The Missile Defense Agency and the Color of Money: Fewer Resources, More Responsibilities, and a Growing Budget Squeeze

Forum with Todd Harrison, Director of Defense Budget Analysis at CSIS; Thomas Karako, Director of the Missile Defense Project at CSIS; Retired Lieutenant General Trey Obering, Former Director of the Missile Defense Agency; Major General Ole Knudson, Deputy Director of the Missile Defense Agency

MR. TODD HARRISON: Good morning, everyone. Thank you for joining us here at CSIS. I’m Todd Harrison. I’m the Director of Defense Budget Analysis and a Senior Fellow here in the International Security Program at CSIS. It’s my pleasure this morning to introduce this esteemed group of panelists.

I’ll start, immediately to my left is Tom Karako. He is the Director of the Missile Defense Project here at CSIS and a Senior Fellow in ISP, and he is the author of a new report that’s being released today. It’s a great report. It’s up on our website and I urge everyone to go download a copy and take a look. He will be presenting some of the findings from his report this morning.

I also want to introduce, next to Tom is Major General Knudson, Deputy Director of the Missile Defense Agency. He is no newcomer to missile defense. He also previously served in MDA as the Program Executive for Programs and Integration.

To his left is Lieutenant General retired Trey Obering. He is currently Executive Vice President at Booz Allen Hamilton, where among other things he helps directs work with clients regarding directed energy. He also previously served as Director of the Missile Defense Agency.

So it is my pleasure to turn it over to my colleague, Tom Karako, to begin the briefing.

MR. THOMAS KARAKO: Thank you, Todd, for moderating. Thank you, General Knudson and General Obering. We’re delighted to be rolling out the study today. In one sense this is about MDA budget trends, but in another sense it is really about the identity of the agency and how we in a whole of government sense approach the missile defense mission more broadly.

I want to recognize especially my colleagues at CSIS, Ian Williams and Wes Rumbaugh, for their extensive research and contributions to this study, as well. I also want to thank all the many people around town who let me bend their ear over the past year about this, and
helped us understand the many things that make MDA a unique and intellectually complex object of analysis.

The idea about this report came about from talking to folks, including some past MDA officials, who came to me and said, Tom, don’t just follow the money, follow the color of money, if you really want to understand what’s happening with MDA and what’s going on. So we did that and we started digging. What we found is that here we are in the middle of the Third Offset, but there is some declining attention, some declining focus on RDT&E, but also more specifically on R&D. We were intrigued by that and tried to get as much data as we could and tried to make sense of it, and this is what we came up with.

Let me set the scene and explain the title a little bit. Over the past 15 years missile defense has kind of gone from infancy to adolescence, from an idea that we were largely restricted by treaty to something with initial defensive capabilities, and it’s something a little bit more now. MDA, of course, was created in 2002 as the successor to both SDIO and BMD, both of which had existed under the treaty regime and had -- (audio break) -- greater focus in part because of those treaty restrictions.

But R&D is also, and has been and continues to be, at the institutional and conceptual center of the missile defense problem. So the special acquisition authorities that MDA had and acquired in 2002 are in some ways the effect and not the cause of the problem of missile defense, the constantly evolving threat and the need to get after that. What happened when Reagan launched SDI, its first task, was a research and development program.

But MDA was a little bit different. It wasn’t just supposed to be about R&D. It was self-consciously and deliberately created in the absence of treaty restrictions to go out and field stuff and get it out there to defend the country and defend our forces, friends and allies. The idea, when it was stood up, was a kind of division of labor, a three stage process. Things would be developed, there would be a transition to the services, and then the third more regularized procurement would get out there and the services would take that over.

Some 14 years later we’re still in the transition phase for things like Aegis, THAAD and perhaps GMD. Some important progress has been made. I think there’s many differences of opinion about the transfer question in particular, but I think it’s fair to say that it has proceeded at a different, a slower pace, than what was envisioned in 2002.

It’s this larger question of things beyond R&D, procurement and operations. These are the colors of money that MDA has acquired, newly, relative to its institutional predecessors. So what we came up with is that along the path from infancy to adolescence, MDA had some natural growing pains, birthing pains, as you will.
A couple of things to highlight, that MDA has been hit especially over the last eight to 10 years with a significantly reduced top-line, and in some sense that explains everything, because with a big enough top-line these other things can go away. But with a reduced top-line, the other components here, the relative importance, begins to magnify.

The second part is the expanded role, taking on that procurement and operations responsibility. And then finally, foreign assistance, and by that I especially mean foreign assistance on missile defense related to Israel. The effect of these three things together has squeezed, in relative terms but also absolute terms, the RDT&E focus. So let me start in on the top-line for this.

This is the fallen tree graph. This is the first element of strain. Between 2007 and 2016 MDA’s budget went down some 23 percent, and there were some big hits, in 2006 and 2010, but overall you see a pretty constant trend here. But notice, these are the FYDPs. What you also see in the fallen tree graph is that there’s all these optimistic projections out to the future, but those frequently never come through. And so what happens is you project one thing for next year and then that doesn’t actually get delivered. That, over time, tends to have a corrosive effect on your ability to plan for these things.

This is another way of measuring it. MDA as a percentage of DOD, is also down from 2.3 down to just under 1.5. Here is a snapshot of decline of the particular programs, procurement and RDT&E for green, that’s GMD. The Aegis is red and THAAD is blue. THAAD has been the most constant, even though we have four operational THAAD batteries today, we’re on track to seven or maybe eight within the FYDP. We’re still not sure whether the ninth one is going to come through.

Here is really the expanded role. This is the addition of those colors of money. This is what I would say is the central graph that explains what’s going on with MDA.

I’ll just point out over here on this side, if you look at 2004-2005, ‘06, ‘07, the blue in this is RDT&E. It’s all blue, right? That doesn’t mean that MDA was doing all research and development, just the opposite. For those years MDA was taking advantage, of course, of the special acquisition authority to the hilt. Everything was in the RDT&E account, even though in those years there were substantial capital investments, MILCON-like and procurement-like investments for Fort Greeley and lots of other places, to get things in the ground very quickly.

We weren’t able to break that down precisely. That data is not forthcoming because from technical perspective it’s all RDT&E. But suffice to say that if you come at it from a contracts point of view, there’s a lot of red, a lot of procurement activities going on.

Now we’re going to break this down a little bit more individually. This is the procurement trend. We’ll go back to this real quick. The red procurement only really begins
to show up in 2009. That’s because Congress said okay, we’re going to tighten up your flexibility on keeping everything in RDT&E and we’re going to force you to put some things over to the procurement account as such.

So that’s where it begins to show up again, as it had been back in the BMDO days, or just after the BMDO days. So the red there is procurement. Let me break that down here.

Here you see from 2009 out through the FYDP, through 2020-2021, a pretty substantial increase. You’re looking at 23 percent or so of MDA’s budget being dedicated to procurement at the end of the next five years. Likewise, with O&M, you see a pretty constant trend upwards. Blue, in this case, is THAAD, red is Aegis, green is TPY-2 radars, and GMD is at the bottom. This is going to go up.

Now I will say one thing about this graph, through the FYDP, ‘17 to ‘21, the rate of O&M growth here is three percent after inflation. That, incidentally, as I learned from my colleague Todd, is historically the average growth rate for O&M for systems generally that you have today. The budget is just that.

The difficulty, however, and I will raise the question whether that is perhaps a little bit too rosy of an estimate, is that over the next couple of years within the FYDP GMD is going to be nearly doubling the number of its GBIs in the ground. We’re going to get a lot more THAAD and Aegis things like that. So I wouldn’t be surprised if O&M ends up eating up a greater percentage than even the six percent or seven percent projected here.

A final component here that I think really doesn’t get much attention -- it’s one of the things that people don’t like to talk about -- is foreign assistance to Israel. This is one of the longest standing and very important and close relationships that the United States has with Israel, missile defense cooperation; Japan and NATO perhaps being rivals in terms of the importance there. But this trend here I think also needs to be highlighted to understand.

When you’re talking about nine percent of MDA’s budget being occupied by foreign assistance for both buying interceptors and research and development, that starts to add up to real money: 23 percent for procurement; six to seven percent for O&M; nine percent for Israel, this starts to add up. And it’s the combination of these things that are putting the squeeze on.

This is the real numbers. The blue is the RDT&E and the red is the procurement. This graph, I think, explains it perhaps better.

Year-in and year-out what tends to happen is that Congress will take a look at the administration’s requested amount for Israel and they’ll add some amount in addition to that. But what happens in the process is MDA is not really fully made whole in the process. So
year-in and year-out what tends to happen is that U.S. programs tend to get cut as a kind of
bill payer for a larger Israel program.

I think everybody kind of knows that. Although it’s not really accepted. In this graph,
the orange, that’s the delta of whether MDA got plussed up or cut. The blue is the amount
that was requested for Israel by the president, and the green is the amount that Israel got that
year. Very frequently, MDA’s delta of increase, or in some cases decrease, is nowhere near
enough to cover that.

So these several trends: declining top-line, increase for these other colors of money as
it were, O&M procurement and foreign assistance, these all combine to put a squeeze on
RDT&E, and more specifically research and development. So here is kind of the formal
RDT&E graph, the percentile in the red above and then the real dollars below. I think you
really see a pretty undeniable trend downward.

Half of this -- part of this is explained, of course by the appearance in 2009 of the
requirement to reclassify certain things as really what they are, as procurement, as O&M, as
opposed to having procurement-like activities in this account. So you really don’t
understand the story from this graph alone because it’s hard to know what within in the bulk
of MDA’s budget in RDT&E is really kind of designed to be outpacing the threat, those
technological investments to truly outpace the threat. So you’ve got to dig a little deeper.

This is the budget activities within the RDT&E graph. That orange is the vast majority,
and that’s budget activity four -- that’s where the most mature part -- kind of the evaluation
of the more mature technologies, basically the vast majority of what MDA does in that
budget activity category. So you have, for instance, SBX operations, pretty obviously defined
as operations, in that category.

If you take a look at that little trickle of blue, that’s budget activity three. Here you see
over the past 10 to 20 years, this has gone up from about just over $450 million down to
about $150 million over the course of the FYDP. This is less advanced -- it might be more
advanced technology programs, but less mature. So here I think is where you begin to really
get at the decline out of the RDT&E account, the research and development side of things.
We’re just not doing as much of that new stuff, the sort of advanced technology kind of
thing.

I’ll just highlight the FY 2017 appropriations process, for instance. The appropriators in
the House, and the Senate I believe, cut some of the most important advanced technology
work that MDA is doing in terms of RKV, in terms of a next-generation booster, in terms of
directed energy, in terms of a multiple object kill vehicle. All of those got cut so as to pay for
Israeli missile defense foreign assistance.
So what does all this mean? How does this all congeal together? What are the possible paths forward?

I see basically three things. MDA can accept this trend, this retention really of procurement, this retention of operations and sustainment as opposed to pushing it out to the services who may, after all, not really want it and may not steward it. MDA might evolve into something like a combat support agency. Some folks have suggested here, for instance, that there ought to be something like a BMD command, even. That’s one possibility.

The second possibility is really the opposite of that, that MDA ought to go back to basics and really transfer out that procurement responsibility, transfer out the operations to the services. Let them take it and if they want to kill it, kill it. But, MDA is kind of the DARPA of missile defense to retain its BMDO-like focus on advancing those things.

The third possibility is you could have some combination of those. You could really kind of be muddling through, I think. Failing to get at this problem, failing to, as Ash Carter has warned, failure to preserve your seed corn, and eating your seed corn instead, that’s the third option.

So I’ll leave it there and I look forward to the discussion.

MR. HARRISON: Thank you, Todd. Now we want to open it up to our panelists for discussion. I’ll start with General Knudson and give him a few minutes to respond. Then General Obering next, and then after that we’re going to open it up to Q&A from the audience.

General Knudson.

GEN. KNUDSON: As goes on in the debates sometimes, the facts are the facts. There is no doubt about the numbers are what they are. We have charts that look very similar to the charts Tom has just presented.

So I think one of the things that we ought to all be conscious of as we go forward is how these -- I’ll call it visualizations of what’s happening as it’s going on, as opposed to kind of after the fact -- because I’m not entirely sure everybody has been tracking this as this transitions happened as much as what it is. So I think calling a light to this is a good thing. Certainly the top-line reductions that MDA has taken are what they are. They also are pretty much in line with what the department has taken overall.

So if you go look at the services and everybody, the trend is there. And we all kind of know how that happened, with caps that have been on and from the various things that are
going in the national debate on how much money is in defense. So that's part of the challenge that we've taken on.

I would say as part of that challenge, even though there clearly have been those top-line reductions, we have at least done all that we think we could to keep on increasing both the capability and capacity within MDA in light of that. I'll just name a few, we continued on doing the things that were set in advance of these overall reductions being put in around the EPAA, the European Phased Adaptive Approach; bringing on the Phase 2 at the end of last year; IOC just recently for the site in Romania; and then continuing to work towards increased capability and bringing in the 2A missile along with the Poland site to get much more coverage by 2018. So we continued that, and then we also shifted to do some things that weren't in the plan, I guess even before these cuts happened.

That's around really some of the things that happened with homeland defense and the KN-08 that emerged in 2012-2013. We shifted to putting more GBIs in the ground in our field in Fort Greeley. We also have done a few other things, started the Long Range Discriminating Radar program, LRDR. We're breaking ground soon to get that going up in Alaska in the 2020 timeframe. That will significantly increase our capability to have discrimination for all of CONUS.

We're working also to improve our discrimination algorithms. That may sound a little soft, in our whole discrimination approach that we've taken, but we've done a lot of work on that. We've recently had a very significant test at the end of January where we put up a very complex threat scene and ran a bunch of scenarios and gathered a lot of data that we're reaping benefits. So we have a bunch of things that we've been working on for years and we used that to validate some of them and then to take it to the next step in other cases.

We've also started the re-design of the kill vehicle for the GMD program, for the GBIs, which is really a foundation that we need to have over the next at least decade, until probably we can bring on hopefully additional technologies. We've continued to try and work some of these aspects of future technology, not as much as maybe we would have hoped or as fast, because we sometimes had some reduction to the things that we asked for. But we are working on directed energy with the goal of getting to a capability of having a boost phase kill, which allows you to thin the herd and really helps not have to discriminate. And we are working on the MOKV.

So there's a number of things that we've taken on. I'm not going to say it's been as perfect as maybe it could have been if we didn't have the top-line cuts, but the top-line cuts are there. And then there's some other things within the line. Tom talked about the transition from RDT&E over to more O&S and procurement. That's certainly factual too. There's no doubt that that has happened.
You explained very well how many of those things happened. I would just add one more aspect to that that I think is significant. As we brought on several of these systems, THAAD and Aegis and the TPY-2s, where we’re at is they’re mature capabilities that the war fighters are now depending on. They’re not developmental systems.

THAAD has fielded five batteries now. Soon we'll have seven batteries fielded over the next couple of years. We’re at 30-some Aegis ships and growing on BMD capability. We’ve got TPY-2s deployed around the world doing a 365/24/7 BMD mission for the COCOMs.

The COCOMs have no shortage of demands for current capability. They want more than what we are delivering now. So what we have is this maturing of things that we brought on that cause us to have to balance, in terms of both procuring them after we’ve developed the capability because that’s what the COCOMs want -- they want the capability delivered, not just being in development forever -- so we start delivering it.

And then we also are supporting the sustainment of it. So the aspect of that then, if you accept that what we’re doing has delivered things the COCOMS need, who pays for it is the other question, as we continue to sustain it and then procure more of them. From the COCOMs perspective, they probably don’t care. They just want the capability, whether it comes from MDA or it comes from the service.

And so we’ve been in discussions with the services on transfer. I’ll say over the last year with the Army we’ve spent a lot of time really wrestling with the transfer of THAAD and TPY-2. We’re making progress.

I would say that we probably didn’t start with this fully fleshed out. It was always more of a concept that we’re going to transfer as opposed to where’s the money that goes with it and all the other mechanics of the transition actually happening and someone else taking over what someone who started it has. So they have a lot of questions and we’re working through that process with the Army.

I think we’ll get there, but at the end of the day it does come down to the money. So when we get to MDA’s RDT&E percentages reducing, it’s a fact. So the solution to that is not necessarily the transfer of O&S and procurement over to the services, unless it goes without dollars.

If you’re any one of the services, and I’m an Army guy, we’ve been in discussions with them and I know how they feel. The Navy, we’ve had some discussions with the Navy and the Air Force. They all are the same. All of the services have kind of this reducing top-line, I’ll call it lots of priorities, that they probably can’t do all of what they do now. And if you say here’s a new mission and MDA is going to keep the money that was doing it so they can do more in the future, I don’t know how that turns out.
Where we're at is we're pretty much assuming in order for a transfer to happen the money that is programmed for O&S and procurement is going to have to go with it, at least in the near-term, from the mechanics of it. There may be other ways to do that, so that's what our challenge is. Our challenge is being able to keep on providing capability to the COCOMs and figuring out how to transfer and be able to tackle the future.

It's probably not as simplistic as saying just do RDT&E in the future and the services do O&S and procurement. I would say that if we made a very deliberate long-term, and stuck to it, we might be able to get there. But you would have to plan this out seven years in advance.

Why I say seven years in advance is because we plan five years in the FYDP and then we typically work that two years in advance. We make the decisions before that. So you'd have to be programming this money for O&S and for procurement, and it'd still be in kind of a zero-sum within the DOD.

But you'd be saying to this service, if you want more of this capability that the COCOM wants and you're providing it, that you're going to start in this year, seven years from now, doing this. And then we've got to stick with it through what will probably be multiple leadership changes and everything, and have the rules there. And then it would be -- I'll call it -- easier, maybe. But every year as it got closer, everybody has this problem as you get to the real near years of, I've got to deal with problems I didn't see. So now those hard decisions will still have to be made.

So I applaud Tom and CSIS for bringing this subject up. All the facts, I think, are what they are. It's a challenge, I think we've been wrestling through it. I don't know if it's muddled, but maybe it is from the outside. It's not an easy one unless -- the only easy solution is, or easier solution, is to have more top-line for everybody, and then this get easier, anyway.

I'll leave it at that. Thanks.

MR. HARRISON: Alright, so no easy answers.

General Obering.

GEN. TREY OBERING: Okay, thank you very much. First of all, I very much appreciate the opportunity to comment on this. Tom has laid out a lot of the what, and what I thought I would do is give you some of the why and some of the context behind this, since I'm the old guy up here and I was at the inception of MDA in 2002.

Speaking of which, I want to say that in my 35-year career I never worked with another organization that had as many dedicated, smart, intelligent and talented people, in my life.
What they’ve been asked to do and the mission they have, is a tough mission. I think they’ve done an extremely good job at it. In fact, a lot of what we’re talking about here today, in many aspects, is they’re a victim of their own success in much of this.

So what I wanted to do is start out by answering a bunch of questions, which was why did MDA transform from a pure R&D organization into a full-scale acquisition organization back in 2002? The answer to that was the Ballistic Missile Defense Organization had been pure R&D and they had been in this R&D loop and they were not being able to deliver any capabilities to the war fighter. There were a lot of reasons for that, and one of the biggest one being the ABM Treaty of 1972 that was preventing them from doing that, which we withdrew from in 2002.

Also, another factor was the maturity of the technology. We began to see real capability emerge from a lot of this research and development. We began to see successful testing. We saw GMD, three of five successes; and Aegis, they had three of three successes in their test flights of SM-3.

We also saw an urgency from a threat perspective. The Taepodong-1 was launched in 1998, which surprised a lot of the intelligence community, having the North Koreans being able to launch a multi-stage rocket. The Iranians were building more and more capabilities. They were looking at solid rocket propellant -- building a Safir space launch vehicle, which they have flown successfully since then.

So all of these factors came together for a realization that we had to get serious about providing some defense against these weapons. There were special authorities that were given to MDA, as referenced in Tom’s report throughout. What were these special authorities that were given?

The first one was there was streamlined oversight, with the exemption from the DOD 5000 series. That meant that MDA did not have to participate in the OIPT, or Overarching Integrated Product Team, or Working Integrated Product Team processes within the Pentagon. I personally, having lived through that in my previous life when I was working Predator and Global Hawk and others on the Air Staff -- I thank God for that -- and also we set up a very streamlined oversight process.

Initially, there was a secretary’s executive committee. Many people don’t realize this. That would consist of the service secretaries themselves, the principals, and they provided direct oversight to the agency in the early 2002-2003 timeframe. 2004. We set up, subsequent to that, a missile defense executive board that consisted of just the principals in the OSD, and that’s all who could attend because we wanted a hard-hitting, decision-making body that could make decisions, and we did not have a lot of the bouncing around that you had in some of the previous working groups.
It was also exempted from the JCIDS process, or the requirements process. Secretary Rumsfeld exempted the Missile Defense Agency from the operational requirements document, the ORD process. Why on Earth would you do that?

Well at the time, it was taking about 440 days to get an order approved through the JROC, over a year. If you had to make changes to that, to go back through that whole process was very painful. It wasn’t that they wanted MDA to walk away from the requirements, they wanted them to engage with the war fighter and better understand an interaction and a dialogue and a discussion, as opposed to trying to talk to each other though paperwork through the JROC.

Also in power program management, if you stop and think about it, there’s three major processes within the Pentagon that are employed to produce capability. The first is the requirements process that gets approved and trades made. The second is an acquisition process where you get milestone approval for different phases of acquisition. And the third is a budget process that supports all of that.

For every major program, just about in the department, the authorities in those three chains don’t come together until you’re at the DEPSECDEF level in the department. That can be very, very cumbersome in terms of getting decisions done and getting progress made. So what was empowered within MDA is the director of MDA had the ability to trade requirements. They had the ability to make milestone decisions. And they had the ability to approve budgets and to transfer resources. That accelerated dramatically the ability to get capability out of the door.

Also, it was envisioned that when we stood up MDA that we would have a stabilized top-line budget and that we would not come back asking for more money every year. It would be limited and the goal was about $10 billion a year, was the budget, and they had to manage within that.

Now as you’ve heard, that has eroded dramatically over time, but that was the initial going in proposition, that we would have the $10 billion and that we would be able to make trades. Also, it was the single color of money. It was defense-wide RDT&E, which allowed tremendous flexibility to be able to move resources around to various challenges.

By the way, we do this in other programs. We’ve done it historically. Whenever we’ve had an unprecedented capability or urgent programs where we’ve had to get something out the door, we took these very same steps.

If you go back to the National Reconnaissance Office’s programs in the 1960s and ’70s, they had the very same authorities, the ability to move money and apply resources as
needed to meet emerging challenges. People are looking always for the nirvana of acquisition reform. I would say we need to start looking there in terms of how we can face a very different and changing future.

Also, there was contracting flexibility. We were able to use contract vehicles such as OTAs and other vehicles that had a lot more flexibility in them than our classic DOD contracts.

Why was MDA given these special authorities? I mentioned that whenever you had an unprecedented capability, that was one of the things that was a trigger for this. But you have to realize that the entire Pentagon is structured around making sure that the capabilities that we get out to the war fighter are as good as what the war fighter has. So the question that is asked throughout the entire process is, why should we field this capability? It’s asked all the time, justify your program.

When you have no defense against a threat like we had in 2002, none -- we had no defense against what was emerging from these countries -- the question needs to be turned around and say, why shouldn’t we field this capability? That changes a lot of the answers that you get to the questions that you ask in that process.

We also needed the ability to move quickly and with flexibility, and I’ll give you an example. The Patriot, under the Army, had listed five key performance parameters that they could only meet three of. Based on the rules, they could not move beyond low-rate initial production. They could not be fielded. That was it.

It turned out that those two performance parameters had nothing to do with the immediate threat and the threats that were far into the future. So when it transitioned to MDA, I called the Army two-star, Stan Green, and said, Stan, can you accept this weapons system the way it is? He said, absolutely, it’s an order of magnitude better than what I have in the field. So we were able to get it out the door and get it into the field in time for Iraqi Freedom. Those are the kinds of things that that ability to move quickly within a system is desperately needed.

Also, threat developments. We knew even starting the deployments in 2004 that we were in a race with respect to the North Korean’s development of their Taepodong-II rocket. We ended up having to accelerate the deployment of the TPY-2 radar to Japan by a year in order to even make that timeline. So those are the kind of flexibilities that you need in this modern world, because I’m afraid and I think we’re going to need those even more going forward.

And then unexpected threats and unexpected challenges. In 2008 we shot down a satellite, our own satellite, because it was presenting the threat of an uncontrolled re-entry
back into the atmosphere and potential casualties when it hit the ground. We were able to respond to that in eight weeks. From the first phone call I got from the National Reconnaissance Office director to when we actually shot it down was eight weeks. Hoss Cartwright, at the time the Vice Chairman of the Joint Chiefs of Staff, said that MDA was the only agency in the entire DOD that could have done that and responded in that timeframe.

Why did MDA operate with a single color of money? Well, it provided us the ability, as I said, to move money and to address resources quickly and flexibility. I’ll give you an example.

Back in the 2006 timeframe we had suffered a couple of failures and I needed to move interceptors that were destined for deployment back into a test program. If I had done that with different colors of money and procurement and RDT&E I would have had to have gone back to the Hill and go through the entire approval process for four different committees to get that done. That would have taken at least weeks, if not months. We were able to do it in a matter of days and be able to begin to address the problems that we needed to face.

Did MDA foresee this R&D budget squeeze that is coming about for procurement, operations, maintenance and construction? The answer is yes. That’s why the initial construct was that after low-rate initial production these assets would be transferred to the services so that MDA could maintain their focus on R&D, through early development and early deployment, and then get that over to the services for that.

But several complications arose. The first was we did not fully appreciate, really at the beginning, the power of integration and being able to integrate the sensors and interceptors and all the components together. So that presented a problem. If you start transitioning, make sure how do you maintain the ability to keep the integration of all these components and elements?

Second, there was frankly some concern over the service redirection of money, and they told us that. They had conversations with my boss, General Kadish, and with me, and the services would tell us, if this is transferred we’re actually going to take the money and apply it to a different mission area because it was not high on their list of priorities. It wasn’t a core competency yet of that service. We had to fight that. That was one thing that we did not foresee, frankly.

And then third, the budget reductions that we saw. We took a big one in 2006, about $1 billion was taken out. We restored that and then, of course, we’ve seen the erosion over time to where we’re now about at a 20 percent reduction from the top-line in 2008.

Why is this budget squeeze in R&D a problem? One thing we have to realize is what we’re talking about is not today. We’re talking about the future. We’re talking about our ability to viably affect these threats in the future. In the same way, the only reason we have
defenses against these weapons is because of the investments made in previous decades. I’ll give you three quick examples.

In 1985 SDIO began the Light-weight Exo-Atmospheric Projectile, or LEAP, program that was pondering small, miniaturized kill vehicles. In June of ’91 they successfully completed three hover tests at Edwards Air Force Base. Today we know LEAP by another name. It is the kill vehicle for the sea-based SM-3 interceptor that is deployed on hundreds of interceptors on dozens of ships around the world.

SDIO was also developing a hit-to-kill technology in a small, agile radar homing vehicle under the Flexible, Lightweight, Agile, Guided Experiment, or FLAGE, as part of the theater missile defense effort. In 1987 a FLAGE interceptor intercepted a Lance target missile at White Sands Range. It was a solid propellant version of this interceptor that was later chosen by BMD to become what you know today as the Patriot Advanced Capability, or PAC-3.

Finally, another precursor of today’s capabilities was the Exo-atmospheric Re-entry Vehicle Interceptor Subsystem, or ERIS, program, which began in 1985 with two tests in the early ‘90s. The technology from this effort was later used in both the THAAD as well as GMD program. So what we’re talking about is, what do we invest in today to ensure that we have capabilities tomorrow? That’s something that we can’t lose track of.

Finally, where do we go from here? I believe that this R&D -- and General Knudson mentioned several of the programs that MDA has that I think are critical for the future -- even if we’re only talking about North Korea and Iran, we have to invest in this R&D to keep up with that quote-unquote “limited threat.” Those threats are evolving and they’re becoming more mature. And then, of course, if we’re talking about a very aggressive China or a belligerent Russia, we’ve got a long way to go to address that as well. We have to be able to overcome things like advanced countermeasures, maneuvering warheads, hypersonic vehicles and much more.

Tom laid out in his report three possible paths ahead. I believe that there’s only really two. I think number three is too risky. I don’t think we can muddle through this. I think the status quo is not an answer here. So I think we really do need to tackle this head on for either number one and number two.

What I would actually recommend is a combination of those two. I do believe that MDA’s top-line should be increased. I believe that a stable $10 billion a year, which was originally envisioned back in 2002, should be restored. I think you’re only talking 1.7 percent of today’s $583 billion defense budget, anyway.
I think that we need to maintain MDA’s special authorities and return to a single color of money for the flexibility that you need to deal with these emerging threats and to deal with the technology changes that we see. I believe that MDA should retain development authorities, such as sustaining engineering modifications so that we don’t lose the integration ability of these elements as we transition them after full-scale production to the services. And I do believe that procurement O&M could be picked up by the services. I think it needs to be handled and transitioned in the way that General Knudson outlined.

I think maybe we can get by with less than seven years. I think even giving a three to four year heads up would be enough. Establishing hybrid program offices where we could facilitate the transition from MDA to the services would help, and identifying those service personnel early to do that.

As a check and balance, if the monies that are transferred initially to the services -- or service’s program for that -- if they try to reprogram it out of those lines, it has to have MDA and Congressional approval to do that. So I think there’s a way ahead that we could actually do this.

In conclusion, I would just say that many have aggressively pushed for MDA to look like every other program in the department. I had a reporter ask me that one time when I was director. I asked him, would you please tell me which major program in DOD would you like me to emulate? He couldn’t.

I think it’s time for us to think about new ways of doing business using some of the things that we’ve seen MDA and others do with these special authorities. I think it’s time, as we enter a much more dangerous world than we’ve had in the past, we have the flexibility within our Department of Defense to react to these threats as we need to. Thank you.

MR. HARRISON: Thank you. I think it’s always true you know the department is getting serious about something if they start accepting it from the usual acquisition process. With that, I want to open it up to questions from the audience.

I see hands going up. I had questions listed here, but I think there’s going to be plenty from you guys. Why don’t we start over here? Please wait for a microphone to come around to you.

QUESTION: I wanted to drill down on the part of the report about Israeli aid. General, do you concur with the finding about Israeli aid that it is squeezing your budget and that unless something is done the Israeli missile defense dollars and U.S. missile defense dollars are going to compete against each other? Do you think the money should be moved to the FMF account?
GEN. KNUDSON: The facts are, as they are in the chart, the Israeli aid is the amount it is. So from percentages and typically we'll request a certain amount and then it's increased by Congressional action. So it's a challenge that we don't have an absolute way to predict how it's going to turn out in each cycle.

But I think the counter-side to that is that if you go look at the threats that Israel is facing and the advances and the capability they have already made and that they believe they need to make in the future, we're helping them do that. It's a very extreme situation that they face and they've had more missile attacks, I'm certain, than anyone else. So they feel it.

So we are very supportive of doing everything we can to advance their capabilities from MDA. You can see that the Congress is too. So I'll just say it's a challenge that we have to deal with each and every year. As far as should it go to FMF, that's a discussion that's happening at higher levels in the department.

FOLLOW UP QUESTION: It is indeed happening, that discussion is occurring, and you think it has to happen if it were to happen?

GEN. KNUDSON: I think having stability would be better for MDA. However that stability comes about, whether it's some increased amount that everybody knows about, whether it comes out of some other different account, I think stability would be the thing that really would make a degree of benefit to how we work through this. At the end of the day, it does come down to it's the same amount of dollars and what account it is, it sort of is the same. I mean, it would give us more stability and give others more stability.

MR. KARAKO: Can I just jump in here real quick? There's nothing here that suggests that we ought to be giving less to our allies in Israel. We're also helping NATO quite a bit at U.S. taxpayer expense. The important thing is really in the appropriations process to make sure that U.S. programs don't serve as the bill payer at the margins. If moving it to a different committee, a different account is a way to get at that, that's a possibility. The important thing is stability for planning, but especially its not MDAs fault, these trades aren't being made within MDA they're being made on Capitol Hill.

QUESTION: Since the issue you bring up is financial flexibility as being the critical issue for program execution, given that the strain is the overseas supported assets, specifically the overseas TPYs and THAAD battery on Guam, why is that not a perfect definition of overseas contingency operations, and address the flexibility issue directly?

GEN. KNUDSON: I'll just say the way we've been programming the support for them is in O&S in the main budget, not as OCO. Could decisions be made to categorize it otherwise, probably, but that's not how we've been doing it. I'm not really going to be able to explain
why it couldn’t be, because it probably could be, but it isn’t and so that’s what we work within the rules that we have.

MR. HARRISON: I would add to that that OCO funding is whatever Congress says it is and appropriates as OCO. Traditionally, OCO funding is emergency supplemental funding. The intent of that process in Congress, in appropriations, is to be able to fund things that could not be anticipated when the main budget was being built. That was the intent. It has not been used that way in quite some time. So we shouldn’t kid ourselves any more.

MR. KARAKO: Can I add to that real quickly? In fact, I think it was the House appropriators this year that did put some of this stuff in OCO. It was kind of the HASC gambit to throw stuff into OCO that didn’t look like it -- I think RDT&E in some cases and possibly directed energy RDT&E is thrown into OCO. I think it’s neither here nor there.

QUESTION: Is there a concern from the panel about the micromanagement of the budget submissions by lawmakers on Capitol Hill, when they start shifting money to Israel and slicing and dicing things how they want as opposed to what the long-term plan suggests should be done?

GEN. KNUDSON: I would say that the oversight that we see from the Hill is obviously what they deem as necessary. If we would try to maintain as much flexibility as we can in both color of money and the lines within that color of money, as General Obering talked about, that gives you some ability to react to things that you didn’t foresee as you put in the budget. But we’re responsive to what I’ll call the need for oversight the Hill has put on.

If you go look from the time that General Obering was talking about when it was probably more like one line with one color of money, we have many lines now with many colors of money and lines within those colors of money. That’s where we are. So our challenge within MDA is to be able to predict as best we can what we’re going to need and then be able to execute within that. I think we’ve done a pretty good job of that overall.

GEN. OBERING: I’ll just add, a lot of this is just the interaction and the communications. Obviously if we could get one program element line and have all of that in there so we could make the trades, that would be the ideal, but that is not going to happen. It didn’t happen even in our timeline. But to get a reasonable number -- open channels of communications and let the Hill know what’s going on, let them understand the challenge you face and making sure they’re aware and up to speed. We know people will come to the same conclusion given the right information. I think that’s what is more important, that communication and talking and that interaction with the Hill and the staffers as well.

MR. KARAKO: I would just say on that point, go and look at the actual muscle movements in the sub-lines between the four committees, the authorizing committees and
the appropriations committees. There’s a lot of continuity there. Communications side, I think it’s especially constant with the authorizing committees. The slicing and dicing on the directed energy and the MOKV and things like that, there’s more slicing and dicing going on on the appropriations side. That, I think, is probably unfortunate.

QUESTION: I want to just throw a few observations out to add a little context to the discussion.

One, on the color of money issue. That was one where Congress decided affirmatively that the MDA budget was not appropriately structured with just R&D money. Clearly, MDA was doing an awful lot of things at the time -- I think Tom alluded to this -- that were absolutely not R&D, they were procurement. They were fielding. There was military construction. There was a lot of work going on that was by no means R&D.

Congress wanted the additional oversight and the additional insight by having the colors of money that other agencies, other components of DOD, use. So that was not an accidental decision. That was Congress having a very long debate, a very deep discussion with MDA, on its budget functions and saying, we, the Congress who authorize and appropriate your funds and make the actual budget decisions every year, we want the additional colors of money so we have the insight to do our oversight. Number one.

Number two, the perspective we would typically have on the Hill -- and I don’t think this has really changed much because the budget reality has continued to be very tough with the budget caps, BCA, we all know the problems, they effect the entire department, not just MDA -- the essential viewpoint was if you want to kill a missile defense program transfer it to a service because there is no way a service is going to carry the same priority that the Missile Defense Agency does. They don’t have the money. If you just transfer stuff to a service, expect it to take on very hard times.

The notion of constant funding levels, I just don’t think that meets the reality test on the Hill and the budget environment. In terms of the traditional R&D focus of MDA, that was traditional when MDA was first getting started, for the reasons that General Obering mentioned and Tom alluded to. There was nothing to deploy. There was nothing to do other than R&D.

I know that’s a long, long comment.

MR. HARRISON: Yes, can you get to the question?

(Laughter).
QUESTIN: The question -- and I didn’t mean to chew up too much time -- the question is, Tom laid out three possible options, possible paths ahead, and the last one is increased risk and muddling through. It seems to me the reality of the budget situation, the structure of DOD, all of these things, pose the question, is not another option increased risk management where you try to keep the balance? I mean, there’s no question Admiral Syring has made very clear the highest priority we have right now is improving the GMD system, getting it to work as well as we can, improving reliability, maintainability, all those things. That’s a near-term focus for a long-term capability. To do a risk management where you keep the balance between current procurement, fielding, O&S, construction, all those things, and the R&D that’s necessary for the future, because that’s sort of not one of the options, but I think the odds are pretty high that’s actually where we’re going to go.

MR. KARAKO: I think that makes very good sense. Obviously these are three widely divergent paths deliberately to be exaggerated for the sake of clarity. I think that MDA is going after the kinds of things that you would most want them to go after on, the RKV, etc.

I think it really, as General Knudson said, they had been faced with a not impossible but very challenging task, given the lack of budget stability. That’s a piece of the risk management. A big piece of it is the lack of budget stability year-in and year-out. There’s differences in deltas between what the FYDP last year said you were going to get and what you end up getting this year.

So it’s not that they’re doing the wrong things, it’s that at the higher level -- and we’re very clear about this in the report -- it is a zero-sum game in terms of who pays for the interceptors. That’s not going to solve this problem. It’s only going to be solved really by fixing the disconnect between the policy statements that say we’re going to outpace the threat. This is the kind of threat that always makes the speeches, but it doesn’t transfer over when you’ve got that diminishing top-line year-in and year-out.

So it’s that downward gravitational pressure that I think is disconnected and inconsistent with the policy statements and where the strategic environment is going. The next Missile Defense Review is not going to just be about ballistics either. So you’ve got to stack that whole problem on top of this.

What is the next iteration of a missile defense focused organization? Is it going to be strictly ballistics? Is it going to be some of these other things?

SDIO went out and cobbled together a lot of things that were going on in the ’70s and early 1980s in the services, and put them under one roof. We kind of have something similar right now with cruise missile defense and air defense. There’s lot of stuff going on out there and we have to ask the question, is it better off in the services? Maybe it’s better off. But then maybe there’s the question, do you want to consolidate some of that stuff? Is there a
cruise missile defense entity that could share some commonality between Navy and Army, for instance? So I think there’s several different magnitudes of that.

MR. HARRISON: I actually want to ask a question to the panelists and have each of you answer. There are a lot of different competing priorities that MDA has to balance right now. You’ve got near-term threats of missiles that are already out there. We know they exist. You’ve got long-term threats as missile technology proliferates. You’ve got theater range missiles, you’ve got more strategic range missiles that can reach the homeland. If you had one more dollar to spend on missile defense, what would you put it towards? Would you put it towards the R&D, the new technology for future threats, or would you put it towards procurement to buy more of the systems we’re fielding today? If you have one more dollar, what would you do with it?

Tom?

MR. KARAKO: I think the honest answer is, which line within RDT&E would you put it? I suspect it would be somewhere in RDT&E. The question is, do you focus it on the kill vehicle for GMD, the RKV, or do you put focus on discrimination, which I think is typically the answer frequently given by MDA. Or, do you put it in something like directed energy? I think the path that MDA has been doing is to kind of divide it between discrimination improvements, the actual kill vehicle reliability, and the directed energy. So I think probably you put 30 cents in each category.

GEN. KNUDSON: I’ll probably second that, but I’ll tackle it this way. That’s actually the question I think explicitly within MDA wrestle with, and to a large degree the rest of the department, each cycle that we go through this. So we are balancing this very near-term capability -- and call it fight tonight and fight tomorrow -- from the COMOD demands. You can go to various regions of the world and see what’s stacked up against them and what they’ve had to fight within a few days, as things go up.

So that’s the real balance that we’re working, as well as what do we do for kind of the intermediate future and then the longer term future? So we’re balancing really three, not just two. For the little bit beyond fight tonight, fight tomorrow, is the things that we’re doing to improve discrimination. It is LRDR and the other improvements that we’re doing to discrimination. It is improving the reliability of the GMD system that we put a significant effort in over the last few years, including the RKV and other things.

And then you also have to look at the longer term. The longer term is some of the things that I mentioned before, which is MOKV, which is boost phase kill. We do believe that in order to get to where we’ll need to be against what we would project as an even more robust threat is that we’ll have to have an ability to get to an affordable, space strategy,
probably with partners from others in the department, in order to have persistent ability to
get to both tracking and discrimination from space.

There are all these limits to terrestrial. We’re seeing those today. So we’re wrestling
with that exact question, where do we put the next dollar? Where do we put 10 cents of the
next dollar? I don’t think that one’s an easy answer, either, because that’s our challenge.

GEN. OBERING: I would echo what was said. Obviously, what we have to understand
is we are in a fundamentally different world than we’ve known in the past -- a fundamentally
different world. We talked in the past about near peer -- we have peer competitors now. We
have a much more dangerous world we’re entering into, and what I’m trying to say -- and I’ll
get to your question exactly -- is what do we need to do differently now to prepare for that?

I think, as General Knudson said and as Tom said, when you say where do I need to
place our next dollar, it is where you get the biggest bang for that buck. Where can you get
the most return for that across the board? Discrimination across the board helps everything.
It helps in your shot doctrine, it helps in your interceptor inventory, etc.

Space is a key part of that. It is a critical part of that. Having a space-based capability,
initially the sensing capability and eventually maybe an intercept capability, would go a long
way to addressing some of the threats that we see we’re going to be faced with.

Richard, I was glad to hear from you. Richard is a recovering staffer from the Hill. He
and I had many arguments on some of these subjects. My only point that I would tell you is
that I think that the experiment that was MDA from 2002 to the present, I think we could
learn from that.

I think there’s some flexibilities -- sure there were things that were done, as I interpret
it, but flexibility is what we need to pay attention to. And I think it’s not against the oversight.
I think that those are the kinds of things that, number one, what do we fundamentally need
to be doing differently? We can’t rely on a 1971 -- 1971 acquisition process built for the Cold
War, and a funding process that was made years and years and decades ago. We cannot
necessarily rely on that to keep us competitive and safe in the future. So we need to be
making some fundamental looks at what we’re doing, how we’re doing business, and what
should we be placing our bets on for the future, because if we keep going the way we are
now, we’re going to have a whole different conversation in another 10 years.

MR. HARRISON: A question here.

QUESTION: What I wanted to mention, and it leads up to a question, I’m curious --
this isn’t the main point -- about why you used the total obligation authority rather than the
appropriations? For the first 20 years of the program that I was involved in, we used the
appropriations for the planning, for the programming, for the budgeting, as well as the metric for the execution, because it told us how much we could get done. But regardless of that, the curves may be similar.

What I wanted to mention is -- and Richard mentioned it too -- is the way we handled, especially the first few years, the 25 percent a year budget reduction that we got in the appropriation was to always have a second plan in our back pocket. When that plan came out, of course there was a lot of politics and maybe this still goes on today, but that said, at least a baseline for talking about how we would do the program with a 25 percent budget cut. At the end, and what I learned after three cycles, was we had about the same amount of work done. So the risk management or the efficiency approach, particularly the one that Ash Carter started when he came back into AT&T, I think is a reasonable thing to keep working on and keep pressing on, because history, at least in this program, shows that it works.

The second thing is with Israel. We started with Israel when Secretary Weinberger wanted to invite our allies in 1985. I went over there in 1985 and ever since 1985 -- I have a chart I can show you -- for the next 10 years we spent about one percent.

It was about the same percentage, maybe even more, we spent about $500 to $600 million with Israel out of the MDA budget -- I'll show you the chart -- for all the allies. And that was not just through our contracts, but mainly with the service contracts. So there is a way of dealing with Israel without saying whether you have too much or too little, but I think working through the services, through our executing agent, was the way we handled it before.

Finally, the last and most important thing, and maybe this is the question. I see another path because of what I learned 30 or 40 years ago, not only through MDA but even the Ballistic Missile Defense System. That is, as you know, President Reagan -- the White House, Secretary Weinberger -- was the boss in terms of the missile defense program. In other words, SDIO reported directly to the Secretary of Defense.

When we had a problem, we were over there several times a year meeting with the president and trying to get things done. You can see where this is leading to. The thing that I learned from one of my mentors, General Bernie Schriever when he built ballistic missiles, he had to work through the White House.

Ash Carter now understands that well. I've talked to him for 30 some odd years now. When the leadership and the top leadership gets involved, that to me is one way we got SDIO started, which Obereing knows because his boss went down to Texas and was told what to do. I think, from a practical standpoint, that if you have a good report, but that kind of thing should be explored again too because it has worked in the past.
Sorry if I didn’t have a question in that.

MR. KARAKO: Let me jump on that. Real quick. We thought it was important not to look at the appropriations numbers that were initially enacted by Congress, but to actually look at what Missile Defense spends. For instance, one year GMD took a $100 million cut after appropriations to the rescission that was made. So little things like that are kind of important over the long haul.

Second, I think I mentioned before, if these look different than MDA charts you’ve seen it’s because we’ve inflated the dollars, which I think is actually more accurate, less potentially misleading in terms of where the constancy is. Usually these are given in then-year dollars.

In terms of Israel, wherever the money comes from it’s still taxpayer money, that’s neither here nor there. High level leadership, that’s exactly what we say in the report. Unless you capture the imagination of the king, unless we fix that disconnect between policy priority and the numbers that were put into this, this will never get fixed. This will just keep on going down, down, down.

MR. HARRISON: We had a question back here.

QUESTION: Thank you for sharing your expertise today with us, everyone. I just wanted to run by you, there’s current statutory language that requires the director be a three-star general or vice admiral or higher. There’s a Senate provision right now in the NDAA that would remove that requirement. I’m just wondering as far as the challenges you’re discussing here today, how would having a two-star or one-star at the MDA affect some of those challenges, rather than a three-star?

GEN. OBERING: Let me address that. I actually was a signatory to a letter addressing that to the Senate, along with all the former directors of the Missile Defense Agency accept for General Abrahamson, who was not available, along with a former NORTHCOM commander, retired four-star, former retired PACOM commander, four-star. We had two other four-stars and two other three-stars.

I think it would be a very bad thing to do, and the reason is because of a couple of things. Number one, the scale and scope of the agency and the scale and scope of the programs is such that you really do need to have a three- or four-star in charge of that. Just the breadth of the programs themselves, you have at least 10 major ACAT-1 programs with the agency at any given time. The scale and scope of that warrants that level of oversight.

The second piece is, an awful lot of international interaction with allies at very senior levels. I briefed the NATO Council almost 20 times. I briefed the NATO-Russia Council
about 10 times. So having that interaction at those senior levels with the ambassadors, etc., again I think warrants that level.

The third reason is I think it would send a terrible message to our adversaries that we don’t value missile defense like we used to. I think that for those reasons -- and that’s why my fellow signatories joined me in that letter -- I think it should remain, if it’s a military position, a minimum of three- or four-stars.

MR. HARRISON: A final question here.

QUESTION: At the end of the report Tom talks about a new BMDR. We’re going to elect a new president in just over 100 days. There will be a new administration, obviously. The next administration will likely tackle a new BMDR, Ballistic Missile Defense Review.

There’s a lot of speculation and chatter right now on removing the word limited from the current BMDR, which really would -- I mean, the subtitle of your report is “More Responsibility.” I’m going to give General Knudson a pass on this question because he’s currently serving and shouldn’t be obligated to answer. But for the rest of you, what would that do, taking out the word limited? Would that be -- talk about more responsibility -- would that put additional strain on this budget squeeze and the color of money? What would be the implications of that?

MR. KARAKO: Gee, thanks. First of all, I want to thank Ken. He’s been a great sounding board. One of these on bullets here, he wrote a very fine paper on, the “Back to Basics” part, which I commend to you.

On the limited side, I think it’s important to stay focused on what we’re trying to accomplish. I would ask the question, what is the thing that we want to do that we can’t do with the word limited in place? When that was written, it was a compromise back in 1999.

It had in mind a different definition of the word limited than we have today. It was a little bit closer to the former Soviet Union at that point and folks were still thinking about a rogue ex-Soviet Union commander or a rogue SLBM launch. So the history of that, going back to the 1990s, presupposed a limited Russian strike.

Furthermore, GPALS is limited. Everything is finite. So I think folks in Congress have their reasons for doing that. I think that really distracts from the real issue.

The real issue is, if you want it to be less limited, put some more money into it. That’s the way to make it less limited. If you want to go do a different program -- space layer for sensors -- okay go do that. There is nothing, that I know of, that is legislatively prohibited by the 1999 National Missile Defense Act.
MR. HARRISON: Would others like to comment?

GEN. OBERING: I will say this, and I agree with what Tom said, however we don’t always get a vote in this. SDIO was stood up not to address a limited threat, it was to address an existential threat to the United States. I think it is worthy of debate to discuss whether we take that term out or not. For a lot of reasons, the limited was there because that’s all we could do.

I know that was one way of moving forward from a political compromise to begin to deal with fielding capabilities. If limited is getting in the way of us addressing threats like a hypersonic glide vehicle, take it out. If it’s not, leave it in.

But I think that that has to be -- you know, we’re not the only ones who get to vote here. We have been charged, well General Knudson still, with protecting the American people, our allies and our forces. We need to do whatever is necessary to do that.

If we have a policy that’s getting in the way of that, change the policy. If we have acquisition models that are getting in the way of that, change the acquisition models. If we are having funding models that are getting in the way of that, change the funding models.

Our primary mission is to protect the people of the United States, our allies and forces. We ought to always keep that in mind. Everything should flow from that. If we can do that with the limited staying in there, fine. If we can’t get rid of it.

MR. HARRISON: Before we close, we haven’t talked yet about the cyber dimension of all this, and the cyber threats that affect missile defense. General Obering, I know you have some thoughts on this.

GEN. OBERING: I do. This gets back to the threat. I’ve looked at this. I was a part of another study that kind of looked at threats around the world and what’s emerging.

I believe that -- and I’ll focus on China here for a second. I think what China is doing is very deliberate. I think that they’ve looked at what happened in the First Gulf War and it surprised them, the U.S. capabilities. I think that they decided at that point that they had to do something about that, and I think they looked across the spectrum.

So the fact that they’re going after -- and if you think about what has been our advantage since World War II, for the United States? The first one is our ability for strategic reconnaissance. We knew what was going on. We knew what was happening in the Berlin Crisis. We knew what was happening during the Cuban Crisis because we had overhead
assets to do that. So what are they doing? They’re developing ASAT capabilities to be able to target those.

What’s the next major advantage we had? Our ability to project power globally. One of the key components of that is what? Our carrier battle groups and to be able to do that. So they’re developing the DF-21 missile to be able to go after that.

The third piece of it is our overwhelming technological advantage that we had, especially over the Soviet Union. They’re going after that from a cyber-attack perspective. A lot of what we see are direct derivatives of their attacks on our systems, and a lot of what they’re pulling out.

So we’ve got to stop that. We’ve got to be able to stop that leakage in terms of cyber sensitivity and cyber security for our systems to enhance and enable whatever we do going forward in missile defense.

MR. HARRISON: Any final thoughts? Alright, I want to thank you all for attending today. Please join me in giving our panelists a round of applause.

(Applause).