unit. They had no training. Now, we have made some progress in that regard. But it was like you got the clipboard and you wanted to get rid of it as quickly as you possibly could because there is no way you were on a rocket to anywhere if you were a CORs. And this notion that we are trying to do acquisition in a business-like way within the culture of the military that requires that you move every 10 minutes is ludicrous. It is just ludicrous. There is no way you can have this many program managers and actually get at what you are trying to do.

So how seriously have we thought about changing the military way of doing business? And I get the value of lots of assignments in terms of developing leaders, but it does not work in acquisition. You need continuity and you need expertise. You do not need a new guy every 18 months or a new woman every 18 months.

So why can we not set aside this area of responsibility for a goal of continuity and require longer stays of people who are managing these programs or who are handling contract and acquisition duties?

Mr. KENDALL. I completely agree with you on the importance of tenure. One of the problems of the last decade-plus has been the wars and the fact that people are rotating in and out of theater. That has changed the normal rotation patterns, and hopefully that is coming to an end.

But I look at the tenures of our program managers, for example, and they average between 3 and 4 years. Our policy is to try to keep them for 4 years. I think they should stay longer.

I am concerned about a number of things in this area. I changed the approach to this. In many cases, the program managers will come in. They will have a few years with a program, and their culminating event is a decision point, one of the milestone approvals. Then the definition of success is to get the decision made. I am trying to turn that around so that people come in shortly before the decision. They have to have some responsibility for the plan that is proposed, but their real job is to execute that plan, to go out and make that plan a reality, which I think is a much, much harder job than actually getting a decision made by somebody.

The other thing is, of course, we have a fairly steep promotion pyramid at the colonel level, at the captain level in the Navy. And people that are our number one program managers are often forced out of the service because they are not promoted to that level. I am

working with the services and we are trying to keep those people around. I hate to see some of our very best program managers, people who have over a career built up the capability to do that very difficult job extremely well, because they do not make it to O6 because the curve is too tight, be forced to retire. They go out to industry and they do similar jobs in industry. We would like to be able to keep those people around longer.

The other thing we can do is use more career civilians. Career civilians do not move as often. The problem we have there is giving them developmental opportunities because career civilians often do not like to move, and many times you need to move them to another location so they can get the experience they need to develop the skills that they need.

So we are very actively interested in improving this area. I think people matter. I have said that a thousand times, and strengthening our people and the sort of things that you talked about are exactly what we need to do.

Senator MCCASKILL. If we could pay them more. Frankly, talk about saving money, talk about value. Paying people more money that are good at what they do—and this notion that we are losing somebody because of some kind of artificial O6 deal. I mean, let us know what we can do—and I guarantee you we can get that passed—that would change that. I think you are going to continue to hammer bricks here if you do not really get at this continuity issue and stability issue. I think it is crucial.

Let me talk about IT for a minute. You know, I would use an unladylike term about how bad DOD is at acquiring IT, but I do not want to do that as a U.S. Senator. But you are terrible at it, just terrible at it. And part of that is that your acquisitions process has so many steps and it is not flexible and it is not nimble. By the time you get to the end of it, it is obsolete. And there is this horrible habit about requirements. And the military's bad habit about requirements has bled over into IT acquisition where these guys think, okay, well, we will have somebody build us a system and it will do bang, bang, bang, bang, bang. And of course, somebody is more than willing to come in for billions of dollars and build you a system that will do bang, bang, bang, bang, whereas you can buy it off the shelf for 85 percent of what of they want and save billions of dollars.

Why can we not apply Nunn-McCurdy to IT?

Mr. KENDALL. We apply the rules that govern MAIS programs often to IT which are similar. They are not exactly the same thresholds as Nunn-McCurdy, but they are similar. The critical change requirements.

Let me talk a little bit about IT. And when we talk about IT, it is a term that is not always precise. We are really, I think, talking about business systems, the types of systems that do pay and personnel, that do logistics management, to do the accounting functions, for example, that there are commercial counterparts to. These are not pure military systems. And I have recently brought these back under my control too. They were delegated for a long time. And I spent a lot of time with our program executive officers and our program managers for these kinds of systems, trying to understand the problems that they are seeing.

One of them is what you just described. It is the complexity of the approval process and the way we are forcing people to structure their programs. I think we are imposing too much burden on people and we are micromanaging from a place where we should not be doing that. So I am looking at that process and trying to be practical about how we structure these programs and try to learn from industry.

We need to develop our expertise in this area. That is another fundamental concern. I do not think we have enough qualified professionals in business systems. Business systems are not like weapon systems. They are very different. They are different because, first of all, you are taking an off-the-shelf product and you are modifying it for use by the military organization, but also the transition from an existing system to a new system is very different. If you are in a unit and your tanker, your fighter plane is being replaced, that system goes away and the new one arrives, and you train on it and you go operate it. A business system—you have to keep the old system operating until the new system is up and proven. And so you have to run them in parallel and make a much more difficult transition. So there is a huge burden on the acquiring organization to be trained to be ready to move over to that new system. This is often where we really get into trouble.

Your mentioned requirements. That is another key point. We have a tendency in the Department I think to try to force the business systems that we acquire to do things the way we have historically done business.

Senator MCCASKILL. Right.

Mr. KENDALL. And the right thing to do is to reengineer our processes to be more consistent with the product that we are trying to buy.

Senator MCCASKILL. Right.

Mr. KENDALL. And that is something that we probably have a lot more work to do on as well.

The last thing I am going to mention is compliance requirements. I talked to one contractor a few years ago about this, and I asked him the same question, why are we having such trouble. And he said, well, one of the differences is that in the Government there are a hundred thousand compliance requirements that I have to put into my software for you to make it meet all of your regulatory and statutory requirements. In a business, I do not have any of that to worry about. Maybe some but not nearly the same volume. So that is another factor is that we impose some things that we have to require. We have to comply with law and regulation.

Senator MCCASKILL. Let us see if we can fix some of that.

Let me just say it is not just business systems too because we got DSIGS which is—you know. And then I have had difficult conversations with some of your colleagues at the Pentagon about this notion that we are doing these IT systems to identify equipment in theater. And we had two systems built by two different branches, and they were using the same equipment and they built different systems. And then you came wanting money for the Pentagon so they could talk to each other. I mean, it is just like a V8 moment. You know, how does it happen?

So I want you to continue to strategize with this committee and our staffs on how we can help you do a much better job on IT.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Senator McCaskill.

Senator Blumenthal.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Thank you to both our witnesses for being here today.

Secretary Kendall, I want to focus on an issue that has perplexed and vexed me and I think other members of this committee and I know bewildered the American people who know about it: the purchase of Russian helicopters for use in Afghanistan with American taxpayer dollars. I know I do not have to go into the details for you. But I would like to know what has to be done to stop today any additional transfers of any American dollars to Rosoboronexport in connection with these helicopter purchases for Afghanistan.

Mr. KENDALL. Senator Blumenthal, I understand that we have had numerous conversations about this. We are nearing the end of our acquisition of Mi-17s for the Afghan Air Force. We have got about 20 helicopters to take delivery of under an existing contract, and I think that will be the end of our business as far as acquiring helicopters is concerned.

There will be a continuing need for air support and technical support for those helicopters for the Afghan forces.

Now the situation in the Ukraine, obviously, and the discussion of sanctions, which is definitely not my area, are complicating the situation right now. So far we have not sanctioned Rosoboronexport, and the Russians, I think, probably for economic reasons have not done anything to cut off our supply. We understand that there are things at work here that are much bigger than our requirements in the Defense Department for this, but we would like to take delivery of those remaining helicopters if that is at all possible.

Senator BLUMENTHAL. Why have there been no sanctions against Rosoboronexport?

Mr. KENDALL. I am not the person to speak to that, Senator.

Senator BLUMENTHAL. You mentioned that there are still 20 helicopters to be delivered.

Mr. KENDALL. That is an approximate number. It is very close to that number.

Senator BLUMENTHAL. Have we paid for those helicopters?

Mr. KENDALL. We are in the progress of paying for them. We pay incremental payments as the helicopters are delivered.

Senator BLUMENTHAL. So we have not yet paid for the 20 still to be delivered.

Mr. KENDALL. We have not completed paying for the helicopters, no.

Senator BLUMENTHAL. Well, we have not paid for them. When you say we have not completed—

Mr. KENDALL. I am not sure whether the payments are one for one for a helicopter. I am not sure exactly how the payments are structured. It is roughly I think equivalent to that.

Senator BLUMENTHAL. And what is necessary to stop payment and delivery? What would have to be done? Is it a letter that has

to be written? Is it an Executive order from the President? What would have to be done physically to stop delivery and payment?

Mr. KENDALL. If we were statutorily ordered to or if there was an order in the chain of command that told us to stop, then we would stop. But we hope that that does not happen.

Senator BLUMENTHAL. Why do you hope that does not happen?

Mr. KENDALL. Because we need those helicopters for the Afghan Air Force.

Senator BLUMENTHAL. American helicopters will not do?

Mr. KENDALL. We have looked at that. We did an assessment of alternatives several years ago actually, and for the combination of circumstances for the Afghans, the Mi-17 is the right answer for them.

Senator BLUMENTHAL. Well, I would like a commitment, number one, that you will provide me—I cannot speak for the rest of the committee—an explanation for what would have to be done by the President of the United States to stop delivery and, most important, payment for those helicopters.

I find it absolutely abhorrent and incomprehensible that this Nation is providing taxpayer dollars to a Russian export agency that not only provides arms to Assad in Syria but also is, in turn, bolstering the Russian aggression in Ukraine. We are sanctioning people around the leader of the Russian Government Putin. We are rattling and engaging in rhetoric about additional sanctions, but we are not using the dollars within our direct control to stop fueling Russian aggression in Ukraine and elsewhere. And whatever the sacrifices that may be entailed in Afghanistan—and I believe they will be very few because American helicopters are available to perform the same mission—we should take action now.

So I would like to know from you in detail what has to be done immediately before there are additional deliveries and before additional liability is incurred for additional payments. Can you commit that you will provide that explanation?

Mr. KENDALL. I can take that for the record, Senator.

[The information referred to follows:]

[COMMITTEE INSERT]

Mr. KENDALL. Let me just say that the other side of the equation is that the Afghan forces are dependent on this capability. So it is not just about the dollars. It is about their capabilities.

Senator BLUMENTHAL. Well, they are dependent on those helicopters until they are not. Right? Until they have to make do with American helicopters—God forbid—which are far superior. The military itself not only concede but with good justification take pride in that fact. The reason they are dependent on them is we have not trained them to use American helicopters, and if they cannot use American helicopters—I hate to be over-dramatic—they are not going to be able to defend themselves anyway.

Mr. KENDALL. I think we had this discussion before. I am a big fan of American helicopters. But the training necessary, the complexity of the systems, and their appropriateness for the environment are all factors at play here as well.

Senator BLUMENTHAL. Let me move on because we have discussed this issue before, and I recognize that you are limited in

what you can say. But I would appreciate a further explanation, as I have requested.

Mr. Secretary, I understand that the Navy is considering ending its buy of the highly praised MH-60R helicopters after this year's buy, which would leave the Navy 29 aircraft short of its requirement, and break the contract for the current H-60 multiyear procurement shared by both the Army and the Navy. If you could tell me, please, what is the termination liability of such a move and what are the effects that will be on the Army's UH-60M aircraft for next year if that multiyear contract is broken.

Mr. KENDALL. I will have to take that for the record. I do not have a number to give you today.

[The information referred to follows:]

[COMMITTEE INSERT]

Mr. KENDALL. I do want to thank the committee for its support for a multiyear request, though. We have been doing very well getting costs down through those requests, and I appreciate the support.

The H-60 problem is a fiscal year 2016 problem, and with the current estimates and current plans, we would break the multiyear. We are going to revisit that this summer and see if we can do something about that.

Senator BLUMENTHAL. My information is that the cost of breaking the multiyear contract would be close to the amount of the deleted 29 helicopters. Is that true?

Mr. KENDALL. I have to take that for the record. I think it would be a substantial cost and we would like to avoid it if possible.

[The information referred to follows:]

[COMMITTEE INSERT]

Senator BLUMENTHAL. Why do you think you would be able to give you an answer?

Mr. KENDALL. I can probably give you an estimate within a matter of a week or 2 probably.

Senator BLUMENTHAL. Thank you.

And when do you think you will be able to get back to us on the explanation for the Russian helicopter purchase?

Mr. KENDALL. I am not sure how long that will take. Some of it is very obvious. The President would merely order us to stop, and we would stop. That is a way it could happen. That is the fairly obvious answer. If I could give you anything beyond that, I will see what I can do.

Senator BLUMENTHAL. And what would be the cost? I think that would be—

Mr. KENDALL. That part I would have to go take a look at.

Senator BLUMENTHAL. And for the record—and I say this again not to be over-dramatic, but my view is if there is a cost, let the Russians sue us. Let them sue us in American courts, and they can have a taste of what American justice is and maybe they can collect here because I am sure that American courts will do a lot greater justice for them than Russian courts could. So I would welcome the chance to defend that contract liability.

Thank you, Mr. Chairman.

Chairman LEVIN. Thank you, Senator Blumenthal.

I have raised this issue when I was in Afghanistan recently. In addition to letting us know what the cost of breaking the contract is to the American taxpayer, let us have statements from the commanders as to why they support completion of the contract. It is important that we look at the entire picture. Senator Blumenthal raises obviously an important point, but we have got to see why it is that commanders feel that it is essential that they be delivered in terms of Afghan support. If we could get all that in the next couple weeks, it would be appreciated.

[The information referred to follows:]

[COMMITTEE INSERT]

Mr. KENDALL. I am happy to do so, sir.

Chairman LEVIN. Thank you.

Senator Ayotte.

Senator AYOTTE. Thank you, Mr. Chairman.

Let me just say that I agree with Senator Blumenthal. I too would enjoy the Russians coming before the U.S. courts for our justice. And I appreciate his work on this important issue.

I wanted to follow up. Thank you both for what you are doing. I know you are serving during very challenging times and trying to work on this acquisition issue, which has been a continuous challenge long before I got in the Senate, and something, though, given the resource scarcity we face right now, has become even more important. So thank you both for your leadership on that.

As I think about the choices that we make and why this is so important, I could poll each branch of the service and come up with a number of examples. I know my colleagues have already raised them. So I am going to focus a minute on the Air Force. But I have a list that I could also share with the Army and the other branches. So I am in no way at this moment picking on the Air Force.

As I look at the recent Air Force acquisition programs, from 2007 to 2013, the Air Force terminated 12 major acquisition programs, as I understand it, and the cost of those was at \$6.8 billion on weapon systems and programs that our airmen are not going to see. Some of the examples of that are: \$2.8 billion wasted on the National Polar Orbiting Operational Environmental Satellite System, which was ended in 2012; \$2.5 billion wasted on the Transformational Satellite Communications System, terminated in 2009; \$900 million wasted on the Expeditionary Combat Support System. And that is billions of dollars that will never have a direct benefit for our warfighters.

I realize that we could do a postmortem on each of these programs, and for each program, there is a variety of reasons of terminations. Yet, we find ourselves in the same place, that it is money that was spent that is not going to get the outcome that we need for the defense of the Nation.

I want to put this in perspective because this matters when the Pentagon is coming to us and the service chiefs are coming to us and asking us to divest of a program like the A-10 for budget reasons because the cost of maintaining the A-10 in fiscal year 2015 is about \$635 million. And if the Air Force had cut their acquisition failures on major defense acquisition programs just by 10 percent in the years I have talked about between 2007 and 2013, there

would be the equivalent to more than enough savings to afford keeping the entire A-10 fleet.

And the reason I want to put it in those perspectives is because the importance of this issue cannot be underestimated, that we have got the acquisition process right, that we do not go down roads where we have put so many requirements on something that no one can possibly produce it so that we can use it in time for our men and women in uniform.

And so I am going to ask both of you just would you agree with me that this obviously is incredibly important that we get it right, not just the Air Force, but every single Service branch. And what is it that we can do to make sure, with the experiences that you have had—I know you have made some changes with the Better Buying Power initiative. The requirements creep issue—how are we dealing with that? How do we make sure that when we are looking at taxpayers, we are not saying here is the Air Force proposal to eliminate an airframe that our men and women in uniform on the ground love truly when we have all these other failed acquisition programs that did not get us a result? I think we owe that explanation to people.

Mr. KENDALL. Thank you, Senator.

I regard the cancellation of a program, after we have spent a few years and a few billion dollars on it, is almost pure waste and one of the greatest tragedies the Department faces. I worked as a consultant on Future Combat Systems, which was for the Army, an enormous fraction of their development account, which essentially produced nothing for the Army at the end of the day.

Senator AYOTTE. Right. I had that on my Army list.

Mr. KENDALL. The Army's list is longer than some of the others, but each service has its own list. And I published information on this in the volume I published last summer on the performance of the acquisition system because I am tracking historically what we are doing here.

One of the principal things I put in place to try to prevent this is the affordability caps which force people to do—and it is a requirement to people supporting that and the budget people. Mr. Sullivan mentioned the three systems. One way to bring them together is to insist that the requirements people and the budget people evaluate the cost of their programs that they propose over the long term, over the lifecycle of that program, not just for the next few years, but as long as you are going to have it in the inventory and determine whether or not you can really fit that into your capital structure.

We have been doing this for about 4 years now. I am enforcing those caps. There is one on the VXX we talked about earlier. And the idea of these caps is to discipline the requirements people and the budget people to not try to do more than they can actually do and to figure that out early instead of after you have spent several years and several billion dollars.

Senator AYOTTE. Thank you.

Mr. Sullivan?

Mr. SULLIVAN. Yes, I would agree. First of all, I agree with you that it is a significant issue and it needs to be solved. It is a waste

of money. And the taxpayers and the warfighter are the ones that suffer as a result.

I started out in my oral statement stating that the three big processes we are talking about—the Under Secretary just went through them—requirements, budgeting, and acquisition, have to work together and they do not. And we have done best practices work on that trying to find ways. You know, big enterprises, far flung industries, and things are able to do that. There is a way to do that. A lot of it is a cultural issue. But requirements are at the basis of all of that.

Portfolio management is important. I think the Department should treat its major weapon system acquisitions more like a portfolio where they understand what years these programs are coming in and leaving, where they understand exactly how much they are going to cost because they are doing systems engineering up front, and the requirements people and the acquisition workforce are working together to get proper requirements. They need to use incremental kind of designs and acquisition programs so they do not bite off more than they can chew.

But typically what you have is too many programs chasing too few dollars, and there is no real good budget controls because they have a 5-year defense plan. Most of these programs are supposed to be fully funded, but when you have a 5-year defense plan and a 10-year development program, it is hard to fully fund it. And the estimates are not any good.

When we started out—WSARA and the Better Buying Power initiatives are addressing a lot of this—I said that since 2009, 2010, the programs that we have seen coming through milestone B seem to have more systems engineering done, requirements in better shape.

But just to conclude, those three processes—there has to be a way to break down the cultural barriers that exist and get those three processes to work together at the start.

Senator AYOTTE. I know that my time is up.

Also, I understood, Secretary Kendall, what you said about the workforce challenges and why that, in terms of oversight, presents a real problem in terms of transition, people leaving, some political appointees, some not, challenging. And so any recommendations you have—one thought that I had is, is there a way to incentivize this? I mean, I do not know whether it is financial or otherwise, but to think through how do we incentivize the things that you are both trying to accomplish as more engrained in the culture.

Mr. KENDALL. I would like a way to keep my best people longer, the best program managers, and I would like a way to reward people who do an exceptional job. We give people recognition today. We try to increase the amount of professional recognition which is career enhancing for people. It is very difficult within the military culture in particular and even in the Civil Service System. I have not thought about this thoroughly in terms of a legislative proposal that would give people additional compensation or more cash bonuses, which is what industry does. Industry uses bonuses to reward people.

Senator AYOTTE. Correct. When they over-perform, then they have an incentive to do that. I think this is so important to us be-

cause of the cost savings we could achieve, that it would make sense for us to think about how are we treating the personnel in terms of priority on this issue.

Mr. KENDALL. One of the things that was mentioned earlier is the “should cost” estimates. What I am requiring all of our managers to do now is to understand their cost structures, look for opportunities to reduce cost, set rules for themselves, and then try to achieve those goals. That is what the “should cost” is that we have been talking about.

And I would like to find a way to financially reward people for saving us money. That would be a dramatic improvement. If somebody can come in and show that they have made a significant savings to the Department and to the Nation by the way they have gone in and controlled their cost, we ought to give them something in return for doing that, but we do not have any way in our system to do that right now.

Senator AYOTTE. Thank you.

Chairman LEVIN. Thank you, Senator Ayotte.

Senator Manchin.

Senator MANCHIN. Thank you so much, Mr. Chairman, for holding this hearing. It is very important.

And I thank both of you all for your service to the country and what you bring with your expertise.

Mr. Kendall, I know you made a remark that the mind-set and culture—I am a small business person, but I was Governor of the State of West Virginia. So this “use it or lose it” mentality. And I tried my hardest to try to get a cultural change in State government in how we did it. I tried to use an incentive plan that basically—and the hard thing that we had was evaluating on what an agency or what a department should—what is the needed amount of money to run that department. I found out that most budgets are based off 10 percent more than what you asked for last year. Nobody has any rhyme or reason, do not sit down and do anything different, just kind of cookie cutter.

So I said if we could evaluate what the needs were and a real-time budget request and then if you over-performed to where you did it less than what we thought it would take, you kept 50 percent of the savings within that department, 50 percent returned back to the treasury. Taxpayers benefited and you benefited. And you could disperse that as needed.

There is something that we can do and we have got to break this.

Mr. KENDALL. What we are doing with the “should cost” that I talked about earlier is we are allowing the service or the program that saves the money to keep the money in the year for the budget and use it for things that they need. Now, we are letting the services keep it from my level. Within the military departments, the services are doing it differently in different services. But essentially the general bias is to keep the money in the program.

There are always things that you need if you have extra money that you can spend on that are worthwhile. Sometimes priorities in the service are such that they need to take that money to a higher level, use it for something else. Sometimes it stays in the portfolio of products that are being managed together by a program executive officer, for example. And sometimes the program manager

keeps it to do other risk mitigation to buy more product and whatever is appropriate.

Senator MANCHIN. What we might think about is basically that to just change the law and just carte blanche across all the agencies of the Federal Government to basically pick a selected pilot project through the Department of Defense and Transportation, whatever it might be, and let them pick and choose. The Secretaries can pick and choose where they think the most efficiency may be incurred. That might be a way that would give the lawmakers, those of us who sit up here and make policy, a little bit of a comfort, if it is not a runaway train or out of control, and see if we can get some efficiencies.

Let me go to something very quick. Specifications has always been my problem. Whoever runs these specs, especially with the military and defense—it is the only agency that I know that basically people get rewarded for basically adding on and charging more all the time because they do not do what they are supposed to do from the get-go. The Strike Fighter 35 is a perfect example. We just kept adding on and adding on.

I mean, when they are awarded a contract in the private sector, even the individual who is building a home, if the home is spec'd out properly and you get a bid on that home, you can pretty much stay within budget. If you do not and the unknown comes up, then you are going to pay add-ons. We understand that. And I do not know if anyone is being held accountable at that level. That is really where the money can be saved is on how you spec the process and the project.

Mr. KENDALL. This goes back to having solid requirements that are well defined. One of the things that plagued the Future Combat System, which we were talking about earlier, is very vague requirements at the outset so that the cost could not be estimated accurately. The engineering job that had to be done could not be understood thoroughly, and there was a lot of risk in the program as a result of that. It led to a lot of disputes down the road.

Getting the specs right up front is important, but I would ask you to keep in mind that we have competitors. We have people who were developing systems that are designed to counter ours. If you look at the F-35 as an example, over the life of the development of the F-35, air defense systems, for example, have moved forward that we are going to have to face, and we need to deal with those systems.

So we are looking at starting some development work to deal with those systems that have come along since we started the F-35 program, and we really need to get that work started. I know there has been a reluctance to fund that by some people up here on the Hill, but it is very important to the program.

Senator MANCHIN. I have two more questions.

There is a lot of concern about the procurement of the Russian rocket engine, and it certainly it concerns me as well as every Senator and congressional representative here. I do recognize, however, that these engines are not something that a large number of companies are making in the United States, and they take years to build.

Where does the United States defense industry stand with respect to permitting a permanent shift away from Russian rocket procurement? And we have not developed that within our own country.

Mr. KENDALL. I asked the assistant Secretary of the Air Force, Bill LaPlante, to take a look at this and conduct a study on it. He has completed that study.

We have some options. One of them is that we have a license from the Russians to duplicate, to build ourselves basically the same design. We need to do some technical work before we are in a position where we can actually do that. So there is some problem with that. Also, that license is limited. It only goes through 2022 I believe. So that is one option.

Another option is to develop a new rocket engine of our own. That would take a few years and would be a significant cost.

There are a couple of other things beyond that that we can do to mitigate the possible loss of the RD-180.

I have never been entirely comfortable with that dependency, and we have looked at in the budget process options a couple of times to try to do something about that, to remove that dependency. But it just has not been affordable, and we have accepted the risk and now that risk seems to be becoming much more real at this time.

Senator MANCHIN. Finally, China's control of precious metals. You can see them accumulating the stockpile or inventory for resources around the world. What concern does that give you or should it give all of us basically having the ability—and I will use one example, chromite, which they have been very aggressive in in Afghanistan and also copper. We use it commercially. What concern does that give you with our ability to have access to these precious metals that we depend upon for the defense of our country?

Mr. KENDALL. In particular, rare earth metals I think is what you are referring to.

Senator MANCHIN. Rare earth metals, yes.

Mr. KENDALL. And China had for some time a near monopoly on the production of those metals, which is both the mining of them but also the processing.

Senator MANCHIN. Acquisition of them also.

Mr. KENDALL. Exactly.

We took a very hard look at this a few years ago. I have not looked at it recently, but I believe that alternative sources have been and are being developed, both U.S. domestic sources and I think Australia is another potential source that is being developed. So we are, I think, moving to an era where we do not need to be as dependent on Chinese sources for those metals.

Senator MANCHIN. Can we get a briefing on that? Would that be a secured briefing that might be needed for us?

Mr. KENDALL. I would be happy to do that. I would like to get one myself because it has been a while since I looked at it.

Senator MANCHIN. If you could do that, I would appreciate it very much.

Finally, according to a March 31, 2014, Government Accountability Office, the total cost for all DOD acquisitions have risen \$448 billion from initial estimates. \$448 billion. Additionally, pro-

grams on average are 28 months behind schedule. So I would say, Mr. Sullivan, could you please explain the background of these figures and why the Department of Defense remains on the high risk list?

Mr. SULLIVAN. Yes. It is on the high risk list because of that kind of cost growth and schedule delay, but also the very nature of the defense acquisitions is a risky kind of a thing anyway.

So that number, \$448 billion, is—the portfolio of programs we look at are every major defense acquisition program that falls under the selected acquisition reporting system. So there are programs that may have started 20 years ago. There are programs that may have started 2 or 3 years ago. Some programs enter every year as new programs. Some programs leave with a bunch of costs that goes with them.

So the overall portfolio—if you take all of those programs and add up all of the money for development and procurement, you know, the entire acquisition program over perhaps a 20-year period, the entire portfolio I believe is 80 programs. And I think if you add all that money up, it represents about a \$1.5 trillion investment. And yes, over the course of—since their original baselines—if you add up all the cost growth on all of those programs, it is over \$400 billion.

So the tricky thing about that is that that has got a lot of very aged programs in it. So there are some programs that have already—we have already been through the cost growth and that cost growth is still in the portfolio. It will not leave until that program leaves.

We look at 1 year, year over year performance, and then we take a 5-year look, and then we do all the way to original baseline. That is still a huge problem, obviously. But when you look at year over year and 5 years, the performance has—there has been some stability in the last couple of years. But still, obviously, when you are talking about those kinds of numbers—

Senator MANCHIN. These figures here do not show stability, sir.

Mr. SULLIVAN. Pardon me?

Senator MANCHIN. These figures do not really show stability. It would be hard to explain stability—

Mr. SULLIVAN. I understand that, but when you get underneath the numbers, we have seen some good things, but it is a lot of money.

Senator MANCHIN. My time is up. Let me thank both of you all for your service.

And, Secretary Kendall, maybe with your weight of your office and the weight of our chairman here in this committee, we can get a briefing on the rare earth metals and the security of our country or our lack of security that we face.

Mr. KENDALL. We will commit to that.

Senator MANCHIN. Thank you.

Chairman LEVIN. We look forward to you providing that, Mr. Secretary.

Thank you, Senator Manchin.

Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman, and thank you to both of you.

Weapon systems are subject to the Nunn-McCurdy Act, and this requires congressional notification, potentially program termination based on per-unit costs increasing more than 15 or 25 percent above original estimate. DOD-built IT systems are not subject to the same requirement. And so we have had some struggles. We have had some problems with IT systems. And I was wondering what your thoughts are on establishing Nunn-McCurdy-like protections against failing DOD-built IT programs.

Mr. KENDALL. Sir, I have no objection to that. We do use the critical change process for our IT systems, our major automated information systems systems. It is a little different process. It is done by the Services and then it is reviewed by me and passed on. So it is basically at service as opposed to a DOD level review.

What, in general, I am trying to do is when we have a program that has cost growth, we really should ask the questions that Nunn-McCurdy requires us to ask. Should you terminate or not? And do you still need this? And is it soundly managed, et cetera, et cetera?

When I first came back into Government 4 years ago, what I was finding was that we would submit a budget to the Hill, which included funding for the program that had breached Nunn-McCurdy, and then we would do the analysis. So we had already effectively made a decision to continue the program, and it was sort of closing the door after the horse had gotten away.

As much as possible now, I am trying to initiate Nunn-McCurdy reviews when we see the cost growth coming as opposed until after we have submitted the budget and it is formally recognized.

In many cases, the Nunn-McCurdy reviews are triggered by quantity changes where we reduce the number of things we decided to buy, and that lists the unit costs because of the smaller production runs. Those are a different matter. And the two that we have this year, the two critical changes that we have this year, are largely because of quantity changes in the amount of systems that we are going to buy. So that is a little different matter. In that case, it is more of a formality, frankly, for us to go through the Nunn-McCurdy review.

But I have no problem with the Nunn-McCurdy-type review for business systems that exceed their cost growth.

Senator DONNELLY. Mr. Sullivan?

Mr. SULLIVAN. Actually I do not have much to say on that. I do not work IT programs, but we do have a team back in GAO that does that.

Senator DONNELLY. My concern is that when you see something failing, that we have the people in place to ask—you know, we have seen this not just in DOD but across the spectrum. You see an IT solution that is not a solution but a boat anchor. And how do we jump in on—here is a Government-built IT solution that is just becoming more and more and more of a quagmire, that we have some way or some kind of road map or metric that you are using to make sure that we do not continue down that path until all of a sudden you look up and we are completely in the swamp.

Mr. KENDALL. I agree with that. The one business system that I most have been involved with was the Air Force's ECSS system, which has been mentioned a couple times. We did do a critical

change review on that and decided to keep the program going for another several months before we decided that the contractor simply could not execute. That was a case where we did not have the right professionalism or expertise on either the Government side or the contractor side to successfully deliver that product. We probably should have recognized that earlier.

Senator DONNELLY. As we come home from Afghanistan—and you have heard from other members of the committee talking about competition, the critical need for competition. How do we balance that out while we look at maximizing savings and, at the same time, try to make sure that we do not hollow out the industrial base or the industrial capacity? Because this is a pretty delicate balance that we have got coming up, and I was wondering your thoughts on this.

Mr. KENDALL. In general, we are trying to be as efficient as we can be with whatever resources we are provided with. The transition that industry is going through from essentially a growth market to a flatter, declining market is a pretty big impact on them. And you are starting to see revenues decreasing. I think industry in many cases is trying to get costs out fast enough. The profits are not coming down as fast yet, but that will come over time.

We are watching the industrial base very carefully as we go through this. We do not think this is the kind of shock that occurred at the end of the Cold War when we had a very dramatic decrease in their production runs. But it is a still significant change in the market, and we expect industry to react appropriately to that change. And so we are watching it very carefully.

Our biggest concerns are twofold.

One is small niche suppliers who do critical small volume things for us that we cannot afford to have them go out of business. We really need those capabilities somewhere.

And the other is a longer-term concern with our design teams. As we gap new development for major products of different commodity types, we are at risk of losing design teams that have that kind of suite of capabilities to gather a team to develop a new product and to test it and put it into production. And I am concerned that in some cases we may be at risk there as well.

Senator DONNELLY. One of the facilities in my State is Naval Surface Warfare Center Crane, and they do a lot of work in advising DOD in trusted electronics. And I know you do a tremendous amount of work on cost management, contract management, all of those things. Could you fill us in on the work that is being done in regards to making sure that the product you are buying is actually the product you are buying, in effect mitigating the risk of counterfeit electronic parts and other parts?

Mr. KENDALL. We are concerned about the counterfeit parts. Senator Levin mentioned that earlier. And we are concerned about malware, the possibility that some adversary will insert something into some electronics that we buy that will be essentially something that could be used against us at some point or could prevent our system from functioning. Senator, we have put some things in place.

The bottom line on both of those is that we have to hold our primes responsible for the provenance of the parts that they put

into the systems they deliver to us. So through contractual vehicles, we are trying to do that. That is true for the counterfeit parts. It is also true for the malware. In some cases, we go to trusted sources, Government-owned facilities, U.S. facilities.

Now, what this works against, unfortunately, is the desire to use commercial products. Commercial parts are much cheaper. Now, there are some things we can do there to limit our risk, but there is some risk when we buy commercial components whose source we cannot completely verify.

Senator DONNELLY. When we look at the practices being used and the processes moving forward, I was wondering what your, in effect, metric or spectrum is for best practices information. Like, who do you also look at to say here is how they do purchasing? Here is how they verify product quality. And so I was wondering the orbit that you use to try to make sure that when we look, we are as good as the best in the private sector.

Mr. KENDALL. That is a good question. A lot of our practices were developed by the Missile Defense Agency, which kind of led the way in this area. I think about 2 years ago, this committee had a hearing with the Director of the Missile Defense Agency on this subject. So we have adopted some of the practices, and I think some of those actually have been put into legislation.

But we are constantly looking for ways to verify the provenance or the validity of the things that we buy and are working with industry to do that. The commercial industry has a similar problem. It takes an approach of risk management. To some degree, that is what we have to do too, otherwise our costs would go through the roof. So we are working with industry on this. We are working with different Government agencies who tackled it to try to identify the kind of best practices that you just mentioned and promulgate them across the Department.

Senator DONNELLY. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you very much, Senator Donnelly.

I just have one question for the record, and that has to do with the cost growth of the F-35 engine. In the Selected Acquisition Report, or the SAR, the current one, the cost of the F-135 engine for the F-35 program rose by \$4.3 billion. And in response to a question from the press about this, General Bogdan, the JSF program Executive order said, "we had a price curve for the engine. We thought we knew how much it was going to cost to build each engine. Pratt is not meeting their commitment. It is as simple as that."

So my question for the record would be to you, Secretary Kendall, whether or not in your judgment now where the costs have gone up by this much, if we had a second engine so that there could be competition. If you could give us a review of that for the record, I would appreciate it.

[The information referred to follows:]

[COMMITTEE INSERT]

Chairman LEVIN. Senator Inhofe?

Mr. KENDALL. I will do so, sir.

Senator INHOFE. Well, mine—I guess it could be for the record. But of the different problems that you have both talked about—one is the changing of the large number of PMs that are involved. I

know we are working on some language that would disallow changing them between milestones, something like that. Would something like that help?

Mr. KENDALL. It may be too constraining because some of our milestones are very far apart, several years in some cases.

I would like to have within the personnel system—this is an area where the service chiefs can be very helpful to me—a way to keep people in those jobs longer and have it not be a negative impact on their careers. That I think is at the heart of this, frankly.

Senator INHOFE. Okay, well, you could have it that way but have a limitation of time somehow in there.

Thank you. Thank you, Mr. Chairman.

Chairman LEVIN. Thank you very much, Senator Inhofe, and thanks to our witnesses. It has been a very, very helpful presentation by both of you, and it is a subject which sometimes is dry but it is always important that we take the time to do this kind of oversight. Your testimony this morning has, I thought, been very, very helpful to us. Thank you.

Mr. KENDALL. Thank you, Chairman.

Chairman LEVIN. We would now like to welcome our second panel which includes John Etherton, Senior Fellow for Acquisition Reform of the National Defense Industrial Association; Moshe Schwartz, Specialist in Defense Acquisition Policy of the Congressional Research Service; David Berteau, Senior Vice President, Center for Strategic and International Studies. Our witnesses have between them dozens of years of experience in defense acquisition.

Mr. Etherton was an acquisition policy expert that I believe was with this committee for 15 years, or am I exaggerating here a bit? 14 years. So we remember your service well, and again thank you for that service. But we welcome all of our witnesses.

I think we will first call on the panelists in the order that they are listed in our notice, and that would be then Jonathan Etherton. You are first, number one.

STATEMENT OF JONATHAN L. ETHERTON, SENIOR FELLOW FOR ACQUISITION REFORM, NATIONAL DEFENSE INDUSTRIAL ASSOCIATION

Mr. ETHERTON. Mr. Chairman, thank you for that kind introduction.

Mr. Chairman, Ranking Member Inhofe, and members of the committee, thank you for the opportunity to appear before you this morning to share my perspective on the 2009 Weapon Systems Acquisition Reform Act and the coming year's efforts to reform the defense acquisition system.

As my statement indicates, I have been involved over the last 3 decades with several efforts to improve the defense acquisition system and appear before the committee today as a Senior Fellow of the National Defense Industrial Association with responsibility for leading that association's contribution to acquisition reform.

To maintain the world's finest military, we need three things: high quality people, realistic and constant training, and sufficient cutting-edge technology and support from industry. If we have the first two but not the last, we put at risk our ability to defend our national security interests around the world. Rapidly falling de-

fense budgets are making the costs of the current acquisition process and its outcomes unsustainable and make achieving major reductions in costs imperative. Yet, considering all the time and energy invested in past reform efforts and the persistence of many of the same problems that have been identified for decades, it is reasonable to ask what will be different this time.

I believe that emerging capabilities, as well as the lessons from recent reform efforts, could help us achieve better results in the next several years. For starters, we have access to new analytic tools and big data capabilities to track and understand the real cost and savings drivers in the acquisition systems. These tools can measure the value across the acquisition enterprise of different policy and management approaches based on data we already gather. We no longer need to guess at solutions for defense acquisition system problems but can measure the outputs of our practices to promote success and to learn from failure.

I commend Secretary Kendall for his 2013 annual report on the performance in the defense acquisition system, which I personally think is one of the best documents that they prepared in the Department in many years, which strongly affirms the potential of evidence-based approaches to acquisition policy and management.

The Congress also fostered this evidence-based approach in the 2009 Weapon Systems Acquisition Reform Act, or WSARA. WSARA strengthened the Department's ability to learn from successes and failures through the establishment of the Office of Performance Assessment and Root Cause Analysis. This initiative could produce a lasting positive change in applying lessons learned to improve management of major programs. And we have already seen some of the results of their efforts today.

Likewise, recent analyses of the data by GAO and DOD suggest that WSARA has made real improvements to controlling cost growth in major programs.

The committee and you, Mr. Chairman and Senator McCain especially, are to be commended for recognizing the value of more robust, independent cost estimating earlier in the acquisition cycle, which Secretary Kendall's report stressed, as a demonstrated factor in better acquisition outcomes in major programs.

WSARA created the Director of Systems Engineering, systems engineering being another shortfall identified by the Kendall report.

I would also note that the open and orderly process that the committee and the Congress used to consider and pass WSARA is a good model for future legislative efforts in acquisition improvement. The collaborative process allowed not only inputs from all stakeholders and interested parties but also for a reasonable alignment among both houses of Congress and the Department of Defense that has been essential for successful implementation of the legislation.

As I mentioned earlier, we have the benefit of experience with the successes and failures of recent acquisition reform efforts which merit careful study as we move into this current effort. The acquisition reform effort of the 1990s that I describe in more detail in my written statement may be the richest in terms of the process and the results. It seems clear from our experience during that pe-

riod that meaningful reform will likely require several years of sustained and focused legislative and management action, followed by dedicated and sustained oversight after the legislation is passed.

Perhaps the greatest lesson from our past experience is that each stakeholder and decision-maker can affect only a relatively narrow piece of the larger enterprise and often must deal with institutional conditions or behaviors that, while out of direct reach, may still dictate the success or failure of any new acquisition policy initiative. These so-called boundary conditions on the acquisition process, some of which were talked about this morning already, include the Federal, military, and civilian personnel systems and process, the budgeting process, and program planning process, industry behaviors driven by capital markets and the commercial marketplace, the audit and oversight structure and process, and the manner in which the news media look at and evaluate the performance of the acquisition process in any new initiative. These factors are intended to keep the acquisition system in a state of equilibrium despite vigorous efforts to change it. Future acquisition reform must take into account and, if possible, influence the impact of these factors to have any hope of success.

I thank the committee for soliciting NDIA's suggestions and proposals for acquisition reform. Three principles will guide our response to your request: cultivating accountability in the system for individuals and organizations, increasing the use of evidence-based decisionmaking, and realistically matching likely available resources to the scope of any requirements for the acquisition process.

Since no one can provide industry's view better than industry, NDIA will seek to involve as many of our nearly 1,600 corporate members and 90,000 individual members as may wish to be involved. We are very mindful of the committee's July 10 deadline for our response, and we will do everything in our power to meet it. But circumstances may dictate that we provide the committee an interim response, followed by a more meaningful and perhaps more actionable response within a reasonable period after that date.

With that, I will conclude my opening statement and thank the committee for the opportunity to appear. And I welcome your questions.

[The prepared statement of Mr. Etherton follows:]

Chairman LEVIN. Thank you very much, Mr. Etherton.

Mr. Schwartz?

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

Mr. SCHWARTZ. Thank you, Chairman Levin, Ranking Member Inhofe, distinguished members of the committee, thank you for the opportunity to discuss the defense acquisition system.

In this testimony, I would like to make three points. First, for a variety of reasons, now is a good opportunity to pursue acquisition reform. Second, what DOD can do on its own to improve acquisitions can only go so far. To make reforms go further, DOD needs help from Congress. And third, past reform efforts have not sufficiently focused on improving the culture of the acquisition work-

force and changing the perverse incentives that drive poor decision-making.

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 contract support on the scale necessary for the operations we conducted in Iraq and Afghanistan. But on another level, the system is not working. It takes longer to buy fewer weapons and often with less capability than promised. The acquisition of services, which accounts for more than half of DOD contract obligations, has also experienced wasteful spending, schedule delays, and capability shortfalls.

In recent years, there have been significant changes in the National security and industrial landscapes. Many analysts believe the current acquisition system is not efficient and nimble enough to meet the challenges of an ever-changing world. Consider the following points. Weapon and information technology systems are increasingly complex. The defense industrial base has consolidated significantly in the last 25 years. DOD is a less influential buyer in the marketplace, prompting some companies to diversify their businesses and others to forego Government contract opportunities. DOD is playing a less important role in innovation and development, and U.S. defense spending is declining.

If the changing landscape argues for acquisition reform, now may be a good time to try it. Historically, eras of budgetary restraint have been associated with the pursuit and implementation of acquisition reform. In the 1980s, the deficit targets enacted as part of the Gramm-Rudman-Hollings Act contributed to development of the Packard Report and changes in defense acquisition. The Budget Enforcement Act of 1990 and limits on defense spending at that time contributed to the Perry Report of 1994 and to another round of far-reaching acquisition reform. Against the current backdrop of the Budget Control Act of 2011 and declines in defense spending, the stage may be set for a renewed effort to significantly improve defense acquisitions.

Other factors contributing to a sense among analysts that the time is ripe for reform include changes in the strategic and industrial landscape that I mentioned, recent experiences in Iraq and Afghanistan that highlight the importance of contracting, and increasing availability of data to drive decisions.

Historically, Congress has been critical to advancing acquisition reform. Such efforts as establishing the Federal Acquisition Regulation, creating Defense Acquisition University, streamlining acquisition regulations, and enacting the Goldwater-Nichols Act were all the result of congressional action. Many analysts believe that despite the current efforts underway at DOD, significant, effective, and lasting acquisition reform will only occur with the active participation of Congress.

So where do we go from here? Most reports have concluded that the key to good acquisitions is having a sufficiently sized and talented acquisition 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 these workforce-related issues.

The current acquisition system often incentivizes people to make poor choices. But even with the right incentives, the most skilled and incentivized professionals cannot effectively manage a program if they do not have the authority to make binding decisions or are not in their position long enough to make those decisions stick.

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 controls their programs.

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, Secretary Kendall wrote in his guidance on implementing Better Buying Power that the first responsibility of the acquisition workforce is to think.

The problems with our acquisition system are longstanding and multiple reform efforts have made only a certain amount of cumulative progress, but improvement is possible and certain changes, such as empowering good people to make good decisions, could help our military meet the security challenges of the future.

Thank you for the opportunity to appear before you, and I will be pleased to respond to any questions.

[The prepared statement of Mr. Schwartz follows:]

Chairman LEVIN. Thank you very much, Mr. Schwartz.

Mr. Berteau?

**STATEMENT OF DAVID J. BERTEAU, SENIOR VICE PRESIDENT,
CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES**

Mr. BERTEAU. Thank you, Mr. Chairman and Ranking Member Inhofe, for the opportunity here today. I would ask that my written statement be included in the record.

I have a few oral comments. I will try not to duplicate that which was said before, but I want to emphasize a couple of points.

The earlier panel talked a lot about the need in the acquisition system to also have requirements and the budget resources, and all those three elements have to line up together. We tend to look at that from the point of view of the executive branch and say it is your job to do that. But I think in talking about the role of Congress, which is really one of the reasons we are having this hearing today, the place where those three things come together is in fact in the Congress and in particular in this committee.

And in that, I want to go back to a comment you made. I think it was in your first question of Secretary Kendall. And that is the role of oversight, in addition to the role of legislation. I want to really endorse, I think, your comment of we do not often do enough of it. This is the place where that oversight and that oversight hearing responsibility can not only expand the visibility into those interconnections between requirements and budgets and programs, but also help educate, educate the Members of Congress, educate the media, educate the public.

One of the things I would ask you to look at, though, is places where in fact you can hold oversight on something that is actually working pretty well, as opposed to focusing so much of our attention on just the places where things are a disaster. Lord knows

there is enough of those. It would be useful, I think, to look for places where in fact something is working pretty well.

In that, I think one of the other elements is the role of competition. We talked about that a lot today. I mentioned in my statement my first hearing when I first came to the Defense Department in 1981, Frank Carlucci, the Deputy Secretary, was testifying before this committee about his 31 initiatives. He came in the room with 31 initiatives. He walked out with 32 because you added competition to that list of initiatives, and it survived that hearing and became an inevitable part of it.

But I think there is an important question, an important analytical question, an important policy question. If we are not buying enough of something to sustain competition, how to create—and Frank Kendall talked a little bit about this in his statement—the benefits of competition even though we do not have the buying power to force and create that. I think that is worthy of considerable effort and attention particularly as the budgets continue to come down.

There are three areas that we did not talk about much at all this morning. One is essentially 50 percent of procurement and contracting is in services as opposed to major end items. And one of the things that we look at a lot at CSIS is both the content and the distribution of those services' dollars. We have a report coming out in just a couple of weeks with a lot of detail, and I would like to provide some summaries of that to the committee at the time that we release those because I think they will be in time for your schedules, if you will.

Chairman LEVIN. They would be very welcome.

Mr. BERTEAU. And in particular, I think that we need to be careful that we do not try to manage services contracting the same way we manage major defense end items through a DOD 5000 directive that has milestones, et cetera. I think it needs a different approach, one that needs to be worked on.

The second is the question of innovation. Our lives have been spent with DOD having huge technology advantages over all our potential opponents, if you will. And the Department, Secretary Kendall, and this committee have all talked about the need to maintain that technological advantage going forward. But increasingly, innovation is occurring not inside the defense world, not funded by DOD, not being developed necessarily by defense contractors, but out of the global marketplace. Whether it is materials or communications or data management or sensors, there is a lot of development in the global commercial market. I think we need to spend a good bit of time figuring out how our defense world can take advantage of global innovation because I think globalization is no longer a policy choice, it is actually a characteristic of the defense environment in which we find ourselves. And we are not really all that good at figuring out what our policy framework ought to be in that regard.

And then finally, I would recommend that we look at what has perhaps been the most effective if not necessarily useful legislation with respect to some of the issues we talked about this morning. There has been a lot of time spent on the question of the tenure of a program manager and how long they could stay in place. When

I was in the Department, after the Packard Commission report was released—and I think it is 28 years ago this week. I am pretty sure your staff probably can still pull that report right off the shelf. I meant to bring a copy with me, but the rain kept me from getting it.

When we looked at early implementation of that, we looked at reform of the Defense Officer Personnel Management Act of 1980, DOPMA. And that is the upper out that drives that tenure, if you will. I would strongly endorse this committee taking another look at that. I think it is very useful to try to tackle that question. I would caution you that my experience is that as important as acquisition is, it is very hard to use it as the counter to the overall promotion dynamics that go on in the military today. And I think it is worthy of another look.

So with that, I will end my initial remarks and thank you for the opportunity and open up for questions.

[The prepared statement of Mr. Berteau follows:]

Chairman LEVIN. Thank you very much, and we will move to questions.

I think you just said something about can we retain the benefits of competition when we do not have the resources. Is that what you said? Do you have any ideas how that is possible, or what did you mean by when we do not have the resources?

Mr. BERTEAU. Well, if we are not buying enough of something to maintain two competitive sources—

Chairman LEVIN. In that circumstance, do you have any ideas as to how we could maintain competition?

Mr. BERTEAU. I think there are two ways. One is that the competition could be in fact structured so that it is competition for accomplishment of the mission as opposed to a competition for one particular end item inside that. That is an internal competition that would essentially force the military services to say, all right, here is my mission objectives. I have got multiple ways I can achieve this mission. Expeditionary operations over the shore is a good example of that. There are several different ways in which the marines can come ashore. They do not all necessarily require a replacement for the expeditionary amphibious vehicle. And so you would have a competition of mission accomplishment.

The second is internally in the company, especially once you have actually awarded the contract, is a competition against a performance standard and that would include essentially monetary benefits if you actually produce below the targeted budget and ahead of the targeted schedule. So you are essentially competing against a set of performance standards within a contract. That can be structured in both the program and the contract itself.

We have seen some evidence of this. You have got a couple of shipyards that are operating where they are actually delivering ahead of schedule and under budget, and obviously, they reap some profit benefits from that. But it requires a Government workforce and an ability to find requirements in that program and in that contract in such a way that there are not a lot of loopholes built in that the contractor can take advantage of.

So both of those I think would be useful to look at.

Chairman LEVIN. Any of you have any suggestions on changes in law? If you could make one change in the law or two changes in the law, including regulations which govern DOD acquisition, what would you change or repeal for that matter?

Mr. BERTEAU. May I take a first crack at that?

Chairman LEVIN. We will ask all of you. Sure, take a first crack. We will go around.

Mr. BERTEAU. Mr. Etherton will have a better idea.

Chairman LEVIN. Well, you will give him more time to think about it. Do you want to start?

Mr. BERTEAU. I took a look in preparing for today again at the interim DOD instruction 5000.02 that was issued last November by DOD. And if you read through the document—it is about 150 pages when you lay the whole thing out—the front end is full of very good language about how program managers could tailor their application of all the requirements to meet the needs of the program.

Then you get in about the middle of the document, some 25 or 30 pages worth of charts of all the regulatory and statutory requirements that you have to meet to go through this. I think Senator Inhofe mentioned the 80,000 work-hours to put into milestone B documentation.

One of the things that strikes you as you read through those—and you are right. This is rather dry. It is either very dry or very scary, depending on how much attention you are paying to it. These things are not harmonized or rationalized in any way, shape, or form. There are wildly different schedules, wildly different variations in terms of thresholds, in terms of the requirements of when you have to report and who. And I think even rationalizing all those so you essentially have a harmonization, if you will—and that is not something you can do between now and markup. That is really a yearlong process, and I think it requires a good bit of support and integration with the executive branch in order to do that. I think that is what is underway already, but I want to endorse that. If you only do one thing, that is not a bad thing to do.

Chairman LEVIN. Thank you. I think Mr. Kendall indicated that is underway.

Mr. Schwartz?

Mr. SCHWARTZ. So I will put forth three ideas that a number of people have been throwing around there. One, of course, is to reiterate the idea of streamlining rules and regulations which clearly will take a legislative requirement, along what was done 20 years ago, literally to the year, in the Section 800 Panel as part of the Federal Acquisition Regulations.

A second one is workforce. And I am not putting forth a specific legislative change. Obviously, we do not do that at CRS. But to the extent that the culture of workforce and the incentives that drive workforce promotion and decisionmaking will likely require some sort of legislative input, be it, as some of the members raised some questions, changes to compensation or be it requirements of how long program managers should stay in locations and in jobs. That may require legislation.

And then the third one that a number of people have mentioned is Nunn-McCurdy has proven to be a fairly effective method of gathering data and information on programs. So there are two

areas that it could be extended to if Congress wished to do so. One which has been mentioned is information technology and other business systems. Another one is operation and support costs. To the extent that O&S costs, operation and support, tend to represent in the realm of 70, sometimes 80 percent of the lifecycle cost of a program and there is not really sufficient and reliable data, according to even a number of people in the Department of Defense, to make those decisions, such an approach could help Congress and DOD gain more data now for better long-term decisions later.

Chairman LEVIN. Thank you.

Mr. Etherton?

Mr. ETHERTON. First, let me mention the Defense Acquisition Workforce Development Fund. If it were within my power, I would significantly increase the amount of money that would be available in that fund. I think it was one of the great accomplishments of this committee in creating that fund and figuring out a way to fund it out of funds that would otherwise be spent for services contracts. And I would also point out that industry was more or less unanimously in favor of that legislation when it was proposed, notwithstanding the source of funding. There were great hopes, I think, when that fund was created for a fairly robust amount of money that would be available for recruiting, retention, education in the acquisition workforce.

In fiscal year 2014 in the appropriations bill, that money now has been limited to \$50 million, which is much lower than where you all had originally hoped to be at this point. I think that that is an area that needs to be revisited, and any additional resources there that could be put into that fund I think would be something that would be a good thing to do.

I also think it would be useful to try to look at the relationship between the investments that you make within that fund and the long-term funding that you would need to continue the funding for the new people that you bring in through the normal POM process and maybe have better integration with that. So that is another area that I would look at.

I also think—and this is really in the weeds—that we probably need to review the current laws with respect to intellectual property, technical data rights, as well as commercial item acquisition because I see some disconnects there that are emerging that are going to potentially make it more difficult to access technology development coming in from the commercial sector through various ways, and I think that needs to be reviewed and looked at more carefully.

Chairman LEVIN. Thank you all.

Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman.

I understand from my staff, Mr. Schwartz, you might have a prop that might demonstrate the volume of stuff you guys have to go through in your acquisition process.

Mr. SCHWARTZ. Sure. So it might be instructive to see what exactly the rules and regulations that the acquisition workforce is supposed to master in making their decisions.

So this is a stack that includes the DOD 5000 series, which is the memo that Secretary Kendall mentioned was rewritten in No-

member for acquisitions. It includes the Defense Federal Acquisition Regulation System and then, of course, the Defense Federal Acquisition Regulation System Supplement, the Defense Acquisition Guidelines, which are supposed to explain all of that. In fact, Senator, if you ever attempt to break Strom Thurmond's record for continuously holding the floor for the longest period, I am happy to lend this reading material to you.

Senator INHOFE. It sounds like it would just be very captivating. [Laughter.]

Chairman LEVIN. It is weighty.

Senator INHOFE. It is.

Let me ask you a question. I think I know what your answer is going to be. It was kind of fun hearing you talk about Frank Carlucci, Mr. Berteau. I remember him. In fact, I remember also that back then during the Reagan administration, they talked a lot about zero-based budgeting, not zero-based acquisition as some recommendations have come out. And there is always opposition to that.

But I want to ask you that because the panel that you guys have, the Department of Defense Defense Business Board, came out and their number one recommendation was to zero base the entire defense acquisition system. And I would kind of like to hear just a comment from each one of you guys as to what you think about that. Since you were my appointment there, Jon, why do you not start?

Mr. ETHERTON. Okay, sure. I address this issue a bit in my written statement.

I think the challenge that the committee and the Department of Defense has is how do you get an orderly review of what is already in these types of things, as well as the statutes in Title 10 that govern the acquisition process. Back in the 1990s, we specifically formed through this committee through the Defense Authorization Act for Fiscal Year 1991 the so-called Section 800 Panel. We told them to go off and look at all the existing statutes governing acquisition and to come back with a report on changes in a very specific actionable format. There does not seem to be a lot of appetite to do that again, at least from what I can perceive.

And so one idea that you might want to consider. I think that you need to keep things in place rather than do just a wholesale elimination overnight and make people put things back. I think that would really throw the system in somewhat of a chaos since it does seem to be a very rule-based approach that prevails in the culture right now.

But what you might want to consider is a series of phased reviews where you have sort of a mandatory sunset after a certain period of time, which would force everyone in the process to review the statutes, the regulations, or whatever, and also allow outside groups to provide inputs and bring in outside expertise so that you had a date certain where you had to make decisions on whether to continue something or not. I have not formulated exactly how that would work, but that may be one approach that should be considered.

Senator INHOFE. Mr. Schwartz?

Mr. SCHWARTZ. In these regulations, there actually are some good things, and when looking at the regulations, sometimes it might be useful to consider what impact those regulations have had and why they may or may not have succeeded as originally intended. And one particular example, which dates back to David Packard in the 1980s, is the chain of command of program manager, program executive officer, service acquisition executive, under secretary of defense chain of command. The idea was to put somebody in charge of every step along the way of a streamlined process.

But a couple of years after that, David Packard stated publicly that he did not expect some of the things that did not occur to occur. And when he articulated the idea of that streamlined structure, he said it could only work if the incentives are there to make the people make the right decisions, if the authority is there for the program managers and others in that chain to make the right decisions, and if they are held accountable for those decisions.

Now, as Mr. Sullivan testified on the JSF, on Joint Strike Fighter, in the last 11 years, there have been, I believe it was, six program managers that he said. Five or six program managers. In that circumstance, the problem may not necessarily be with the structure that is in here. It may be with the fact that the people in those positions are not there long enough, are not necessarily held accountable, and sometimes may have the incentives to make the wrong decisions. So when reviewing this effort, which is a laudable effort and is very likely to have some positive steps, I would caution that it be considered what is the root cause issues that are sometimes not giving us the effects that we want.

Mr. BERTEAU. Senator Inhofe, that question about the value of a zero-based approach I think is one worthy of considerable thought and analysis. I have three examples that I would offer for your consideration of where we might have tried this in the past.

The first is after the fall of the Berlin Wall and the collapse of the Warsaw Pact, the U.S. Defense Department was invited into a number of the emerging countries in Eastern Europe to help them figure out how to create a defense and a Federal acquisition process. And what we did is we brought them the Federal Acquisition Regulation and said why do you not copy this. Now, I am extemporizing and collapsing a considerable amount of effort into one sentence, but the reality is that one could almost not think of a better revenge against the former Soviet states than to have them comply with the FAR right from the get-go. I think we missed an opportunity to help them essentially do their own in that regard.

The second is to look at examples where this Congress has provided elements of the Federal Government with the opportunity to start from scratch and write their own both acquisition regulations and personnel management regulations. The one that I am most familiar with was the Federal Aviation Administration back in the mid-1990s where Congress gave them the authority to create your own new acquisition process, your own new procurement regulations, and your own version of whatever Title 5 and civilian personnel management. And if you look at the history, essentially what they did is they went back to what we were doing before and just made it their own instead. But in essence, they did not take

advantage of that opportunity. And so there was no incentive, if you will, for them to create something new because we knew how to operate under that.

The third is the one example where I think it is very worth going back and looking at. When Secretary-designate Mel Laird invited David Packard to be considered as his deputy secretary in the winter of 1968–1969, Packard agreed to come. He only stayed for 16 months. He actually took that approach, if you will. If you go back and look at the original DOD directive 5000.1 that he wrote, I believe it is about four pages long and it is essentially the zero-based approach to what you would want a real acquisition system to do. Its residue sits to Mr. Schwartz's right here, but it shows I think the possibility, if you will, of at least conceptualizing what it ought to do.

I think, though, if you really want to tackle this, what you need is some kind of a pilot that would—you cannot really put the whole Department, if you will, into that kind of a situation. I think you need a place where you would test it out, see if it can work, see if it comes into place.

You look, for instance, at the Special Operations Command today and the way it does acquisition, in part because of the statutory structure from—I do not know whether we call it Nunn-Cohen or Cohen-Nunn. I think it depends on who is talking about it, if you will. But the original 1986 act that created the Special Operations Command and the creation of its own acquisition executive, its own major force program inside the DOD programming process, and its ability to create its requirements. There you have the integration of requirements and acquisition and budgets all together. I am not saying you can replicate that across the Department, but there are some lessons learned from that from a zero-based acquisition point of view that I think would be very instructive to the committee.

Senator INHOFE. Yes, and I appreciate that. You know, when I look at it and having gone through this before because we actually did this in the State of Oklahoma too, again zero-based budgeting, not acquisition, a different thing—but we have that group that is there, the Defense Business Board, and it is to provide the Secretary of Defense with—I cannot read his writing here—trusted, independent, and objective advice which reflects on outside private sector perspective. Now, you are talking about 17 guys and gals that are there that have the background, have been recognized as experts. I am sure they considered everything that each of the three of you were talking about. And so I have to look at that and think, you know, what am I overlooking or what are they overlooking. So it might not hurt to call them up and find out.

I do not have anything else, Mr. Chairman.

Chairman LEVIN. Thank you.

It will be interesting for all of us, I think, to take a look at that. What was it? Four pages, Packard's four pages or six pages? How many was that?

Mr. BERTEAU. I think it is four. I read it periodically, but I do not have the pages memorized. It is quite an illumination.

Chairman LEVIN. I am sure we will ask our staff to dig that out and to share it with us.

Thank you all. This is a very useful hearing and it is a very important hearing because oversight is something we do not do enough of around here, as I mentioned. And we are thankful for your contribution.

We will stand adjourned.

[Whereupon, at 12:05 p.m., the committee adjourned.]