

***AIR, SPACE, AND CYBERSPACE POWER IN THE 21<sup>ST</sup> CENTURY***  
***38<sup>th</sup> IFPA-Fletcher Conference on National Security Strategy and Policy***

***January 20 – 21, 2010***

**DAY ONE**

**AFTERNOON ADDRESS - 4:00 - 4:45 P.M.**

**DR. ASHTON B. CARTER**

**DR. JACQUELINE K. DAVIS:** I have the privilege of introducing our next speaker, Dr. Ashton Carter, Undersecretary of Defense for Acquisition, Technology and Logistics. Many of you know Dr. Carter from his work at Harvard where he was Director of the Center for Science and International Affairs at the University's John F. Kennedy School of Government, and he was Chairman of the editorial board of the magazine, *International Security*. Or, if you don't know him from his Harvard experience, you certainly know him from his time in government during the Clinton Administration when he served as Assistant Secretary of Defense for International Security Policy and worked closely with Dr. Perry on combating WMD, NATO affairs and implementing the landmark Nunn-Lugar legislation with respect to cooperative threat reduction and the removal of nuclear weapons from the former Soviet Union.

Dr. Carter is one of the very few U.S. government officials to have visited Pyongyang with Dr. Perry after both left office. And in his earlier years, Dr. Carter was a Rhodes Scholar. His curriculum vitae is extensive, and it's found in your packages. As you might imagine, he's published many articles and books, and he has received numerous awards for his service and contributions to security studies and policy development.

All of this is extremely impressive, though what I think I've said this to you before, Ash, what I find most compelling are your twin bachelor degrees, one in physics and one in medieval history from Yale. Ash is truly what I would consider a renaissance man. Dr. Carter, the floor is yours. [applause]

**DR. ASHTON B. CARTER:** Thank you, Jackie. I've been privileged to be a part of these IFPA conversations for a long time. It was easy when I got the invitation from Jackie once again to say yes. I salute you, it's good to see you, my friend. I've been to many of these, benefited from them, and am grateful to you and to [Gen.] Norty Schwartz for the opportunity to be here today. I apologize in advance, I'm a little froggy. It's something I got in Afghanistan a few weeks ago, and have not been able to get rid of. And to my alarm, they tested me for whooping cough yesterday. So, you may want to keep your distance. I haven't been able to get rid of it.

Jackie and I have been working together for a long time and in fact, at one of the first encounters, which really was a long time ago, was at the time I happened to be working on something that's now kind of hard to believe. But the first thing I ever did as a scientist in defense was work on alternatives to the then multiple protective shelter basing system for the MX missile, which was 4,600 holes in the ground in the great basin area of Nevada and Utah, into which 200 MX missiles were to be inserted, hidden. And that idea had a certain Rube Goldberg characteristic to it that caused the country to have a thirst for alternatives. And so, there was a big effort to look at alternative basing modes for the MX missile. And I was part of one of those teams. And we looked at everything that flew, rolled, floated, whatever, including-- I remember this vividly-- designing a 14 million cubic foot airship, which, had it been built, would have been the largest since the Graf Zeppelin. You can just imagine in this day and age, MX missiles floating around on these enormous airships. And I think it was back in that time when we first met. So once again, I'm very grateful to you for allowing me to be here today.

I'm very mindful, I have to tell you, of the perils of delivering a public address. I don't know how you scheduled this [to occur] in the weeks before the official release of the President's budget. I think Secretary Gates is mindful of that, too, which is why he's in India. I guess he's leaving the floor to Bill Lynn and me; Bill will be here tomorrow, to make all the trip-ups. And so, I have to say in advance, I'm not in a position to address

the soon to be released FY '11 budget, the soon to be released QDR and BMDR. But I don't want to go to the extreme of Will Durant, the American writer who said, "To say nothing, especially when speaking, is half the art of diplomacy." I actually *do* have some things that I want to say.

The other half of diplomacy-- by the way, I always think of Will Rogers in that connection-- who said diplomacy was "The art of saying 'nice doggy' while you look for a rock". So I do need to steer clear of the budget. But while I do that, there is much I really do want to say.

The first is how in the community of acquisition, technology and logistics, which I am now a part of, we are supporting the current conflicts in Iraq and Afghanistan. Second, the budget landscape which we now inhabit, and how that landscape is shaping our approach to acquisition and acquisition reform. And then third, in keeping with the theme of this particular conference, particular topics in Air Force modernization from an acquisition perspective.

Let me start with Iraq and Afghanistan, though. Some of you have heard me say this before, but when Secretary Gates offered me this job back on January 5<sup>th</sup> of last year, one of the things he did was repeat something he said many times publicly, which was that the troops were at war, but the Pentagon was not, and he said especially AT&L. And he said he wanted to make sure that in this role we discharged our responsibilities to the current fight. And I thought I would just start there, because I do take it very seriously.

And there are several different dimensions to this. The first, and probably most obvious to you for an acquisition executive, is responsive acquisition, meaning trying to respond to the evolving needs of the theater on a time scale and in a manner that is not the usual program of record manner. An example of that, just one among many, is the MRAP ATV acquisition, which we completed the source selection for in July. We are producing vehicles, fielding vehicles, I'm very happy to say. Now, these have the feature

not only of the hardness of the other MRAPs, but of the all terrain capability which allows them better to maneuver in the terrain of Afghanistan, to avoid being canalized into entrapment zones where the IEDs are, and otherwise an excellent addition to our capability over there.

Oshkosh got the award in the middle of the summer. We have delivered a large number of vehicles, [and there are] many more in the pipeline. We'll deliver more to our training centers, where I was last week. We'll try to make them available to partners and allies as we can. The original, just to show you how things go in this business and why you can't follow the usual require then acquire system, is that just in the course of the last few months as we've been doing this, the requirements have multiplied several fold. I was in favor of a thousand a month production and the theater said they could only absorb 500 a month. And I said, "Do a thousand anyway. Clog the pipes, we'll figure it out later, and we'll use some for training and maybe the requirement will go up, maybe the ability of theater to accept in field will expand." In fact, all these things have happened. So it was better to have the MRAPs being produced rather than sit and wait until we were sure exactly what we needed. We can't afford to do that when we get to this kind of responsive acquisition support.

The second area where we're involved in Iraq and Afghanistan is logistics. Everything is logistics in Afghanistan at this stage. It is the limiting factor in delivering so many of the capabilities we need. Again and again, you run into the same story. "Well, I'd like to have that, but I can't get a slot in the lift. Or, if I get a slot in the lift, there isn't enough ramp space or base space. And even if I could get it to Bagram or Kandahar or something, then there's the problem of getting it out in the field," again, again and again, on and on and on and on. And if you look at the map of the world and say from a logistics point of view, where is the last place on earth I'd like to be fighting a war, it is Afghanistan. So it's a huge challenge, a day to day challenge. But if we're going to get in, get set and get effectively quickly, which we have to do, because we're running against a clock of our own patience and the enemy there, we have to meet this logistics challenge.

Iraq's a different thing. In Iraq, it's getting out on the schedule that the President has prescribed, which is not optional; we have to do it on that timetable, and we want to retain as much as we can in Iraq for as long as we can to make sure that risk is managed in Iraq as we move out.

And a third area of responsibility connected to the two wars is contingency contracting. I want to say something about that, because it's important that we get better. It is a fact of life that for every soldier we field, approximately one contractor also joins the effort. That is an unavoidable consequence of the way we need to operate. It's fair to say that we have not done things as well as we might have in the first eight years. I think part of that is because of the novelty of the task, part of it is just the exigency of war, and part of it is that we wouldn't admit to ourselves that we were going to be doing this for a long time so we had to get good at it. But we've admitted that to ourselves now, and Secretary Gates is insistent that we learn the lessons of Iraq in Afghanistan, that we learn the lessons of Afghanistan quickly because Iraq is not Afghanistan, and vice versa.

The public and all of us as taxpayers are justifiably insistent that the contractor support be provided economically, and accordingly there are any number of commissions, auditors and so forth who are sifting through what we're doing in Afghanistan. And I understand why it's fair and appropriate that they do so. We are working down the same list they are of all the things we need to improve our performance and accountability by which we conduct this activity.

I also think it's important, and I implore everyone involved in this to retain a sense of balance between being perfect and auditable on the one hand, and being effective and agile on the other. We just have to have that kind of balance in order to do what we need to do in the near term. And I think that's one of my responsibilities, is to try to maintain that balance back here.

I was walking out of Karl Eikenberry's office in Kabul a while ago and he said, "Ash, 20 auditors just walked out of my office. My political section has seven people in it." So that's where we are.

And the last thing I'd like to mention, as kind of off the usual access for an Under Secretary AT&L, but the Secretary asked me and the Director of Operations on the joint staff a few weeks ago to be his piston, I would say, his integrator and accelerator I think were his words, on the counter IED problem. The IED fight is not one that's really separable from the larger campaign in Afghanistan. Still in all, IEDs present a unique danger to the whole operation. They're a threat to life and limb. They restrict our mobility outside of the FOBs and COBs, which is the whole point of our being there in the first place, and of our civilian counterparts. So they thwart to the mission to the extent they restrict our mobility.

And last, when they take lives, they dispirit our own people, they dispirit our allies, they dispirit the Afghan people. So for all those reasons, IEDs, the Secretary believes and is absolutely right, are a strategic threat to our success there. He's established a number of task forces over time, but like everything else in Washington, after a time, everything needs to get a shot in the arm and so he's asked me and Jay Paxton to work on this. That's what takes me over there, that's what takes me out to the training ranges and so forth. We're looking at things we can do now, in the next couple of months, to deal with the homemade explosives threat.

ISR, Norty, not orbits, more prosaic things, though they're important, too. But things like balloons. You can't believe what it's like to be out there in a small COB and just want to have the awareness of what's going on around you. And you don't need a fancy airplane to do that, and it's not acceptable that people don't have the very simple things that they need. I'm trying to accelerate that. All kinds of critical enablers for counter IED and EOD teams. And my mantra in that is the same one I mentioned a while ago with respect to MRAP, which is acquire and we'll require later.

And the last thing we can do very quickly is training and improving the training, the relevance of the training the forces have that are rotating in that are part of the surge there, the relevance to the particular characteristics of the IED fight in the particular part of Afghanistan they're going to be in and make sure we're not teaching them from Iraq or that we're not teaching them at all. And by the way, that we're offering our partners assistance as we can provide it. So I wanted to mention these things because they're important. They're not part of the usual acquisition story to which I now turn.

Let me now turn to the acquisition picture overall in the budget landscape. Secretary Gates has made it very clear that he has a strong commitment to ensuring continued real growth in the defense budget. It's not going to be the double-digit, year-on year-growth that we enjoyed in the initial post 9/11 years. But he recognizes stability is very important for program health and that if he's frustrated with the performance of programs on the one hand, one way to ensure program performance is to provide program stability. He understands that completely. He understands that the investment part of the budget is the part that is differentially damaged in times of flat or reducing budgets.

And so the President has agreed with him and so I do expect that kind of stability and not to have the defense budget look, as Secretary Gates said recently, like the EKG of a patient in fibrillation, which is the historical model.

That said, it's going to be a different environment than it's been in the last eight years. And one of the things I've observed since coming into this job is that while the availability of ever-increasing amounts of money has been a wonderful thing for defense, it has engendered a certain erosion of discipline, and we need to recapture that discipline to live within the limits we will experience.

And the other thing that the Secretary has made clear, and people are always asking, I think one of the questions that was put to me in preparation of this meeting, is what's going to be favored, what's going to be disfavored in the future? And there will be a

QDR coming out, and the ballistic missile defense review and the nuclear posture review, and so on. But I think there are really three things that Secretary Gates has made clear are his guiding lights. The first is performance. However wonderful you may look on charts, if your program is broken, you're going to get extra scrutiny. And there are, unfortunately, no shortage of programs that deserve that kind of scrutiny where either they're not working or the government isn't getting the deal that it should.

The second criteria is whether a system is adaptable to a number of circumstances or whether it's good for only one thing, one exquisite niche.

And the third, of course, is whether we have enough already. And those are the criteria that you saw him using last year and I think you'll see him using again this year in the budget.

He is also, the way he puts it, committed to changing the way we do business. One part of that is acquisition reform. I thought I'd say a little something about acquisition reform. The first thing is, during my first conversations with him about acquisition reform he said to me, "I realize there's no silver bullet." And I was very glad to hear that, because there really is no silver bullet. Acquisition reform is something that we all could talk about constantly. I've been in many waves of it over the years, and it's just not true that we make the same one mistake. We make every mistake. So there is no one particular thing, if we just move this box, if we jiggle the process here and there, that will make the difference in acquisition reform. And there's a pendulum in Washington that swings and there's this craze one decade, and it goes over here the next decade. And I'm fully aware of all of that and hope to avoid that.

At the same time, I tell my folks for whom talk of acquisition can sound like an indictment, that we should be very glad. We are in a wonderful situation because that is an indictment of our work and our performance. We're in a wonderful situation where our President, our Secretary of Defense and all the members of both houses of Congress, of both parties, unanimously last year passed legislation urging us to do

better. And I say try to look at it that way. This is a great opportunity to do better. Everybody's expecting it, everybody's looking at us.

And in that connection, we got some very helpful guidance in the Weapons Systems Acquisition Reform Act that was passed last year. I would say there's a slight element of embarrassment on our part that we had to be told to be doing things that we should have been doing anyway. But still, all in all, everything contained in that Act was, from my point of view, welcome, as it spurs us in the right direction. Just let me remind you what those ingredients were. They were to be more honest in how we do cost estimates, so that we don't low ball ourselves into something that ends up costing more than we thought or were willing to admit. That we do better at planning the development phase of programs, that we try to get ourselves back into systems engineering. In fact, we could go on about systems engineering for a long time. I'm very committed to improving the way we do systems engineering.

When I was back doing MX missile basing, we had in the ballistic missile field, just to give you an example of what systems engineering is really about, the ballistic missile office out in San Bernardino is a TRW-operated [mission] for the Air Force. That was systems engineering. They had people who were deep in all of the sub disciplines of offensive ballistic missiles. They had worked together for a long time. They had worked as a team. Systems engineering isn't really something you teach, it's a team sport. There is no individual version of it. And that was a kind of play. So as we're trying to revive systems engineering in the department and not pretend that we can outsource it, we have to look at the institutional base, as well as the people base, for doing systems engineering.

That's very important. All of these themes were sounded by the Weapons System Acquisition Reform Act. The only thing I'll note about that is a lot of the attention of the Act and [of reform-minded individuals] is [given] to the beginning, the birthing phase of a program, how to do it so it doesn't get into trouble. And I'm all for that. No churning requirements, all the standard lore.

But we need to, in my mind and in Secretary Gates's mind, look in the middle life of a program and at the end of the program. And there's reform to be done there, too. I'll say something about each of those. In the middle of the life, we have to look at the way we're structuring our contracts, at the character of the business arrangement, the business deal we're getting. Indirects, overheads, all that stuff that goes into making sure that we're getting the right deal for the taxpayer. A lot less attention to that typically among the acquisition reform people.

There's been a lot of discussion—Bill Lynn will probably talk about this tomorrow—about fixed price versus cost plus contracting. I've said many times I don't have a religion on that. That's it depends on the circumstance. If you're inventing something or you don't know what you're doing, you don't have any business being in a fixed price environment. On the other hand, if you do [know what you're doing], then you probably should aspire to that. It's sometimes described completely nonsensically as passing the risk from the government to the contractor. And I always tell my friends in industry, "If I knew how to do that, I wouldn't think twice." I mean, if it were that simple to give somebody else the risk, I'd be derelict not to do it." But it's not that simple because what you're doing when you move into a fixed price environment is making new demands, both on the government side and the contractor's side. We have to really, really, really know what we want and make sure we're not going to change our mind. And industry has to really, really know what it's going to do and how much it's going to cost so that they can price it, it's that simple. And the cost environment is one where you can kind of blunder into a thing and see how you're doing. That's okay if you're inventing or exploring. But if you kind of know what you want, you don't belong in that kind of environment. So I don't have religion on that. To me, it's a case by case thing.

Also in the midlife of a program is monitoring programs for their health. They created a new acronym for us in WSARA, called PARCA, Performance Assessment and Root Cause Analysis. But that's basically how do I know when something's in trouble before the Nunn-McCurdy bell rings, which rings too late to be effective in doing anything about

it. And which, by the way, rings about two-thirds of the time as a false alarm. So I'm all for that. And they said a little something about that.

But again, most acquisition reform people are focused on the front end of a program. What is very unpopular is talking about acquisition reform at the end of programs. But that's something our boss certainly believes in, which means stopping doing things that you don't need anymore, or that aren't working. That's acquisition reform, too. It's acquisition reform at the tail end. And it is very important. That's something that [Secretary Gates] is committed to, and therefore I, of course, am as well.

Two last things on the acquisition front, if I may, Jackie. I don't want to take too much time. But one is the relationship between government and industry, that's something I'm committed to improving. It surpasses my understanding that the channels of-- how the channels of dialogue have gotten occluded over time. We're trying to open that up. Secretary Gates met with the Board of Directors of the Aerospace Industries Association [AIA] last week. He understands that, and I try to keep those doors open so that we understand each other because it has to be a partnership. We don't have an arsenal system in this country. We depend upon private industry for our systems. They have a business to run, but they're also patriotic and committed to getting the job done as we are. And it's an important relationship to foster. And that's the way I am on that and have been since I attended the Last Supper with Bill Perry and John Deutsch, which must have been 15 years ago.

And another thing I want to say about acquisition reform, is that none of this really matters unless we have good people. No fooling around with the system, no having good rules, not even good discipline [matters] without good people. And there, we fall short and are trying to do better. We are hiring through both insourcing and external hiring, 20,000 more people into the acquisition workforce. Just to catch you before you move onto the next sentence in your mind, I know that it's not a quantitative game, it's a qualitative game. We set targets for ourselves, but I know we haven't won if we change

out a very good contractor for a government employee who's not as good. So it's a quality game, not just a quantity game.

And [strengthening the acquisition workforce among] uniform [officers] is a priority, as well. I take an interest in that in all of the services. Is there a cone in which young, talented people who have an acquisition bent can aspire to high office in their service by having acquisition as their specialty? It needs to be that way or we're not going to have the kind of people we want. So at the end of the day, it's about people as well.

Let me close with some comments about the Air Force now, specifically, which is the theme of this conference. Just two things. The first is a salute to the importance of what the Air Force is doing and what otherwise looks kind of like a ground war in Afghanistan. I'll just single out two things-- I mean, what are the two things that have frustrated everyone who's ever tried to have influence in Afghanistan? The first is remoteness. And the second is "you didn't understand Afghanistan." Remoteness, we have really a tremendous air bridge which complements the very narrow and somewhat perilous GLOCs into Afghanistan. We're also doing a lot of air drops, especially recently which I think is terrific, in Afghanistan, which is an alternative to putting convoys on the road. And everything that goes with protecting a convoy. There is also wonderful innovation in the field of air drop, as well as both inter-theater and intra-theater lifting. Without the Air Force, one couldn't even think about being in Afghanistan unless you were its neighbor like the Soviet Union was.

And it's way too much to suggest that we understand Afghanistan, but to the extent we are able to have the insight and awareness that make operations effective, it's because of ISR. They're the Predators, the Reapers, the Liberties, and all the other things that the Air Force has provided and continues to provide. So I just salute you, Norty, and all of your folks for the important work they're doing.

You asked for me to say something about modernization and the Air Force. I would like to say something about that. The first is this is going to be a big year for mobility, the

mobility capabilities and requirements study. The tanker competition, which I'm sure will fly entirely under the radar here in Washington. [laughter]. But I wanted to focus on one thing especially, which is the family of systems or the family of capabilities that are the sum of long-range strike, manned, unmanned, penetrating, standoff, persistent ISR, electronic attack, again standoff, stand in, expendable, returnable. GMTI, a particular flavor of ISR where we have kind of too much and not enough all at the same time. Conventional long-range prompt global strike. All these things are not the same thing, but are related capabilities. And we're working with the Air Force over the next year, we need to find our way ahead in all of these areas. We're not going to be able to do everything, but we're going to need to do some of all of that. We needed to be guided by what technology can do, we need to be guided by our technology base, which I do take seriously. Technology base issues are important. I always hasten to say that I'm not talking about jobs, I'm talking about skills. But there is a skill set associated with those family of capabilities and there are people who have been doing that and know how to do that and we need to decide what the industrial underpinning of our overall strategy towards a family of systems will be.

Another issue on the Secretary's mind is affordability, particularly in relation to bombers. He says, "I note that there were I don't know how many hundred B-52s built, and then there were 100 B-1s built, and then there were a few dozen B-2s built." I don't want to be on that glide slope, so don't come back to me with something that's the next extrapolation of that glide slope. So we need to take affordability seriously. And then, of course, we need to look at need, according to that whole spectrum.

So I look forward to working with the Air Force on that in this coming year. Those of you who followed the cancellation of the then-long-range bomber, and so forth, are wondering what comes next. You're owed an answer, and we intend to provide an answer to that in the coming year. And I'll look forward, Norty, to working with you.

And a closing note, I'd just like to say what a pleasure it is to work with Norty Schwartz and his people, and Mike Donnelly. The nicest thing about working in a Gates Pentagon

is how collegial an environment it is. I've worked in ones that were the opposite of that, where you spend half the day trying to figure out what you're supposed to do, and the other half doing it. That's a very frustrating waste of time. It's a pleasure to work there and to have Mike and Norty as colleagues. There was a movie in the 1960s, I guess, which was with Peter Sellers and John Wayne. Peter Sellers goes out West; he's the dude. And John Wayne is the old cowboy. And John Wayne is showing Peter Sellers the ropes, and Peter Sellers says, "Tell me, what happens if a snake bites me?" And John Wayne says, "Well, you take out your knife and you make two cuts on either side of the wound and you suck the venom out." Peter Sellers, he says, "Well, what happens if the snake bites you somewhere you can't reach?" And John Wayne says, "That's when you find out who your friends are." [laughter] Norty, a true friend. Thank you. [applause]

###

## **Q & A Session**

**DR. DAVIS:** Dr. Carter has time for one or two questions. Who would like to ask the first question? There's one right there, if you can get the microphone.

**AUDIENCE:** Thank you. I'm just curious, you spoke a lot about acquisition oversight and how you want to see that evolve, Dr. Carter. What do you see in store for executive agency on space and managing space acquisition? That's something that there was a lot of dialogue about before 9/11 and it seemed to fall on the priority list. Where do you see that?

**DR. CARTER:** It's a fair question, and I think something the Department and now it's not just the Department anymore, needs to address. We have a number of hands, all able hands, involved in the space business in the Department of Defense and now we have an ODNI. So in the last ten years, the mix has gotten more complex and I think

it's a fair point that at some point we ought to stand back and say, "How do we really want to do this?" Very good point. Very much on my mind.

**DR. DAVIS:** Another question?

**AUDIENCE:** I'll just speak up. Dr. Carter, we lament the state of the industrial base often in many forms. At what point in the ... (inaudible) or the acquisition process do we ... (inaudible) to say here's a path a particular program needs to take to the rest of ... (inaudible)?"

**DR. CARTER:** It's a good question, and it differs so much from sector to sector. The four classics that everybody talks about when they talk about industrial base, are the space industrial base, the advanced aircraft industrial base, ship building and the solid rocket motor. Those are the four. And I'll just tell you, each of those is a totally different story. What we can't afford to do is keep things going that aren't productive. So there has to be a parsimonious touch to this. As I said earlier, the point to me is not jobs or facilities, but skills. And so we are identifying right now, Norty knows this very well, the critical skills associated with our advanced aircraft base so that we're sure we're going to need that going forward and we can be sure we'll have that going forward.

So each of these is their own individual study. The analytical foundations are appalling for most of this. One of the things I'm trying to do is improve our understanding of the situation. We as the government don't pay enough attention to it, so we go into a paroxysm of fear that we've broken something and we don't know how to put it back together again and we just don't have a very good foundation for it.

What's critical is to preserve the things that would, if allowed to disintegrate, be very difficult to rebuild and that are not replicated, or cannot be replicated in the commercial sector. Those are the two criteria. And again, it varies from case to case. I'm frustrated with the quality of information available to us as we address them. So I acknowledge the

importance of the subject. Are we adept at dealing with it? No, to me that's a matter of knowledge and analysis case by case.

**DR. DAVIS:** Does that necessitate an approach whereby we actually caused an industry to go away? I mean, I'm thinking of the aircraft carrier example when a deliberate political decision was made to have two manufacturers of the technology and it didn't make economic sense, but it made political sense. Will we ever get to a time where the economics drive us to a different set of considerations?

**DR. CARTER:** Well, they have. If you look now virtually every competition we embark on has a kind of different landscape. Sometimes, as a practical matter, there's only one game in town and then you have to try to figure out how to get the best deal out of that situation. Sometimes, there are two and they're competitors. Sometimes, there's two, but they don't really compete, they don't have to compete. Sometimes, you can get kind of dissimilar things threatening one another as programs, which is not the same as competing for the same program, but one overhangs the other and convinces-- Program B's existence convinces program A that they better perform or they're going to get crushed. And every one of these is different and we spend a lot of time scratching our heads and trying to figure out in each case how to harness competitive and other inducements to get the best performance and the best deal for the taxpayer. But it's not like it was when there were 40 companies and you always had plenty of people willing to take a whack at any project.

**DR. DAVIS:** One final question? Well, I have another question, the final question.

**DR. CARTER:** You should get Bob Hermann to ask me a question because he always asks me for a question. For some reason, he's being shy.

**DR. DAVIS:** Bob, a question?

**AUDIENCE:** I'm not prepared. [laughter]

**DR. CARTER:** I gave you your chance.

**DR. DAVIS:** We heard a lot of discussion in the earlier panels this morning about nuclear issues and deterrence and WMD non-state actor access potentially to WMD, Iran on the threshold of perhaps a nuclear capability in which we might find ourselves operating in a nuclear environment in some contingency. How important in your mind is the combating WMD set of technologies or thoughts, comments?

**DR. CARTER:** Incredibly important, and Jim Miller told me that he was unable to get here today and he's done a really able job on the Nuclear Posture Review and is much better able than I am to talk about the policy side of the things. But down here in the boiler room, on the capabilities side, I'd just say two things. The first is that really to complement President Obama's initiatives in the areas of arms control and nonproliferation, there has to be, and will be, a parallel effort to improve our capabilities, to deal with the circumstance when this path doesn't protect us. The deterrent is a part of that, a central part of that. And I think Secretary Gates has made it very clear for quite some time that he recognizes that there are these two paths, that he's committed to taking the steps with respect to our deterrent that the country has not taken in about ten years because there hasn't been a solid center on nuclear things. It's been the two ends of the spectrum, sort of lobbing mortars at one another. I know we've been log jammed, and I think we're going to break that logjam.

And then the capabilities that are not about the deterrent but are also important that range from Nunn-Lugar, very important one, to monitoring verification technology, on and on and on, and the technology capabilities that underlie those, they also require investment. And I think you'll see us investing in those. And that's the second prong of what has to be a two pronged policy.

**AUDIENCE:** ... (inaudible) say something about acquiring a global industrial base ... (inaudible)?

**DR. CARTER:** As we get more restricted in our competitive space domestically, it's an important thing to be able to reach out to the global technology base. I'm just talking now for military articles. Obviously, the commercial technology base upon which everything depends in the end, or increasingly, is by its nature global. We need to be able to reach there, too. It needs to be a two-way street which gets to your export controls point and I think once again, and I think the Secretary puts it that he's asked us to-- the President directed a review of export controls and he and Secretary Clinton said, well, asked the system and the system said they'd get back to them in July and they said, "How about the end of January? And start with a clean sheet of paper." So, I have, in my current job, a piece of that responsibility that once upon a time I had that entire responsibility. I know enough about it to know that it makes your head hurt to understand how the export control system actually functions or doesn't function. So I wish the people who are doing that review well. But I think the commitment at the top to making that system make sense and be effective and actually perform the functions for which it was designed and not just check things off a list is very sincere.

**DR. DAVIS:** Well, we promised Dr. Carter that we would get him out of here by 4:45 and it's just about 4:45. Thank you so much for coming.

**DR. CARTER:** Thank you. [applause]

END OF AFTERNOON ADDRESS