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HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2018

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED FIFTEENTH CONGRESS
FIRST SESSION

SUBCOMMITTEE ON EMERGING THREATS AND
CAPABILITIES HEARING

ON

HIGH CONSEQUENCES AND UNCERTAIN THREATS: REVIEWING DEPARTMENT OF DEFENSE STRATEGY, POLICY, AND PROGRAMS FOR COUNTERING WEAPONS OF MASS DESTRUCTION FOR FISCAL YEAR 2018

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HIGH CONSEQUENCES AND UNCERTAIN THREATS: REVIEWING DEPARTMENT OF DEFENSE STRATEGY, POLICY, AND PROGRAMS FOR COUNTERING WEAPONS OF MASS DESTRUCTION FOR FISCAL YEAR 2018

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES,
Washington, DC, Thursday, March 23, 2017.

The subcommittee met, pursuant to call, at 10:30 a.m., in room 2118, Rayburn House Office Building, Hon. Elise M. Stefanik (chairwoman of the subcommittee) presiding.

OPENING STATEMENT OF HON. ELISE M. STEFANIK, A REPRESENTATIVE FROM NEW YORK, CHAIRWOMAN, SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES

Ms. STEFANIK. The Emerging Threats and Capabilities Subcommittee of the House Armed Services Committee [HASC] will come to order.

I would like to welcome everyone here today for this very timely hearing on the Department of Defense [DOD] countering weapons of mass destruction [CWMD] policy and programs for fiscal year 2018.

The pursuit and potential use of weapons of mass destruction remains a high-consequence threat to our national security. To date, the Department of Defense efforts to prevent, protect against, and respond to weapons of mass destruction threats have kept the use of these weapons low. Despite these efforts, recent media reports of chemical weapons used in Iraq and Syria, continued nuclear weapons development in North Korea, and the asymmetric use of nerve agent remind us the threat is real, global in nature, and potentially growing.

A key challenge in countering this threat is that many technologies that are used for peaceful civilian purposes can also potentially be used for developing weapons of mass destruction. Emerging examples of these dual-use technologies are in the fields of synthetic biology and gene editing. Rapidly developing biotechnologies that are easily obtained present new threats to the warfighter that we have yet to fully understand.

Today's hearing will allow our subcommittee to provide critical oversight on ensuring that the Department's countering weapons of mass destruction policies, plans, and programs sufficiently address these emerging threats.

Let me now turn to Ranking Member Jim Langevin of Rhode Island for any opening comments he would like to make.

[The prepared statement of Ms. Stefanik can be found in the Appendix on page 29.]

STATEMENT OF HON. JAMES R. LANGEVIN, A REPRESENTATIVE FROM RHODE ISLAND, RANKING MEMBER, SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES

Mr. LANGEVIN. Thank you, Madam Chair.

And I want to thank our witnesses for being here today. Dr. Hopkins and Mr. Verga, it is very nice to see you here. And Ms. Durand, great to be with you for the first time, so thank you.

Before I give the rest of my opening statement, though, I do want to take a minute to acknowledge Ms. Katie Sutton, a Sandia National Laboratory fellow that has been on HASC for the last 2 years. Katie returns to Sandia to work on cyber programs next week.

During her tenure on HASC, Katie has been a tremendous asset and has worked in a bipartisan fashion, particularly on CWMD issues. She has many accomplishments to be proud of, such as the biodefense strategy provision in the fiscal year 2017 NDAA [National Defense Authorization Act], on which she was the lead.

Katie, I just want to say thank you for your hard work on behalf of the ETC Subcommittee, and wish you well.

Ms. SUTTON. Thank you, sir.

Mr. LANGEVIN. Thanks. Well, today, we meet to review the efforts by the Department of Defense to address the threat of weapons of mass destruction. This is an important topic for oversight by the subcommittee, and I look forward to hearing about the policies and programs at the Department of Defense to counter this threat.

During this past year, we have continued to receive media reports of the use of these weapons, including the use of chemical weapons by ISIS [Islamic State of Iraq and Syria] in Iraq and Syria and the use of VX nerve agent by North Korea. These reports illustrate the importance of robust efforts to protect the services and the Nation from this continually evolving threat.

Last fall, the agency formerly known as the Joint Improvised-Threat Defeat Agency, or JIDA, was transitioned to the Joint Improvised-Threat Defeat Organization, or JIDO, within the Defense Threat Reduction Agency [DTRA]. This change offers the opportunity to achieve savings through common efficiencies and to leverage synergy in the organization's missions. Efficiencies and synergy include streamlining the command structure of JIDO to align with DTRA, consolidating human resources and other overhead functions, and reducing mission and program overlap in order to focus JIDO on its core task and to avoid mission creep.

It is important that we continue to evaluate the Department's programs and efforts to ensure they are efficiently and effectively meeting the requirements of our warfighters.

Over the last few years, we have been briefed by the Department on Constellation, a prototype of a new CWMD situational awareness technology. I certainly look forward to hearing what efforts the Department has been taking to work with Special Operations Command [SOCOM], which has recently taken over the mission for global synchronization for countering weapons of mass destruction,

to understand the requirements of the commander and leverage any existing systems to meet these needs.

Finally, the confluence of the fiscal year 2017 end-of-year appropriations, fiscal year 2017 supplemental requests, and fiscal year 2018 budget outline have no doubt created challenges in executing and planning programs. So I would like to ask our witnesses to talk about the day-to-day challenges of uncertainty and their priorities on all three of these funding mechanisms.

With that, I thank you again to our witnesses for appearing before us today, and, Madam Chair, I yield back the balance of my time.

Ms. STEFANIK. We have before us a panel of three distinguished witnesses: Dr. Arthur Hopkins, Acting Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs; Mr. Peter Verga, performing the duties of Assistant Secretary of Defense for Homeland Defense and Global Security; and Ms. Shari Durand, Acting Director of DTRA, the Defense Threat Reduction Agency.

While detailed budget numbers for fiscal year 2018 are not available at this time, we look forward to a robust discussion on the policies and programs in place in the Department for countering weapons of mass destruction in 2018.

Welcome to all of our witnesses. I would like to remind you that your testimony will be included in the record, and we ask that you summarize key points from that testimony in 5 minutes or less.

And before we begin with Dr. Hopkins, I also would like to take a moment to recognize Katie Sutton, who will be returning to Sandia National Laboratories, having completed her 2-year fellowship with our committee. Katie has been an integral part of our team and helped us legislate and conduct oversight in many important and complex areas, indeed many of the same things we plan on discussing today.

Katie, thank you for your hard work over the past 2 years, and we wish you continued success.

And, with that, Dr. Hopkins, we can begin with you. And we look forward to your opening statement.

STATEMENT OF DR. ARTHUR T. HOPKINS, ACTING ASSISTANT SECRETARY FOR NUCLEAR, CHEMICAL, AND BIOLOGICAL DEFENSE PROGRAMS, U.S. DEPARTMENT OF DEFENSE

Dr. HOPKINS. Thank you, Chairwoman Stefanik, Ranking Member Langevin, and distinguished members of the subcommittee. I appreciate this opportunity to testify on the Department's efforts to counter threats posed by weapons of mass destruction.

The Office of the Assistant Secretary for Nuclear, Chemical, and Biological [NCB] Defense Programs has roots that go back to the establishment of the Department, when it was focused primarily on nuclear deterrence. Since then, the organization's responsibilities have expanded to include nuclear, chemical, and biological defense programs, which are carried out by four organizations within the NCB enterprise:

Our Nuclear Matters Office is the focal point for DOD activities and initiatives for sustaining a safe, secure, and effective nuclear deterrent.

Our Chemical and Biological Defense Program develops capabilities that enable warfighters to deter, prevent, protect, mitigate, respond to, and recover from traditional and emerging threats.

Through our Threat Reduction and Arms Control Office, our oversight of the Nation's chemical demilitarization program focuses on the safe, complete, and treaty-compliant destruction of the Nation's remaining chemical weapons stockpile. In addition, we ensure DOD compliance with nuclear, chemical, and biological treaties and agreements.

And our Countering Weapons of Mass Destruction Systems Program strengthens situational awareness of global WMD activities.

The Defense Threat Reduction Agency addresses the full spectrum of WMD-related threats, including cooperative threat reduction programs and support to combatant commands, as well as threats from improvised devices.

Today, I would like to highlight some of the enduring and the emerging challenges and threats in each area, the ongoing activities that we are conducting to address those challenges, and our priorities moving forward.

To counter current and emerging threats like those enabled by synthetic biology and nontraditional agents, the Chemical and Biological Defense Program is developing new strategies to anticipate, prepare, and more rapidly respond, especially in the area of medical countermeasures, in addition to developing protective equipment and detection systems.

In domestic chemical demilitarization, the Department continues to make significant progress in meeting the Nation's commitments under the Chemical Weapons Convention by working toward eliminating the last of our remaining chemical weapons stockpiles in Colorado and Kentucky. In September 2016, the Department started agent destruction operations at the Pueblo, Colorado, site. At Blue Grass, Kentucky, facility construction is complete, and destruction systems are being tested.

With the United States Special Operations Command's [USSOCOM's] new leadership role in the countering weapons of mass destruction mission, we have engaged closely with them to understand their mission needs for global situational awareness.

WMD threat reduction programs executed by the Defense Threat Reduction Agency continue to reduce the threat of weapons of mass destruction around the world by detecting and preventing proliferation and consolidating, securing, and eliminating dangerous pathogens and materials of concern. These efforts are conducted in cooperation with partners throughout the world as they enhance their own capacity to secure WMD materials, detect and interdict proliferation, and respond to WMD-related events.

WMD threats are real. The Department's activities to help reduce these threats include the full spectrum of countering weapons of mass destruction activities, from preventing acquisition, to containing and reducing threats, to supporting crisis response.

I want to thank you for this opportunity to testify and also thank you for your enduring interest and support to these important mission areas.

[The prepared statement of Dr. Hopkins can be found in the Appendix on page 31.]

Ms. STEFANIK. Thank you.
Mr. Verga.

STATEMENT OF PETER VERGA, PERFORMING THE DUTIES OF ASSISTANT SECRETARY OF DEFENSE FOR HOMELAND DEFENSE AND GLOBAL SECURITY, U.S. DEPARTMENT OF DEFENSE

Mr. VERGA. Chairwoman Stefanik, Ranking Member Langevin, members of the committee, again, thank you for the opportunity to testify today. I am honored to be here with Dr. Hopkins and Ms. Durand to present the Department's approach to countering chemical, biological, radiological, and nuclear [CBRN] threats.

Since the Department testified before the subcommittee on this subject 1 year ago, two CBRN-related threats have dominated the headlines: those posed by North Korea and the Islamic State of Iraq and Syria, or ISIS. Both highlight the complex nature of the threat we face.

The North Korean regime has increased its dangerous and provocative CBRN-related activities over the past year. It has continued to test nuclear weapons and ballistic missiles, in clear violation of multiple United Nations Security Council resolutions.

ISIS poses a different sort of CBRN threat as a non-state actor not bound by longstanding norms and laws and with a demonstrated willingness to use chemical weapons against civilians and combatants alike. While ISIS' capabilities are currently far less sophisticated than North Korea's, its willingness to use and potentially proliferate CBRN-related materials or knowledge to its affiliates elsewhere is of grave concern.

The Department's strategic approach to countering these threats focuses on three lines of effort: preventing acquisition of WMD, containing and reducing threats, and mitigating the consequences of potential use. Our efforts to address these threats for North Korea and ISIS reflect this approach.

To prevent the transfer of CBRN or dual-use materials to and from North Korea, the Department works closely with interagency partners, in part through outreach under the Proliferation Security Initiative, or PSI, to the 104 other PSI endorsees committed to preventing WMD proliferation. Relationships with committed allies and partners are foundational to our success.

We also engage with partners through the DOD Cooperative Threat Reduction [CTR] Program, which remains, in the words of Secretary of Defense Mattis, "the Department's most comprehensive and effective tool for working cooperatively with partners to mitigate CBRN-related threats."

Through DTRA's capable implementation, CTR is engaged in over 30 countries, helping them detect, secure, or eliminate CBRN-related materials and pathogens of security concern. These efforts are integrated with those of our interagency partners. In Southeast Asia, CTR is building the capabilities of our partners to detect and prevent maritime proliferation of CBRN-related materials, such as those headed to or from North Korea.

Despite our best efforts at prevention, we must be prepared to contain and reduce CBRN threats once they have developed. For instance, to contain and reduce the CBRN threats from ISIS, the

U.S. and our coalition partners are also exploiting opportunities on the ground to better understand and disrupt their CW [chemical weapons] networks.

The DOD CTR program is also strengthening Jordan's and Lebanon's capacity to prevent proliferation of CBRN materials from Iraq and Syria into their territories and to ensure that ISIS affiliates in Libya do not acquire or proliferate a CBRN capability. We supported interagency efforts to remove chemical precursors from Libya and initiated a proliferation prevention program with the Government of Tunisia along its border with Libya.

Elsewhere, DOD is working with our key regional allies, the Republic of Korea and Japan, to ensure that our focus remains postured to respond to CBRN contingencies on or emanating from the Korean Peninsula, complementing those engagements in the CBRN Preparedness Program, or CP2, which engages bilaterally with our partner nations to respond to and mitigate effects of a CBRN incident.

In addition to being prepared to respond to events overseas, DOD must ensure we are prepared to support the Federal response to a domestic CBRN incident at home. Working closely with the Joint Staff, we continue to partner with a wide array of interagency partners, including the Departments of Homeland Security, Energy, and Justice, to ensure a coordinated response to any event in the homeland.

In conclusion, the acquisition or use of CBRN weapons against the United States, our forces, or our interests remains among the most dangerous threats we face. With your support, the Department will continue to strengthen our capabilities and relationships to reduce these threats at home and abroad.

Again, thank you for the opportunity to testify today, and I look forward to any questions you may have.

[The prepared statement of Mr. Verga can be found in the Appendix on page 38.]

Ms. STEFANIK. Thank you.

Ms. Durand.

STATEMENT OF SHARI DURAND, ACTING DIRECTOR, DEFENSE THREAT REDUCTION AGENCY, U.S. DEPARTMENT OF DEFENSE

Ms. DURAND. Chairwoman Stefanik, Ranking Member Langevin, and members of the subcommittee, it is an honor to be here today to share with you the work of the Defense Threat Reduction Agency.

DTRA makes the United States and our allies safer by countering threats posed by the proliferation and use of weapons of mass destruction. While not a direct focus of today's hearing, DTRA also has a new mission area: countering improvised explosive devices and other improvised threats. Last October, the Department transitioned the Joint Improvised-Threat Defeat Organization, JIDO, under the authority, direction, and control of DTRA.

DTRA is a unique organization with a broad portfolio that is accomplished by an incredibly capable and talented workforce. We are very proud of some recent milestones, including the accomplishments of the Nunn-Lugar Cooperative Threat Reduction Program, which celebrated its 25th anniversary last December. And this

coming April, we will celebrate the 70th anniversary of DTRA's Defense Nuclear Weapons School, located in Albuquerque, New Mexico.

Our expertise spans the full spectrum of WMD threats: chemical, biological, radiological, and nuclear weapons and high-yield explosives. We are a one-stop shop, open 24 hours a day to support the Department's functional and geographic combatant commands, the military services, and the interagency.

Over the past 3 years, DTRA moved to a regional vice programmatic approach against WMD threats. This allows us to support warfighters and allies with more comprehensive and integrated methods that are better aligned with the combatant commands. Likewise, our regional approach ensures a more holistic prioritization of the science and technology [S&T] that DTRA pursues and a better understanding of how we transition those capabilities to the warfighter and military services.

In Iraq and Syria, ISIS is using chemical weapons on the battlefield. Thankfully, the authorities and funding that Congress provides DTRA each year allows us to support Operation Inherent Resolve and respond to these and other emerging, long-term WMD challenges.

I am proud of what our team has accomplished this past year and believe that we serve as good stewards of taxpayer dollars. As we look toward fiscal year 2018, I am confident that we are prepared to address future WMD and improvised threats around the world.

Thank you for the opportunity to be here, and I look forward to your questions.

[The prepared statement of Ms. Durand can be found in the Appendix on page 48.]

Ms. STEFANIK. Thank you, Ms. Durand.

My first question is, the FY [fiscal year] 2017 NDAA authorized funding for many critical activities within the Chemical and Biological Defense Program, the Chemical Demilitarization Program, and at DTRA. What have been the impacts of the continuing resolution, the CR, so far this fiscal year? And can you describe the impacts to your programs for a full-year CR for fiscal year 2017?

Dr. Hopkins.

Dr. HOPKINS. Thank you, Chairwoman, for the question.

We are making it work because it is the reality of the budget situation. But the continuing resolution really limits our ability to do longer-term planning because of the way the funds come in in increments.

And so I would say that the nature of the people who do the work for us is such that they will make the programs work given the constraints. However, it does limit our ability to plan and adapt. Especially if things come up in the near term or medium term that require different levels of funding; the continuing resolution doesn't allow that. So it does tie our hands a bit.

Ms. STEFANIK. Mr. Verga.

Mr. VERGA. I would just go along with what Dr. Hopkins said. It is obviously always better to have a full-year budget appropriation because it does allow you to implement a program that you have laid out in an orderly fashion, you know, given what you ex-

pected to get in the appropriations that were asked for in the budget. And a CR, it just trips you up when you get started, and you can't really do what you need to do.

Ms. STEFANIK. And Ms. Durand.

Ms. DURAND. I will give you a couple specifics from an agency perspective.

One, it more than doubles our workload. When you do incremental funding as the CR funding comes in, we are having to incrementally fund all of our contracts. So that means for the contracting staff, who is already overworked, they are, in essence, doubling their work throughout the year.

That also adds to our comptroller support office, who are also having to do a lot of accounting and other budgetary actions when the Department is working very hard towards our financial improvement and audit readiness.

So part of that is just a workload capacity. As Dr. Hopkins said, we will get it done, but at a time when we need everybody more focused on direct mission support, that makes it difficult.

For us specifically, another one that we encountered, when JIDO came under us, one of the things we didn't expect was, in the 2016 budget, was with the Army, because the Army was the executive agent for JIDA. Because of the continuing resolution, that funding was appropriated to the Army, and it did not come directly to DTRA.

So, again, that means the accounting and the budgetary, means it has to go on—if the money goes to the Army, we have to get it from the Army. We have to do double budgeting and a lot of budgetary transfers in our books. So it just makes it very complicated.

Ms. STEFANIK. Thank you very much. It is important for us to get on the record the negative impacts that a continued CR would have on the DOD, so thank you for those thoughtful answers.

My second question is for Dr. Hopkins.

Recent technological advances in the areas of synthetic biology and gene editing have created a bio revolution that has increased the capability and availability of biotechnology.

Last fall, the President's Council of Advisors on Science and Technology released a report on this topic that concluded, quote, "Just as rapid advances in biotechnology have increased the risk of misuse by bad actors, they have expanded the tools available to protect the public."

How is the DOD responding to the emerging threat faced by these new technologies? And can the Department apply these new technologies to counter the potential threat?

Dr. HOPKINS. Thank you, Chairwoman, for the question.

You are absolutely right; the new technologies really are a double-edged sword.

One of the challenges we have is, in looking at the potential effects on national security, we want to make sure that the things that we do to try to protect ourselves don't interfere with the development of the application of the technology for peaceful, useful purposes. And so that, combined with the fact that it is an emerging area, really causes us to step back and try to understand what will be or what could be the potential national security impacts of synthetic biology.

We have asked the National Academy of Sciences to step in and help us, in an interagency study, to look at the potential impacts on security, about what timeframe would we expect potential nefarious capabilities to be available to bad actors, and what can we do about it.

And the things that we would do about it really fall into at least three areas. The ability to know it is happening in the first place, because if we are talking about a biological threat, how do you know what it is? How do you know it has appeared? And so we are working very hard on detection technologies to understand when and if we may be subject to those kinds of attacks.

Protection is the second area. As you know, the classic chemical-biological protection is a mask, a suit, a glove, individual protection, collective protection, that sort of thing. We have to make sure that our science base is up to the task and actually developing capabilities to protect the warfighter. And so challenging the things that we have on hand now that are classical in the face of those kind of threats is very important.

The third area is mitigation, what are you going to do about it. And since we are talking about the biological side of things, medical countermeasure development is right at the forefront. The same tools, synthetic biology, that we are concerned about as being capable of being used against us we are also using in the laboratories to help develop countermeasures. And so our ability to come up with vaccines, therapeutics, even laboratory equipment that will help identify what the threat is—very important to us.

And so those three areas—detection/protection and medical countermeasures and mitigation—are the places where we are investing to try to counter that.

Ms. STEFANIK. Thank you, Dr. Hopkins. I now recognize Mr. Langevin.

Mr. LANGEVIN. Thank you to our witnesses again for being here.

Ms. Durand, if I could start with you, JIDO was an organization that continually evolved and had an uncertain future. As I mentioned in my opening statement, the alignment of JIDO onto DTRA should result in both synergy and efficiencies as well as provide an opportunity to focus JIDO on its core mission and define its future.

So I wanted to know, what synergies are there between DTRA and JIDO? What efficiencies have been achieved as a result of the realignment? And how is the Department using the alignment as an opportunity to focus JIDO on its core mission and the size and scope of the organization for that mission to achieve maximum effectiveness. And, finally, has the term "improvised threat" been defined?

So if you want me to repeat any of those—I threw a lot at you—I would be glad to.

Ms. DURAND. Thank you for those questions.

Two weeks ago, we briefed the staffers on highlighting all the efficiencies that we have gained since JIDO came under us. I would preface all my comments with: It really has only been since October. So we spent, after the decision was made last January up until October, when they officially came under us, spending a lot of time getting everything ready to come under us. That was an enormous

challenge, just getting 235 JIDO civilian employees transferred from the Army into DTRA.

One of the first things that we did is we have consolidated eight of the offices that were previously in JIDO. Those are the ones that you touched on: human resources, inspector general, contracts, comptroller, general counsel, legislative and public affairs, security, and counterintelligence. JIDA, at the time, was standing up to be its own defense agency, so those offices were standing up, so we just took those offices and those individuals and merged them into ours. And so we are moving forward with—they have entirely new systems that they have to learn, so we are spending a lot of time getting them up to speed.

You had mentioned in your opening comments about the senior structure. So JIDO previously had four Senior Executive Service members. One of those was a term appointment, so that ended. So we are working on recognizing the need to shrink that senior leadership level down, so we are pushing towards that.

The efficiency—so two key areas that we are looking at, in information technology [IT] and our research and development capacities. DTRA has a lot of testbed capacity in our research and development, test and evaluation world, and JIDO will be able to use those test ranges. So that will, in time, reduce their costs associated with test range costs. So that is one specific thing.

JIDO is very proficient and has a great deal of experience in information technology, especially how it supports the warfighter. So all their efforts that they have spent years developing on situational awareness for improvised threats, on attacking those networks, we are finding to be very helpful to us in the CWMD community. So, in our IT worlds, they are working very much together to figure out what synergies that are there, what things can we combine, what things may need to remain separate.

We have also, recognizing the committee's desire to show savings, we are keeping track of those. I cannot sit here and tell you that we have gained a tremendous amount of savings. It takes quite a bit for this type of an integration. There are a lot of upfront costs and time that go into it. But we fully expect over a certain amount of time—and it may take a couple years—that we would be able to come back to you and show you specific metrics and dollar savings.

One quick one I would give you is, when JIDO was going to stand up, they were going to have to buy their back-room human resources services. So that is the processing a lot of actions. They would have gained those services from the Defense Logistics Agency (DLA), which is a working capital entity, so they would have been paying DLA for that support. So it was about $1.5 million. That is a cost avoidance that they avoided with that, and now they are just merged in with ours.

So we are seeing some savings, but I would expect them to grow over time.

To your question on focusing on the mission, so we do think that because they are now under DTRA and they are not having to do all the things related to being a separate entity and a separate agency, they will benefit from all the structure that we have in place already, so they don't have to be bothered with that.

To your specific question, is "improvised threats" defined well? No. You could use the term "improvised threats" and that could be everything that goes on within the Department. So we are continuing to look at and to make sure that we are following, I think, the guidance the committee has been concerned about before of the mission creep.

I hope I addressed each one.

Mr. LANGEVIN. You did. You hit them all. That is very good. Thank you very much.

My time has expired. Hopefully we will get to a second round, but if not, I yield back. Thank you.

Ms. STEFANIK. Dr. Wenstrup.

Dr. WENSTRUP. Thank you, Madam Chair. I appreciate it. Thank you all for being here today on a very interesting and concerning topic, as you well know.

Dr. Hopkins, I want to talk to you for a little bit. I looked back at, like, DOD response to the Ebola virus and our engagement there, and I think, actually, a lot to be proud of with that mission and challenging situation.

I also look at trying—the balance of Department of Defense or the military to serve in combat roles. And that is not a combat role, but we could be in a combat environment where there is an outbreak of some entity like that that we have to be concerned with.

And then where does HHS [Department of Health and Human Services] come into play, and how do you see those roles? Do they cooperate? How are we engaging in that way? And what were the lessons learned from that mission?

Dr. HOPKINS. Congressman, thank you very much for the question.

I think the success of the Defense Chemical-Biological Defense Program is very, very much dependent on how well we coordinate with the other government stakeholders in this area: Health and Human Services, Homeland Security, CDC [Centers for Disease Control and Prevention], National Institutes of Health, Agriculture. I mean, there are a number of government agencies, all of whom have a stake in this area.

Our focus is on biological threat agents, and so in order to make sure that the warfighter has the therapeutics and the diagnostics and the capabilities to know that they are under attack and even protect them with vaccines. That is—I don't want to call it a niche, but that is a very important part, that is a lead part of what we do.

Having said that, the science associated with developing those countermeasures, as well as the coordination on the basic science for this, is something that we have to share. And I think that happens very effectively through a group called PHEMCE, the Public Health Emergency Medical Countermeasures Enterprise. It is all the agencies that I just mentioned all coming together primarily for the purpose of making sure that the Nation has a stockpile of therapeutics and vaccines in the event of a natural outbreak, but we also leverage that capability to make sure that the Department has what it needs.

As far as lessons learned from the Ebola outbreak, to me, the single largest lesson is that the Department has a lot to offer.

While we may not have the lead in a natural outbreak, the Department has quite a capability that we can leverage and we can contribute to natural outbreaks like that.

Again, going back to my original point, the number one lesson we learned is it is really, really important to be talking to and collaborating with the other government agencies who have a stake in the successful outcome of events like those.

Dr. WENSTRUP. In that particular situation, you know, you don't know these outbreaks are coming; these are new viruses. I am just curious how the military trains for that mission. I guess it is more generic training and education as you roll out, I would imagine. Would that be the case?

Dr. HOPKINS. I think it is actually that, but it is also the military laboratories—the Navy laboratories, the Army laboratories—are always forward-looking, and they are always coordinating with the civilian side to make sure that the military has the situational awareness and knows what capabilities are out there—our own and on the civilian side.

So, again, I think it comes down to the collaboration and the situational awareness that is provided by the leading-edge researchers and developers at the service laboratories.

Dr. WENSTRUP. And the coordination has been good, in your opinion?

Dr. HOPKINS. Yes, it has been.

Dr. WENSTRUP. Thank you.

Ms. Durand, if I could ask you real quickly, in the intelligence community, how is the cooperation between intelligence community and—with what is going on, we would always hate to hear that there wasn't conversation back and forth. Do you feel like there are any gaps there that we need to address? Should Congress be helping in any way in that regard?

Ms. DURAND. I will tell you that DTRA enjoys an incredibly strong partnership across the entire intelligence community.

I would also tell you that, in the very short time that USSOCOM has had the synchronization mission, they are so interwoven with the entire intelligence community. General Thomas, in particular, is very actively going after this in terms of what else does he need from the intelligence community for the CWMD mission, and I have no doubt he will make great strides in that regard.

We have also experienced in some recent exercises that some of my folks have participated in—the feedback that I get from them is that they have never seen a time when there was more involvement and better partnership across the entire interagency, with our allies, and with the intelligence community.

So I can't tell you that I see any gap. I can give you the assurance that if there is one, General Thomas will find it and he will correct it.

Dr. WENSTRUP. Okay. Thank you. I yield back.

Ms. STEFANIK. Ms. Gabbard.

Ms. GABBARD. Thank you very much.

Prior to the first Gulf War, it was disclosed that Iraq had produced 19,000 liters of concentrated Botulinum-A toxin to be used in weapons. Given that 1 aerosolized gram of this toxin could po-

tentially kill up to a million people, where would DTRA rank this toxin in terms of threat level, where we are today?

Ms. DURAND. So that one, I am not sure. So I would like to take that one for the record and get back to you so I give you the correct answer.

Ms. GABBARD. Sure. I appreciate it. As you go through that follow-up, I would be interested to see if there are any current programs or plans underway that recognize this threat and countermeasures to deal with it.

[The information referred to can be found in the Appendix on page 70.]

Ms. GABBARD. Given that the FDA [Food and Drug Administration] approval process for medical countermeasures can be lengthy and unpredictable, what kind of risk does that present to the DOD in wait times for FDA approvals for any countermeasures that we may need in a tighter timeline? Generally, not specifically for this toxin, but generally.

Ms. DURAND. DTRA is not specifically involved in that piece of the process. I would defer to Dr. Hopkins on any of those specifics.

Ms. GABBARD. Sure.

Dr. HOPKINS. Thank you very much.

First of all, let me say that the FDA approval process is critically important to the successful production of the vaccines and therapeutics that we need.

And so, having said that, we are doing everything we can to work with the FDA, starting early in the process. We have learned over the years that it is best to engage with the Food and Drug Administration very, very early so that we can understand the process as well as work with them in speeding things up.

We also, through the passing of the Cures Act, we in the Department have authority now to offer priority review vouchers and obtain orphan drug designations for some of our low-volume, limited-distribution kind of products, and so that is very, very helpful to us. In fact, most recently, the plague vaccine has received FDA orphan drug status, and that was funded by the Chem-Bio Defense Program.

So bottom line is we are using whatever means we can to accelerate and work very closely and early with the Food and Drug Administration because we know that their involvement is important to the production of safe products.

Ms. GABBARD. Thank you. I yield back.

Ms. STEFANIK. Dr. Abraham.

Dr. ABRAHAM. Thank you, Chairwoman. I thank the witnesses for being here. This is a vital topic, in my opinion.

And, Mr. Verga, thank you for your service in Vietnam. We appreciate that very much, sir.

I am going to pony a little bit off of Dr. Wenstrup and Chairwoman Stefanik and go back to the synthetic biology. Of all this nuclear, chemical, and biological things that do keep me awake at night, I think the biological is the one that I spend most of the time looking at the ceiling, because it is cheap, it is available, and, as Dr. Wenstrup alluded to, you could have a human vector to transmit the pathogen.

And to weaponize a virus or bacteria with what you gentleman know, certainly you, Dr. Hopkins, with the CRISPR-Cas9 [Clustered Regularly Interspaced Short Palindromic Repeats] technology, the genetic engineering, which can be done now in any biochemical lab with a person of just normal intelligence that has a master's or certainly a Ph.D. in that type of instance, this can become a real threat very quickly.

My question, Dr. Hopkins, to you first. You said you were, and I understand, talking to State governments and the people in those agencies that we need to talk to, but we all know that if a terrorist organization wants to do this, we are not talking to them.

Are there any—and I understand it is difficult, but are there any checks and balances today that at least can give us a little hint of something that may be coming? Because, as Ms. Gabbard said with botulism, mitigation is not an option here because we are too far behind the power curve. So the question is, what is out there to stop this? And what can we as Congress do to help you accomplish that goal?

Dr. HOPKINS. Thank you, Congressman, for the question. The short answer is I am not aware of a specific action or a——

Dr. ABRAHAM. And I am not either. That is why I asked the question. I am not aware of any either.

Dr. HOPKINS. But I think what that does is it really points to the importance of the study that we have commissioned with the National Academy of Sciences. Because, as you and I think about this, we would both conjure up notions of some really bad things that could happen in the hands of people who don't need a lot of training or a lot of equipment——

Dr. ABRAHAM. It sounds like science fiction, but it is not. It is here.

Dr. HOPKINS. It does.

What we have asked the Academy to do is kind of separate the science fiction from the reality and recognize what reality is today and help us to understand the national security implications. What is the art of the possible in the near term, in the mid term, and the long term, as well as to identify what can we do about it.

We know that the first step is detection. We know that, first of all, we have to know we are under attack. And so we know that the laboratories are already thinking about ways that we could detect a genetically modified version of some disease. So that is the starting point, and we are already working on that.

But I really think the key to framing this, framing the whole potential threat is the National Academy, the national experts thinking through this, with the assembly of the various stakeholders, Health and Human Services and Homeland Security and so forth, and Department of Defense, so that we can wrap our arms around it.

Dr. ABRAHAM. Ms. Durand, anything we can do in Congress to help you guys out?

Ms. DURAND. Not that I can think of right now. I would tell you that in the chem-bio S&T world for science and technology, one of our top priorities is finding an integrated early-warning system and process to do just what Dr. Hopkins had talked about, because

just finding what is out there and knowing it is coming is critical. So I would expect our work would progress in that area.

Dr. ABRAHAM. Anything to add, Mr. Verga?

Mr. VERGA. Nothing other than just I think the recognition of the problem is the first step, you know, towards dealing with it. And I think it is important——

Dr. ABRAHAM. I think we recognize that it is out there.

Mr. VERGA. Yes, sir.

Dr. ABRAHAM. Thank you, Ms. Chairwoman. I yield back.

Ms. STEFANIK. Mr. Veasey.

Mr. VEASEY. Thank you, Madam Chair.

I had a question I wanted to ask you. I know that on this committee we have been closely monitoring military readiness levels. And I would like to hear your assessment of our current readiness levels dealing with chemical, biological, radiological, nuclear equipment, and personnel across the DOD and other agencies.

And any of you can answer that.

Dr. HOPKINS. Thank you, Congressman.

For the traditional agents and threats that we have been—mustard, nerve, chemicals, the known biological systems—I believe that the investments that the Department has been making for decades in masks, suits, gloves, individual protection, collective protection, and all of those areas have provided a certain degree of readiness, an adequate degree of readiness for encountering those classical agents.

In the area of emerging threats, emerging infectious diseases, synthetic biological, engineered diseases, I don't think we know how good we are or how bad we are. And that is an area where we are focusing and we have to continue to focus.

Mr. VEASEY. Also, I wanted to switch to the Middle East and North Africa, and I wanted to ask if you could discuss how the current events there are impacting DTRA's operations and planning. And have you received any additional requests for support from CENTCOM [Central Command] and AFRICOM [Africa Command]? And what are some of your largest concerns there?

Ms. DURAND. So, obviously, as the military campaign against ISIS continues in Iraq and Syria, ISIS is regrouping, specifically in those areas of the Middle East and North Africa. DTRA works with partner countries in those regions to help contain and reduce those threats from terrorists that are obtaining WMD materials. That could certainly destabilize those regions and lead to large refugee flows.

In countries where there is active, ongoing violence, such as in Iraq, our CTR operations have been curtailed significantly, and our engagements have been limited to VTC [video teleconference] instead of being able to go there in person.

In countries where violence is sporadic and the security situation is delicate, such as in Lebanon and Jordan, our CTR operations have continued to provide the security environment—that that environment is stable enough for our operations. But we encountered delays, but they have been short in duration.

So, in essence, our work there has been limited because we are always focused on the safety of our people before we send them over there. And so that limits us with what we can do.

Mr. VEASEY. Thank you very much.

And I wanted to also ask one more question related to Ebola. You know, we had one of the more high-profile cases in Dallas County, which is an area that I represent. And I wanted to know what lessons that you feel we have learned that have been put into practice. And how would you assess the DOD's ability to respond similarly in future cases?

Mr. VERGA. I will comment on that.

The first thing, I think what DOD brings to a situation like the Ebola outbreak is our organizational ability, our planning ability, our logistics, and those sorts of things.

I think we learned from the Ebola outbreak the necessity of having the capacity to transport folks. You know, we made an investment in the patient transportable pods that could be put into our military medical evacuation aircraft to do things like that.

But I think the primary thing is early detection. I think the earlier we can recognize that that is what the problem is and the earlier we can get ahead of the curve on trying to deal with the problem is probably where we are at. And so I think our efforts in early detection and warning of outbreaks is probably where our best investment can be made.

Mr. VEASEY. Thank you. Madam Chair, I yield back.

Ms. STEFANIK. Mr. Wilson.

Mr. WILSON. Thank you, Chairwoman Stefanik. And thank each of you for being here today and on these important issues.

And, indeed, our subcommittee has been very fortunate to have a Sandia fellow, Katie Sutton, here. In fact, she brings good news and bad news. Last year, she brought bad news, but it needed to be addressed, and her professionalism has certainly come through.

Last year, we had the mishandling of the live anthrax samples that were sent from Dugway to 86 government and private labs and other facilities in the United States and 7 other countries: Australia, Britain, Canada, Germany, Italy, Japan, and South Korea.

Mr. Verga, what is the status of the report requested in fiscal year 2017 NDAA regarding the mishandling of the anthrax shipments? What is the status of any corrective actions that have been put in place to make sure this type of incident is prevented in the future? And what efforts are being taken within the Department to reduce the amount of select agent number of labs that handle select agents?

And this could be answered really by anyone, but if you would begin.

Mr. VERGA. I am afraid I would have to get back to you on that because I don't know the details, but I will provide that to you.

[The information referred to can be found in the Appendix on page 70.]

Mr. WILSON. Okay.

Ms. Durand.

Dr. Hopkins.

Dr. HOPKINS. On the status of the report, I will have to get that answer for you. If I could take that for the record, we will get that status.

[The information referred to can be found in the Appendix on page 69.]

Dr. HOPKINS. As far as what the Department has done, we recognized as a result of those inadvertent shipments that the handling of those agents was being done in different chains of command and there was not unity of effort or unity of oversight over the years.

And so one of the things—I think the most significant thing that the Deputy Secretary did is he designated the Secretary of the Army as the executive agent for all work with biological select agents. And that has had a unifying effect, and it has introduced a certain amount of discipline into the process. They are responsible for reviewing and inspecting all of the laboratories that handle biological select agents and toxins. And they have also looked outside themselves. They have gone to establish an expert panel to review the procedures, such as the ones that didn't work at Dugway.

And so I think we are in much better shape than we were 2 years ago on this, primarily because of that action. There have been a number of actions below that in order to introduce more discipline and care at the laboratory level, but I think the most significant thing was establishing the Secretary of the Army as the Department's executive agent for overseeing all work with those select agents.

Ms. DURAND. I have nothing further to add.

Mr. WILSON. And, again, Katie Sutton was just terrific, bringing this to our attention, monitoring this. Her professionalism always comes through. And we are going to miss her as she departs for another great assignment.

Additionally, for Ms. Durand, Dr. Hopkins, the FY 2017 supplemental budget request included a supplemental increase of $127 million for the Chemical Demilitarization Program due to engineering challenges and increased contract costs.

Can you explain the justification for this additional request? What is the impact if this funding is not received? Will the program be able to complete all required destruction by the 2023 deadline? What mitigation steps are being put in place for this program to prevent further cost and schedule overruns?

Dr. HOPKINS. Thank you, Congressman, for that question.

Just for some context on this, the Chemical Demilitarization Program in the United States is working on eliminating the last 10 percent of what the United States declared to the Chemical Weapons Convention. We declared 30,000 tons several years ago.

And this Assembled Chemical Weapons Alternatives [ACWA] program is the program that has the two sites, one in Kentucky and one in Colorado, and there has been major progress at both of those sites. In Pueblo, they have started operations. In Blue Grass, they are going through systemization.

There is a request in the supplemental for additional resources, and that is primarily to recover some schedule in order to make sure that we make the 2023. And, actually, in large-scale processes like these, the more we can invest up front, the higher the likelihood is that it is going to reduce the lifecycle cost of this.

The need for the increase was really due to a number of factors. Primarily, we did not anticipate the fact that the first-of-a-kind technologies that are being used at both locations would require so much rework. And I could go into gory detail on some of the things,

like redoing welds and so forth, but, in both cases, in Pueblo and in Blue Grass, there has been unexpected, unplanned need for some additional rework in order to get the systems up and running.

And when I say we didn't anticipate it, I can be very specific; we didn't anticipate last year. Because, last year, in an attempt to reduce the amount of money that the program carried over from one year to another, the ACWA program gave money back, returned money, so that it could be rephased in the out-years. And so, as a result, at the same time we are returning the money so that it can be rephased in later years, the need for this rework, the emerging challenges also appeared, and that resulted in an actual need for the money in 2017.

So what we are essentially trying to do is put money back into 2017 that we had reprogrammed into the out-years in order to make sure that we make the 2023 schedule.

Mr. WILSON. Thank you very much.

Ms. STEFANIK. Ms. Cheney.

Ms. CHENEY. Thank you, Madam Chairwoman. Thank you very much to our witnesses for being here today.

I wanted to dig a little deeper in terms of what we are doing to protect our warfighters and, in particular, the extent to which we are facing increasing threats on the ground in Iraq and Syria.

Mr. Verga, maybe we could start with you. Just in terms of the assurances that you feel, the confidence that you feel that we are in a position where we are providing our men and women in uniform with the very best possible protection against the growing threat that they may be facing on the battlefield from these types of weapons.

Mr. VERGA. Well, we have a great deal of confidence in the equipment and the training that our forces have in order to deal with these threats. I mean, it is one that we have recognized over time, made significant investments in our ability to counter those threats, and are now working with our partners and allies in the area to, in fact, provide to the allies, to the Iraqis and to the Kurds, equipment through cooperative programs that DTRA and Dr. Hopkins can speak to a little bit more in detail to be able to deal with those.

Again, I think the importance is recognizing the threat. I mean, ISIS has, in fact, used both chemical weapons and toxic industrial chemicals, you know, against our forces and against our allied forces there.

I don't know if you had anything to add.

Dr. HOPKINS. Thank you.

In addition, we are making sure that our laboratories, such as Edgewood in Maryland, where they actually do challenge our ability to protect the warfighter with masks and suits and gloves, we are making sure that the things that we are giving the warfighters are effective against what we believe to be the actual materials that are being used in the field.

Ms. DURAND. Just to add a little bit more, DTRA's specific role in the science piece of that, our chemical and biological folks get a lot of feedback from the Joint Program Office on how the development that we did, how that is actually working.

Another great program that we have is the Scientists in the Foxhole program, in which we take our scientists who are working on the initial phases of developing that equipment that will give the best protection to the warfighter, we send those scientists out into the field with the warfighter so they can get that immediate feedback. And that helps them tremendously in understanding, as they are doing the research and the scientific work, what works for the warfighter and what doesn't. So that has proven to be very successful.

Ms. CHENEY. And just to follow up, in terms of the increasing capabilities that we are facing from our adversaries in these areas, could you provide a little bit of information about the extent to which our technology and ability to defend against what we are seeing and the increasing availability of some of these weapons, whether you feel that we are keeping up sufficiently in terms of the progress that is being made by our enemy?

Mr. VERGA. My hesitation is I am trying to think if in an unclassified format we can talk about where we are in that. I think I would prefer to defer that, because we couldn't get into any real specifics.

Ms. CHENEY. All right. That is fine. Thank you.

And I just wanted to follow up on where we are on the national biodefense implementation and strategy. I know you are going to be coming back to us in September of this year, but if you could talk a little bit about, sort of, the preliminary work that has been done and, you know, how you think things are going based on the requirement in the last NDAA.

Mr. VERGA. Thank you.

Of course, the Department of Homeland Security is leading that review. We and the Department of Defense are cooperating with them, along with HHS and Department of Agriculture and many other organizations.

We did provide a briefing to staff on where we are at on it. And, as you said, the report is due in September, and we think we will be able to deliver that on time.

Ms. CHENEY. Thank you very much. I yield back.

Ms. STEFANIK. Mr. Scott.

Mr. SCOTT. Thank you, Madam Chair. Ma'am and gentlemen, thank you for your service to the country.

And my question gets back to our interaction with other countries that we may not necessarily share values with, but we share interests with. Obviously, the country of Russia comes to mind. Russia and the United States were key to getting Syria to destroy their chemical weapons.

How much dialogue do you have with counterparts in other countries about what the most pressing threats are and the most efficient ways to eliminate those threats?

Mr. VERGA. I would describe the interaction we have with our allies and friends as robust. We have a——

Mr. SCOTT. If I may, I am also talking about people that we don't consider to be allies or friends, but that we may have a shared interest with in this particular field.

Mr. VERGA. Yeah, I would have to check on that one, sir. I am sorry. I don't have that right offhand.

Mr. SCOTT. I would be interested in your answer if you think that perhaps that is something that we should pursue.

[The information referred to can be found in the Appendix on page 70.]

Mr. SCOTT. If you would, then, go ahead with our allies and friends, if you would.

Mr. VERGA. With our allies, we do have a robust cooperative program with them, cooperative research and development programs, working very closely with, you know, particularly our NATO [North Atlantic Treaty Organization] allies and also others to be able to be share information regarding the threats and regarding the countermeasures.

I know Dr. Hopkins can talk a little bit more about some of the specific programs.

Dr. HOPKINS. Yes. In addition to the sharing information about the potential threats, we have very active, detailed engagements with our closest allies on mitigations and identifying ways to protect us, and especially in the NATO scenario, where we have a common standard for the performance of various countermeasures. So closest allies, very strong and very effective and helpful to us.

Mr. SCOTT. I would be interested in your comments, as well, all of your comments, about whether or not this is something that we should look into, whether we should or should not potentially share information with countries where we have that shared interest, if you will, even though we don't share values.

I know that the issue with Syria, for example, is one where it took an agreement with Russia to actually get those weapons destroyed.

But, with that, Madam Chair, I will look forward to the written response, and I thank you for your service to the country, and I yield back the remainder of my time.

Ms. STEFANIK. Thank you. We will now go to the second round of questions for members who are able to.

My question is a follow-up, Ms. Durand, to Mr. Veasey's line of questioning. And in your testimony, you highlighted DTRA's growing activities in the Middle East and Northern Africa both in the context of support to Operation Inherent Resolve and the Cooperative Threat Reduction Program.

But can you discuss how DTRA prioritizes which nations receive support? And how does DTRA leverage other government agencies in these efforts?

Ms. DURAND. I can. Thank you.

A lot of our priorities come from the two offices that Mr. Verga and Dr. Hopkins represent. So the priorities flow from the Department of Defense down through the Office of the Secretary of Defense.

In our own internal planning for our priorities, we have a lot of interaction with the combatant commands. So we get a lot of our priority input from them. We have our own robust strategic planning process within the agency on determining what are the greatest threats, what are those priorities, and then, as we build our budgets, we focus on those. But all those are fed through other avenues throughout the Department.

Ms. STEFANIK. And then how does DTRA leverage other government agencies in these efforts?

Ms. DURAND. So that part is critical to us. We have very robust partnerships across the interagency. There are various things that the Department of State does with us related to the Cooperative Threat Reduction Program. We have mentioned before Health and Human Services. They do a lot of work.

So we are constantly coordinating and synchronizing and making sure that no one is duplicating efforts. And, in essence, it ends up being a leveraging of capabilities across the entire government so everyone knows where their lanes are and they can focus on their specific areas of expertise.

Ms. STEFANIK. It is clear that there are growing needs of support. And what are your concerns about the growing need for this support?

Ms. DURAND. Support——

Ms. STEFANIK. In the region.

Ms. DURAND. Can I take that one for the record? I will have to get back to you on that.

Ms. STEFANIK. Absolutely.

Ms. DURAND. Thank you.

[The information referred to can be found in the Appendix on page 69.]

Ms. STEFANIK. I will recognize Mr. Langevin for his second round of questions.

Mr. LANGEVIN. Thank you, Madam Chair. Again, thanks to our witnesses.

Dr. Hopkins, as you know, for the last 2 years I have followed the program Constellation. And the program is being resourced by the Office of the Secretary of Defense and executed by DTRA to fulfill a STRATCOM [Strategic Command] requirement, although, I must say, it is worth noting our committee—I never heard directly from STRATCOM on this particular need or program, which I find curious.

But now that the CWMD synchronization role has transferred from STRATCOM to SOCOM, how is the Department clarifying situational awareness requirements of that command?

Dr. HOPKINS. Thank you for the question. It is especially timely. As you probably could tell from the testimony, we have discontinued the prototype that was called Constellation, primarily due to the limitation of funds that was in the NDAA draft and in the final language.

Having said that, though, the requirement for situational awareness is as strong or stronger than it ever has been. The commander of SOCOM has said more than once that he has a very firm, strong need for common intelligence and common operating pictures. And that is the essence of what situational awareness is, and that is the essence of what the Constellation prototype was intended to provide.

Two things are happening. One is your language in the NDAA basically asked us to have an independent look at the system, the requirements, and the plans, and we are doing that. We have hired a federally funded research and development company to go ahead and objectively look at requirements, including the ones that you

referenced might have come from STRATCOM at the time, but the requirements for all the combatant commanders for situational awareness of WMD-related things.

And our plan is to take the resources that we have and any future resources and work with STRATCOM and work with DTRA and adapt those parts where we did learn especially useful things from Constellation and adapt them to the common intelligence and the common operating picture that SOCOM needs in order to perform their function as the synchronizer.

So we are in the process of doing that. We will get the requirements and the plans, in other words work with the FFRDC [federally funded research and development center], and then also adapt what we have directly to the needs of the combatant commander.

Mr. LANGEVIN. So how underresourced were you for the program that you had to cancel it?

Dr. HOPKINS. Trusting my memory here, about $25 million.

Mr. LANGEVIN. So are you saying that you are coming up with a replacement program, Constellation Lite? Or is it——

Dr. HOPKINS. I don't know what we would call it yet. We are looking at the requirements, and we are going to work with SOCOM and DTRA to understand what would be the most useful and helpful ways to obtain and depict situational awareness of people, places, and things in the various theaters having to do with weapons of mass destruction, what would be most useful to the warfighter in the field. And what form that takes, I am not quite sure yet.

But we did learn a lot from doing the Constellation. So the plan this year is to use the funds we have to do that and then recovering next year and then investing more in those things that are useful to SOCOM.

Mr. LANGEVIN. Okay. Well, we know that the requirement hasn't gone away; it is the funding——

Dr. HOPKINS. Correct.

Mr. LANGEVIN [continuing]. That is the problem. Thank you.

Mr. Verga, what process is the Department using to ensure the transition of necessary resources from STRATCOM to SOCOM for the CWMD mission? Has the hiring freeze impacted the ability of SOCOM or DTRA to bring people into key positions during the transition?

And, Ms. Durand, how has the transition been for DTRA? What have been the challenges and opportunities identified?

Mr. Verga.

Mr. VERGA. To my knowledge, there have not been any issues that have been identified by SOCOM as far as the transition goes. I know they had their initial operational capability in January to do that, and, as far as I know, they are moving right along. The normal budgetary process in terms of the transferring of resources is the one that we are using.

If I can take this opportunity, I may have misspoke when I was talking about ISIS' use of chemical weapons. I believe I may have said that they had used them against U.S. forces. That is not true right now. Right now, it has only been Iraqi civilians and Iraqi forces that they have used chemical weapons against. And I would like to correct that, if I could.

Thank you.

Ms. DURAND. So for the transition from STRATCOM to SOCOM, I will address how it has impacted DTRA.

First, I will say our relationship with SOCOM is tremendous. We have had a longstanding relationship with them, and that has grown even stronger.

Last December, General Thomas gathered up the entire interagency and DOD members and talked about, got their input for his overall plan. So he learned from that. We had a Global Synchronization Conference last month in bringing in all the interagency. He laid out his initial thoughts on the global campaign plan that he is developing, and he was gaining everyone's input on that. So that has been going very well.

Specifically to the agency, under STRATCOM, the Director of DTRA was dual-hatted as the Director of STRATCOM's Center for Countering WMD. SOCOM is not following that organizational model, which is just fine. We still have most of the same people within the agency, so they are the SOCOM element with us.

And that partnership is continuing, and, if anything, it has grown even stronger with General Thomas' and his entire staff's active participation in that. So I will tell you I think it is going exceptionally well.

Mr. LANGEVIN. Very good. Thank you.

I have other questions that I will submit for the record, and if you could respond to those in writing, I would appreciate it. Thank you. I yield back.

Ms. STEFANIK. Thank you, Mr. Langevin.

And thank you so much to all of our witnesses, Dr. Hopkins, Mr. Verga, and Ms. Durand, for your expertise and testimony today.

And no further questions from the committee members?

I adjourn this hearing.

[Whereupon, at 11:42 a.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 23, 2017

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 23, 2017

Chairwoman Stefanik Opening Statement
Hearing:

"High Consequences and Uncertain Threats: Reviewing Department of Defense Strategy, Policy, and Programs for Countering Weapons of Mass Destruction for Fiscal Year 2018"

March 23rd 2017, 10:30am, 2118

The Emerging Threats and Capabilities subcommittee of the House Armed Services Committee will come to order.

I'd like to welcome everyone here today for this very timely hearing on the Department of Defense Countering Weapons of Mass Destruction Policy and Programs for Fiscal Year 2018.

The pursuit and potential use of Weapons of Mass Destruction remains a high consequence threat to our national security. To date, the Department of Defense efforts to prevent, protect against, and respond to weapons of mass destruction threats have kept the use of these weapons low. Despite these efforts, recent media reports of chemical weapons use in Iraq and Syria, continued nuclear weapons development in North Korea, and the asymmetric use of VX nerve agent remind us the threat is real, global in nature, and potentially growing.

A key challenge in countering this threat is that many technologies that are used for peaceful, civilian purposes can also potentially be used for developing weapons of mass destruction. Emerging examples of these "dual-use" technologies are in the fields of synthetic biology and gene editing. Rapidly developing biotechnologies that are easily obtained present new threats to the warfighter that we have yet to fully understand.

Today's hearing will allow our subcommittee to provide critical oversight on ensuring that the Department's countering weapons of mass destruction policies, plans, and programs sufficiently address these emerging threats.

We have before us a panel of three distinguished witnesses:

- Dr. Arthur Hopkins
  Acting Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs
- Mr. Peter Verga
  Performing the Duties of Assistant Secretary of Defense for Homeland Defense & Global Security
- Ms. Shari Durand
  Acting Director, Defense Threat Reduction Agency

While detailed budget numbers for Fiscal Year 2018 are not available at this time, we look forward to a robust discussion on the policies and programs in place in the Department for countering weapons of mass destruction in 2018.

Welcome to all of our witnesses. I'd like to remind you that your testimony will be included in the record, and we ask that you summarize key points from that testimony in 5 minutes or less.

Before we begin with Dr. Hopkins – I would like to take a moment to recognize Ms. Katherine Sutton who will be returning to Sandia National Laboratories having completed her 2-year fellowship with our Committee. Katie has been an integral part of our team, and helped us legislate and conduct oversight in many important and complex areas – indeed many of the things we plan to discuss today. Katie, thank you for your hard work over the past 2 years, and we wish you continued success as you head back to Sandia.

And with that – Dr. Hopkins, we can begin with you, and we look forward to your opening statement.

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House Armed Services Committee

Statement of Dr. Arthur T. Hopkins
Principal Deputy Assistant Secretary of Defense
Nuclear, Chemical, and Biological
Defense Programs

On
Department of Defense Countering Weapons of Mass Destruction Programs

Before the
Emerging Threats and Capabilities Subcommittee
Committee on Armed Services
United States House of Representatives

March 23, 2017

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House Armed Services Committee

INTRODUCTION

Chairwoman Stefanik, Ranking Member Langevin, and distinguished members of the Subcommittee, I appreciate the opportunity to testify on the United States Department of Defense's efforts to counter threats posed by weapons of mass destruction (WMD).

I serve as the Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, and currently, Acting Assistant Secretary.

Our office focuses on ensuring the safety, security, and reliability of our nuclear deterrent; developing capabilities to prevent the spread of, protect against, and respond to weapons of mass destruction threats; and ensuring DoD compliance with nuclear, chemical, and biological treaties and agreements. Our four organizational elements are Nuclear Matters, Chemical and Biological Defense Programs, Threat Reduction and Arms Control, and the Defense Threat Reduction Agency.

Our Nuclear Matters Office supports the Nuclear Weapons Council and is the focal point for DoD capabilities that sustain a safe, secure, and effective nuclear deterrent and counter threats from nuclear terrorism and nuclear proliferation. The President has directed the Secretary of Defense to conduct a new Nuclear Posture Review, led by OSD Policy and the Joint Staff. My office will be involved in all discussions on our future nuclear posture in view of changes in the global security environment.

We are also responsible for oversight, integration, and coordination of the Department's Chemical and Biological Defense Program. This program develops capabilities to enable the Warfighter to deter, prevent, protect, mitigate, respond to, and recover from traditional and emerging chemical and biological threats. These activities cover the full spectrum of defining requirements, developing science and technology solutions, and acquiring materiel to protect warfighters.

Our Threat Reduction and Arms Control Office oversees the implementation of WMD threat reduction programs and manages the Department's treaty implementation activities to ensure compliance with nuclear nonproliferation agreements, the Chemical Weapons Convention, and the Biological and Toxin Weapons Convention. We also manage the Department's governance process for the U.S. domestic Chemical Demilitarization Programs, as well as efforts to develop Countering Weapons of Mass Destruction Situational Awareness capabilities.

Finally, we oversee the Defense Threat Reduction Agency (DTRA). Their mission is to safeguard the United States and its allies by providing capabilities to counter, reduce, and eliminate WMD and improvised threats and mitigate their effects. As a combat support agency, DTRA provides operational support to Combatant Commands.

While each component has unique responsibilities, we operate as a team, sharing intelligence, technologies and best practices to help ensure efficiency and effectiveness of products and services.

To be successful, we must continue to innovate, not only in the technologies and operational solutions that we provide, but also in how we work together as an enterprise. Today, I would like to highlight some of the enduring and emerging challenges and threats, the ongoing activities we are conducting to address those challenges, as well as our priorities moving forward.

CHEMICAL AND BIOLOGICAL DEFENSE

Assessment of Emerging Threats

The Department continues to focus its chemical and biological defense efforts to protect against both state (e.g., North Korea) and non-state (e.g., ISIS) threats. We have developed and fielded protective equipment, detection systems, and countermeasures to protect against traditional chemical agents (e.g. Mustard and VX nerve agent).

Looking toward the future, advancements in biology and chemistry (e.g., synthetic biology), and contributing technologies, such as improvised delivery systems, additive manufacturing, gene editing, and unmanned aerial systems, present potential new threats that the nation must anticipate and be prepared to counter.

Synthetic biology is revolutionizing many sectors of our economy, from traditional biology and disciplines such as agriculture and medicine, to totally different areas like materials science and data storage. With advances in technology come potential risks, such as the development of new viruses and novel toxins. The Department continues to assess this field to understand the possibilities for potential emerging threats. We engage with the broader stakeholder community to help identify mitigation strategies. We are taking an agile, platform-based, approach to medical countermeasure development in order to rapidly defeat emerging biological threats.

While synthetic biology is important to consider within the threat landscape, we should not constrain the technologies themselves as a means of risk mitigation, or we risk stalling our own research and development programs. Many of our own Chemical and Biological Defense Programs use elements of synthetic biology. Examples include the development of filovirus vaccines and therapeutics, development of the recombinant plague vaccine, novel approaches to overcome antibiotic resistance, and the rapid development of monoclonal antibody therapies.

The proliferation of non-traditional agents such as Pharmaceutical-Based Agents is also of concern. While these are currently law enforcement and public health challenges, the Department is assessing the potential for these agents to impact warfighters. Pharmaceutical-Based Agents, initially developed and intended for legitimate uses, have proliferated and can be highly toxic at very low doses. Knowledge of how to develop these agents has expanded to a point that they could be used for nefarious purposes by both state and non-state actors.

Efforts to Address Current and Emerging Threats

To counter current and emerging threats, the Chemical and Biological Defense Program is developing new strategies to more rapidly respond, especially in the area of medical countermeasures. This new medical strategy encompasses earlier engagement in product development with the Services to ensure that we are responsive to operational priorities. Additionally, we are strengthening our partnership with the Food and Drug Administration and developing new incentives for industry engagement in developing medical countermeasures. From a product development perspective, the Chemical and Biological Defense Program is shifting toward platform capability development, which leverages synthetic biology and other emerging technologies to build medical countermeasures more efficiently and at a lower cost. The intent is to integrate these platform capabilities into a Department of Defense-dedicated production facility.

To support the development and manufacturing of medical countermeasures and effective therapeutics, the Department has invested in a new, agile manufacturing capability through the Advanced Development and Manufacturing facility in Alachua, Florida. This facility provides the capability to rapidly develop and produce medical countermeasures for our unique population, on a smaller scale than those needed for the public health sector. We are pursuing novel manufacturing capabilities, which allow for modular and flexible approaches to meet the Department's needs more rapidly and cost effectively.

The Department continues to engage with our interagency partners in the development of both physical and medical protection. We are a part of a broad interagency effort known as the Public Health Emergency Medical Countermeasures Enterprise, which leverages our capabilities as well as those of the Department of Health and Human Services and the Department of Homeland Security to develop and deliver innovative medical countermeasures and effective therapeutics.

The Department's development of chemical defense capabilities is a key component of an integrated national effort to address both traditional and non-traditional threats. We continue to invest in physical science programs, conduct research, and develop technologies for a range of chemical defense capabilities, including detection, medical countermeasures, decontamination, and protection. We are coordinating with several international partners to leverage their approved medical countermeasures against pharmaceutical-based agents. Enhanced warning, protection, and countermeasures will save lives and enable more effective consequence management.

CHEMICAL DEMILITARIZATION

The Department continues to make significant progress in domestic chemical weapons destruction programs. Our office oversees programs to meet U.S. commitments under the Chemical Weapons Convention and eliminate the remaining U.S. chemical weapons stockpile. In September of last year, the Department initiated agent destruction operations at the Pueblo Chemical Agent-Destruction Pilot Plant located at the Pueblo Chemical Depot in Colorado, using a neutralization destruction technology. More than 18,000 munitions containing approximately 90 tons of chemical agent have already been destroyed. Between March 2015

and February 2016, the Explosive Destruction System, a supplemental destruction system, destroyed 560 munitions at the Pueblo Chemical Depot that were unsuitable for processing in the Pueblo main plant, equating to nearly two tons of chemical agent.

While this is a significant milestone for the program, rapid progress after the completion of the pilot testing is needed to demonstrate the reliability, availability, and maintainability of the many first-of-a-kind systems and equipment at the Pueblo facility early next year. The Pueblo facility will be used to destroy nearly 780,000 mustard agent-filled projectiles and mortars.

With construction of the Blue Grass Chemical Agent-Destruction Pilot Plant substantially complete in Kentucky, the preparation and testing of the people, procedures, equipment, and systems, known as systemization, is about 68 percent complete. The Blue Grass facility is scheduled to begin destruction operations in April 2020 after completing systemization. The facility will destroy nearly 87,000 nerve agent-filled projectiles and rockets. A supplemental technology, called a Static Detonation Chamber, will be used to destroy all 15,492 mustard-filled munitions stored at the Blue Grass Army Depot. Current plans are to begin Static Detonation Chamber operations after completion of destruction operations in the Blue Grass main plant.

COUNTERING WEAPONS OF MASS DESTRUCTION SITUATIONAL AWARENESS

The Countering WMD Systems portfolio provides funding for development of situational awareness capabilities for the Combatant Commands, in response to requirements approved by the Joint Requirements Oversight Council. This year will be a transition year for the Department's approach. We have been engaged closely with USSOCOM to understand their mission needs for countering weapons of mass destruction situational awareness. We are currently working with USSOCOM to develop a countering weapons of mass destruction common intelligence and operating picture, using existing software applications as well as the expertise resident in two small fusion cells at the Defense Threat Reduction Agency and the Defense Intelligence Agency. These fusion cells provide planning and analytical support to USSOCOM and other Combatant Commands.

In accordance with the Fiscal Year 2017 National Defense Authorization Act, we have commissioned a Federally-Funded Research and Development Center to conduct an independent review of countering weapons of mass destruction situational awareness requirements and the prototype information system known as "Constellation." The results of this study will also inform future development of countering weapons of mass destruction situational awareness capabilities. Development and fielding of the Constellation prototype was discontinued in October 2016 due to the limitation in the NDAA and reduced funding in the Defense Appropriations bill. We learned valuable lessons from the development of the Constellation prototype, which will be incorporated into our support to U.S. Special Operations Command.

Our office is also responsible for the report required by Section 1070 of the FY17 NDAA, which requires the Secretary to list and assess the Defense Department's existing and proposed capabilities and technologies that support U.S. nonproliferation and counterproliferation policies. We are collaborating with USSOCOM, the Joint Staff, and other parts of the Defense Department to produce a report that will meet the Congressional requirements, and provide

useful information for the Department's assessments of the countering weapons of mass destruction mission and required capabilities.

WMD THREAT REDUCTION

Globally, WMD threats continue to evolve. Potentially vulnerable stockpiles of nuclear, chemical, and biological materials remain at risk, with trafficking networks that span the globe and an expanding set of state and non-state actors interested in acquiring, developing, or using WMD. The use of chlorine and sulfur mustard as weapons in Iraq and Syria highlights that the knowledge, technologies, and materials are accessible to adversaries.

To address these challenges, DTRA implements a number of WMD threat reduction activities, including the Cooperative Threat Reduction Program; Chemical, Biological, Radiological, and Nuclear (CBRN) Preparedness Program; International Counterproliferation Program; and engagements supporting the Proliferation Security Initiative. Collectively, these programs constitute some of the Department's most effective and flexible tools for addressing WMD threats.

The Department's efforts continue to reduce the threat of WMD around the world, from activities to detect and prevent WMD proliferation in the Middle East, Southeast Asia, and North Africa, to facilitating the transportation and removal of highly enriched uranium in Europe, to consolidating and securing collections of dangerous pathogens in Sub-Saharan Africa, to strengthening partners' capabilities to detect and mitigate biological threats and disease outbreaks in Southeast Asia. These programs help to build partners' capacities to secure WMD materials, detect and interdict proliferation, and respond to CBRN events, helping to strengthen the security of the U.S. and our allies.

Our office provides programmatic guidance and oversight of these activities to accomplish mission objectives, ensure synchronization with other DoD and interagency programs and activities, and optimize the WMD threat reduction value of investments.

CONCLUSION

WMD threats are real and increasing in complexity. The Department's activities address the full spectrum of CWMD threat reduction, from preventing acquisition to containing and reducing threats, to responding to crises. We act in collaboration and coordination with numerous Department, interagency, and international partners to ensure effectiveness and efficiency.

Thank you for this opportunity to testify.

Dr. Arthur T. Hopkins
Principal Deputy Assistant Secretary of Defense for
Nuclear, Chemical, and Biological Defense Programs

Dr. Arthur T. Hopkins is the Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, and currently, Acting Assistant Secretary.

As the Principal Deputy, Dr. Hopkins advises the Assistant Secretary in all matters across the Nuclear, Chemical, and Biological Defense Programs portfolio, including nuclear matters, chemical and biological defense programs, chemical demilitarization, cooperative threat reduction, arms control, and countering weapons of mass destruction.

Prior to his current appointment, Dr. Hopkins served as the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control, where he was the DoD Treaty Manager for implementation and compliance with international nuclear, chemical and biological treaties and agreements, and advisor to the Assistant Secretary for NCB on planning, acquisition, and execution of programs for countering weapons of mass destruction (WMD) issues.

Dr. Hopkins holds Bachelor and Master of Science degrees in Engineering, Aerospace and Atmospheric Sciences, and Master of Science and Doctoral degrees in Nuclear Engineering.

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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

MR. PETER VERGA
PERFORMING THE DUTIES OF ASSISTANT SECRETARY OF DEFENSE
FOR
HOMELAND DEFENSE AND GLOBAL SECURITY
BEFORE THE HOUSE ARMED SERVICES COMMITTEE
EMERGING THREATS AND CAPABILITIES SUBCOMMITTEE
MARCH 23, 2017

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THE HOUSE ARMED SERVICES COMMITTEE

INTRODUCTION

Chairman Stefanik, Ranking Member Langevin, and Members of the Subcommittee, I am pleased to testify today about the Department of Defense (DoD) efforts to counter chemical, biological, radiological, and nuclear (CBRN) threats. Over the past year, the CBRN threat environment has continued to evolve and increase in complexity in several ways. First, we have observed both State and non-state actors demonstrate interest in developing, acquiring, or using CBRN materials and programs. In Syria, for example, the Organization for the Prohibition of Chemical Weapons-United Nations Joint Investigative Mechanism has found that chemicals have been used as weapons by both the Islamic State of Iraq and Syria (ISIS) and the Syrian regime. The Democratic People's Republic of Korea (DPRK) also has continued its dangerous and provocative activities with both nuclear and missile tests. Second, continued advances in technologies such as synthetic biology, additive manufacturing, and unmanned aerial systems present great promise and opportunity for new defensive capabilities, but may also enable State and non-state actors to develop new CBRN threats at a pace never before seen. We must stay at the cutting edge of these technologies, so as to benefit from and defend against them, while also seeking new and creative approaches to supplement traditional tradecraft and nonproliferation tools to deter and prevent acquisition and use of weapons of mass destruction (WMD). Third, stresses and tensions in the geopolitical security environment are also creating additional pressures on international nonproliferation regimes.

The office of Assistant Secretary of Defense for Homeland Defense and Global Security oversees the DoD's policies and guidance to protect our armed forces and other U.S. interests from a CBRN attack or any type of destabilizing CBRN-related event, such as the spread of a dangerous pathogen including pandemic influenza. We also represent DoD's interests on counterproliferation and non-proliferation policy issues. Our organization contributes as well to international efforts such as the Proliferation Security Initiative (PSI) and the Global Health Security Agenda (GHSA). We also support the Department of State (DoS) in implementation of commitments under the 1993 Chemical Weapons Convention (CWC), the 1972 Biological and Toxin Weapons Convention (BWC), and the 1968 Nuclear Non-Proliferation Treaty (NPT). Finally, we provide policy oversight for execution of Homeland Defense and, in close coordination with the Department of Homeland Security (DHS) and other interagency partners, provision of Defense Support to Civil Authorities, particularly ensuring that the CBRN threats that exist outside our borders never threaten the Homeland while simultaneously preparing to provide DoD support to the Federal response to such an attack or incident.

DoD is well postured to confront the myriad of CBRN-related challenges we face. Last year, USSOCOM assumed responsibility for leading the department's synchronization of Countering-WMD (CWMD)-related planning. We are working closely with the Joint Staff and USSOCOM to ensure that USSOCOM has the necessary resources and guidance for this mission. Internationally, the community of nations has demonstrated renewed focus through reaffirmation

of United Nations Security Council Resolution 1540, a vital catalyst to the global effort to prevent WMD or WMD-related materials from falling into the hands of terrorists. Although CBRN threats continue to evolve, we continue to adapt and improve our institutions to ensure that we are prepared for the CBRN challenges of the future.

STRATEGIC APPROACH FOR COUNTERING TODAY'S CBRN CHALLENGES

The DoD Strategy for Countering WMD provides three Lines of Effort to address WMD threats. First, *prevent acquisition* of WMD by adversaries and potential adversaries. Second, *contain and reduce* threats by improving our ability and that of our partners to identify, locate, secure, and mitigate threats from WMD and WMD-related materials. Third, maintain the necessary posture, capabilities, and authorities to *respond* to emergent WMD crises.

PREVENT ACQUISITION

Preventing State and non-state actors from acquiring CBRN materials is a critical component of DoD's strategy. Due to the diffusion of dual-use WMD-related technology, it has never been more difficult to prevent bad actors from acquiring the materials or knowledge necessary to develop WMD or to use CBRN materials in intentional attacks. However, targeted investments to prevent these materials from falling into the wrong hands are far more cost-effective than potentially responding to the use of WMD.

The DoD Cooperative Threat Reduction (CTR) Program remains one of the most flexible U.S. Government tools for preventing acquisition of WMD and WMD-related materials. Secretary James Mattis has recently described the DoD CTR Program as DoD's "most comprehensive and effective tool for working cooperatively with international and interagency partners to mitigate WMD-related threats." For more than 25 years, the DoD CTR Program has worked with foreign partners to destroy existing WMD stockpiles successfully; to make nuclear, chemical, and biological weapons more difficult to acquire; and to detect and interdict dangerous WMD components and materials.

In line with DoD's strategy, the DoD CTR Program has evolved in recent years in response to the changing threat environment. From an early emphasis on securing sources of WMD material in the former Soviet Union to a focus in more recent years on eliminating State-based chemical weapons (CW) programs outside the former Soviet Union in Syria and Libya, the DoD CTR Program builds the capacity of partners to counter WMD proliferation threats posed by non-state or State actors, and from the potential emergence of diseases of security concern, such as by supporting the DoD response to the Ebola crisis last year.

The use of a nuclear weapon by another State or a non-state actor is one of the most dangerous potential threats to the security of the United States. The DoD CTR Program's Global Nuclear Security (GNS) program and Proliferation Prevention Program (PPP) focus on keeping nuclear

and related materials out of the hands of malevolent actors, and enable DoD to build capacity to enhance the security and prevent the proliferation of nuclear materials, thereby supporting broader U.S. Government nuclear security objectives. As one example of the PPP's bilateral engagement, the Program continues to secure vulnerable Soviet-era radiological materials at the former Semipalatinsk nuclear test site in Kazakhstan.

Recognizing that biological threats are ubiquitous, often endemic, and that potential adversaries can acquire pathogens of security concern from unsecure laboratory stores required for public health, the DoD CTR Program allocates significant resources to the Cooperative Biological Engagement Program (CBEP) to mitigate these complex and evolving threats. The CBEP continues to stop threats successfully "at the source" by preparing partners to detect and report disease outbreaks of security concern, irrespective of whether those outbreaks were intentionally or naturally occurring. The CBEP supports bilateral, regional, and global U.S. Government efforts to promote biological security. An example of one of the CBEP's bilateral efforts is the ongoing work in Kenya, a key security partner, to upgrade the safety and security of five human and animal laboratories to prevent potential acquisition and use of their stores of highly dangerous pathogens by non-state actors.

Preventing non-state actors in Iraq from acquiring the materials necessary to develop chemical or biological weapons is of the utmost importance to DoD, as such weapons could potentially be used against our Iraqi partners or even against U.S. forces in theater. The DoD CTR Program's Chemical Weapons Destruction (CWD) and CBEP programs continue to explore efforts to improve chemical and biological safety and security in Iraq, in close coordination with U.S. Embassy Baghdad. Through the relationships formed during biorisk management training provided to Iraqi government personnel, the CBEP worked with the Government of Iraq to facilitate the formation of the Iraq National Biorisk Management Committee (NBMC), which works to reduce biological threats in compliance with relevant nonproliferation conventions and treaties through regulatory frameworks in Iraq. We continue to support the NBMC in its efforts to improve the security of pathogens of concern in Iraq.

DoD's efforts to reduce biological threats overseas, including through the CBEP, directly support the goals of the Global Health Security Agenda (GHSA), which includes a commitment to work with at least 30 partner countries to deepen their commitment to health security using a whole-of-government approach. In an increasingly interconnected world, it is imperative to promote cooperation among health, agriculture, security, development, and other sectors to tackle biological threats and ensure that dangerous pathogens are not accessible to terrorists. Strengthening the bridge between the public health and national security communities at home and abroad is essential to reduce the threats posed by the intentional, accidental, or natural spread of pathogens and diseases of security concern, and potential terrorist acquisition and use of biological weapons. DoD remains focused on reducing biological threats to U.S. forces and the U.S. homeland, working closely with the Centers for Disease Control and Prevention (CDC), the U.S. Department of Agriculture (USDA), and the U.S. Agency for International Development

(USAID), along with other domestic and international partners, to ensure assistance is provided in the most holistic, effective, and efficient manner.

DoD also continues to work to raise the barriers to acquiring WMD material through the Proliferation Security Initiative (PSI). Over the 13 years since its inception, the PSI has brought together 105 nations to build political will to stop the trafficking of WMD, delivery systems, and related materials. By supporting and participating in numerous bilateral and multilateral exercises, and through leadership in the PSI's Operational Experts Group, DoD works alongside DoS and experts from other departments and agencies to engage with partners to address all aspects of the proliferation threat from rapid, national-level decision-making, to operational tactics and procedures. Last year, 70 of the 105 PSI-endorsing States met here in Washington, DC, at the PSI's Mid-Level Political Meeting to reaffirm the importance of using the PSI and all other cooperative means to prevent the transfer of WMD technology to State and non-state actors of concern.

DoD also participated in Asia Exercise Deep Sabre 2016, the third in a series of annual Asia-Pacific exercises hosted by a rotating group of critical PSI partners. The 2017 Asia-Pacific exercise will be hosted by Australia, then Japan in 2018, and the Republic of Korea in 2019. To keep pace with proliferators who continually adapt, the PSI itself is evolving, from an activity focused heavily on preparing for at-sea interdictions, to one that highlights the critical role that customs, treasury, and diplomatic tools play in detecting and preventing WMD proliferation. In an era of evolving WMD-related threats, PSI engagements underscore that interdiction is a whole-of-government effort that requires both strong institutional capacity and political will.

International treaties that bring together like-minded nations and promote essential norms are foundational elements of the U.S. Government's efforts to prevent the development and proliferation of WMD. For example, the NPT, the BWC, and the CWC remain essential foundations for the pursuit of nonproliferation and disarmament goals. In close partnership with DOS, we depend on these and related regimes as essential and evolving tools in countering CBRN threats.

CONTAIN AND REDUCE THREATS

The use of chemical weapons by ISIS in Iraq and Syria and by the Syrian regime in Syria over recent years has reinforced the importance of containing and reducing CBRN threats. We work with partners to contain and reduce threats should malevolent actors around the globe obtain CBRN-related materials, and ensure that partners are able to detect, interdict, and mitigate such threats at and within their borders.

In addition to our vital partnership with the Government of Iraq, our bilateral relationships with Jordan, Lebanon, and Tunisia are crucial to containing and reducing CBRN threats in the Middle East and North Africa (MENA) region. In particular, the DoD CTR Program has continued to

advance the capabilities of these partners to detect and interdict WMD material. In Jordan, the centerpiece of this effort is the Jordan Border Security Program (JBSP) – an integrated surveillance, WMD detection, and interdiction system that the PPP has developed in partnership with the Jordanians along Jordan's borders with Syria and Iraq. In Lebanon, which shares many of the same proliferation threats as Jordan along its border with Syria, the PPP is developing, in close partnership with the Lebanese Armed Forces (LAF), a Lebanon Border Security Program (LBSP) integrated command and control and surveillance system to defend the most vulnerable section of Lebanon's border with Syria. This effort is being fully coordinated with assistance provided to the LAF by the United Kingdom as well as other DoD assistance along Lebanon's border, and it will complement CBRN-response assistance provided by the Defense Threat Reduction Agency's CBRN Preparedness Program (CP2). In early 2016, the DoD CTR Program also initiated a proliferation-prevention cooperation with the Government of Tunisia along parts of its border with Libya in order to counter the proliferation risks resulting from the presence of ISIS affiliates and the potential transfer of knowledge and materials between ISIS affiliates. The PPP continues to work with the Tunisian government to establish a border-surveillance system along the most vulnerable section of that border.

Our organization also plays a leading role for DoD in the development and maintenance of important relationships with international partners and allies to address proliferation and CBRN issues cooperatively. A good example is our relationship with the North Atlantic Treaty Organization (NATO). The Office of the Under Secretary of Defense for Policy serves as the permanent co-chair of NATO's Committee on Proliferation in Defence Format (CP-D), which is the senior advisory body to the North Atlantic Council (NAC) on countering the proliferation of weapons of mass destruction and CBRN defense. Serving alongside a rotating European co-chair (currently Germany, with Poland assuming the role in June), and working closely with NATO's WMD Center, we have enhanced NATO's CBRN preparedness through cooperation with other NATO bodies and coordinated the development, adoption, and implementation of a comprehensive policy for preventing, protecting against, and responding to CBRN threats. These efforts have significantly increased the Alliance capacity to address critical CBRN-related security challenges.

RESPOND TO CRISES

This element of the CWMD Strategy focuses on activities and operations to manage and resolve complex WMD crises. It includes strategic and diplomatic efforts to respond to WMD-related crises, kinetic action against hostile non-state actors who acquire CBRN materials of concern, efforts to train and equip our partners to defend against and respond to the use of CBRN weapons, and efforts to improve DoD capabilities continually to respond to CBRN threats against the Homeland or our interests overseas.

There is no more important partner to support in responding to a CBRN weapons use than the Government of Iraq. Using the Iraq Train and Equip Fund (ITEF) authority, DoD has provided

our Iraqi and Kurdish partners with critical training and equipment to enable them to protect themselves and respond to chemical and biological weapons attacks.

DoD will continue to support interagency diplomatic efforts aimed at WMD crisis management and response in light of the DPRK's efforts to advance its WMD programs significantly. Our approach to the DPRK spans multiple aspects of our strategy, from efforts to "prevent acquisition" of WMD-related materials by supporting interagency efforts to enforce relevant UN Security Council resolutions, to "preparing to respond to crises." The DPRK's recent nuclear and missile tests underscore the importance of a well-coordinated international response. Supported by other departments and agencies, we work closely with U.S. Pacific Command (USPACOM), U.S. Forces Korea (USFK), and our Republic of Korea (ROK) and Japanese counterparts to ensure that our regional alliances remain postured to respond to WMD contingencies on, or emanating from, the Korean Peninsula. This includes the conduct of semi-annual CWMD-focused bilateral engagements, support to regional exercises, and providing policy guidance to enable effective CWMD operations.

The CBRN Preparedness Program, which works with partner nations to respond to and mitigate the effects of a CBRN incident, complements the threat reduction efforts of the DoD CTR Program. The National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2014 authorized DoD, with the concurrence of the Secretary of State, to implement a whole-of-government approach to build partner nation capacity by providing CBRN incident-response training and equipment to assist partner nations in developing the capabilities of its military and civilian first-responder community. Building partner nation response capabilities promotes regional security cooperation and bilateral and multilateral interoperability, and reduces the potential for a large U.S. Government requirement to provide assistance to international CBRN incident-response operations.

DoD first exercised this authority in FY 2014 to provide WMD preparedness and response training to the military and civilian first responders in the Middle East, and in 2015 expanded to other key allies and partners. Although the training focused on CBRN incident preparedness and response, it also emphasized a whole-of-government approach to execute WMD incident operations effectively. In the current fiscal year, DoD will continue to improve the WMD-preparedness and response capability of key partners, identified collaboratively with the Combatant Commanders and DoS.

10 U.S.C 333, as recently provided in the NDAA for Fiscal Year 2017, consolidates the training and equipping of foreign security forces, including activities conducted by the CBRN Preparedness Program, under a single authority. We anticipate that this new authorization will provide DoD with greater flexibility to assist our partner nations in developing their capabilities to respond to incidents involving WMD, which in turn may reduce the need for U.S. emergency assistance during an international CBRN incident.

While enhancing the CBRN-response capabilities of our allies and partners, DoD must also be prepared to respond to a CBRN attack against U.S. personnel or our broader interests overseas. The U.S. Army's 20th Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Command continues to develop and refine the extensive capabilities and technical expertise necessary to deploy rapidly in support of U.S. forces around the world and conducts regular training exercises to operate in highly challenging realistic operational environments. Our organization also provides policy guidance to the Chemical and Biological Defense Program, which develops and acquires capabilities that allow the Joint Force to deter, prevent, protect against, respond to, and recover from CBRN threats and effects within a layered and integrated defense. DoD also continues to work in close coordination with DoS to support allies and partners in the event of a CBRN crisis abroad, if necessary.

Ensuring that DoD is poised to respond and support civil authorities in the event of a CBRN attack against the Homeland is of the upmost importance. The NDAA for FY 2017, Section 1086, requires that DoD, DHS, the Department of Health and Human Services (HHS), and the U.S. Department of Agriculture (USDA) jointly develop a national biodefense strategy and associated implementation plan, which shall include a review and assessment of biodefense policies, practices, programs, and initiatives. This work is underway and DoD is reviewing existing policies to identify relevance and gaps and to determine which updates and additions are required to address current and emerging threats posed by biological agents.

DoD recognizes the need to be prepared to support the Federal response to a domestic CBRN events at home. The DoD CBRN Response Enterprise (CRE) provides both Federal and State controlled capabilities to respond at the lowest level to natural or manmade CBRN events. In addition, we assist with the development of protocols and concepts of operation to enhance the ability of first responders, law enforcement agencies, and emergency services to execute large-scale crisis response operations promptly and effectively. Through the analysis of past CBRN events (whether natural or manmade), the development of wargames and exercises, and the promulgation of guidance and strategic policy, DoD has played a central role in developing the intellectual framework for developing best practices in domestic and international CBRN-response and mitigation operations. Working closely with the Joint Staff, we continue to partner with a wide array of interagency partners, including DHS, the Department of Energy (DoE), the Federal Emergency Management Agency (FEMA), and the Federal Bureau of Investigation (FBI) to address the challenge of a coordinated response to CBRN events in the U.S. homeland.

CONCLUSION

We must anticipate that our adversaries will continue to evolve and develop increasingly sophisticated methods to pursue, develop, or deploy CBRN weapons. These emerging CBRN threats intersect with challenges of political instability, violent extremism, and poor infrastructure in States suffering from natural outbreaks of devastating diseases. The DoD

Strategy to Countering WMD continues to provide a framework for assessing and understanding these real and potential challenges.

We will continue to work with other departments and agencies and international partners to confront the threats posed by WMD at home and abroad. As WMD-related crises continue to emerge, your continued support in the areas described today are critical to our ability to understand, anticipate, and mitigate these threats.

Peter F. Verga
Performing the Duties of the
Assistant Secretary of Defense for Homeland Defense and Global Security

Mr. Verga is the Senior Advisor to the Assistant Secretary of Defense for Homeland Defense and Global Security, and is the performing the duties of the Principal Deputy Assistant Secretary. Additionally, Mr. Verga is Special Assistant to the Secretary and Deputy Secretary of Defense for Compartmented Activities. Previously Mr. Verga was Defense Advisor to the Secretary of Homeland Security. Prior to that he was the Chief of Staff and Senior Career Official for the Under Secretary of Defense for Policy responsible for oversight of security cooperation policy implementation and the Defense Security Cooperation Agency, technology security policy and the Defense Technology Security Administration, detainee policy, missing persons and prisoners of war issues and the Defense Prisoner of War-Missing Persons Office. Mr. Verga also oversaw the management and day-to-day operations of the Policy organization. Prior to that Mr. Verga served as the Principal Deputy Assistant Secretary for Homeland Defense and Americas' Security Affairs, acting as principal advisor on matters related to homeland defense activities of the Department of Defense and regional security matters for the Western Hemisphere. He has served as a member of the Federal Emergency Management Agency National Advisory Council; as Director of the Department of Defense Homeland Security Task Force, developing the Department's organizational concepts and strategy to respond to the 9-11-01 attacks; as the Deputy Under Secretary for Policy Integration, successfully negotiating the return of a U.S. EP-3 Aircraft that made a forced landing in China in 2001; and as Deputy Under Secretary for Policy Support. Born in Winston-Salem, North Carolina, Mr. Verga holds a Bachelor of Science degree in Public Administration from the University of La Verne, La Verne California, and a Master of Science degree in Public Administration from Troy State University, Troy, Alabama. Mr. Verga is a graduate of the United States Army Command and General Staff College, and a guest lecturer at the Naval Postgraduate School and the Army War College. Mr. Verga has been a career member of the Senior Executive Service since 1998.

Mr. Verga is a retired U.S. Army officer with over twenty-six years of service, including combat operations in Vietnam from September, 1969 to November, 1971 and has been elected to the U.S. Army Officer Candidate School Hall of Fame. Prior to retirement from active service, he served in successive positions where he was responsible for a variety of special and sensitive activities and interagency matters including serving on the White House staff advising on matters including continuity of government and sensitive emergency plans and programs in direct support of the President. This followed duty as Deputy Director of the Office of Emergency Operations of the White House Military Office and in the Operations Directorate of the Joint Chiefs of Staff.

Mr. Verga has been awarded the Presidential Ranks of Distinguished Executive and Meritorious Executive and has been awarded three Defense Distinguished Civilian Service Awards and the Defense Meritorious Civilian Service Award. During his military service his awards included, among others; the Combat Infantryman's Badge, the Defense Superior Service Medal, the Legion of Merit, four Bronze Star medals, the Purple Heart, three Defense Meritorious Service Medals, twenty-one Air Medals, and the Presidential Service Badge.

Mr. Verga is married to the former Elizabeth Anne McAneny, they currently reside in Alexandria, Virginia.

Current as of 3/20/2017

Statement of Ms. Shari Durand
Acting Director, Defense Threat Reduction Agency

Countering Weapons of Mass Destruction Posture Hearing

Before the

Emerging Threats and Capabilities
Subcommittee
Committee on Armed Services
United States House of Representatives

March 23, 2017

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House Armed Services Committee

Acting Director Shari Durand
Defense Threat Reduction Agency
Testimony to Emerging Threats and Capabilities Subcommittee
House Armed Services Committee
March 23, 2017

Chairwoman Stefanik, Ranking Member Langevin, and Members of the Subcommittee, it is an honor to be here today to share with you the work we do every day to make the United States and its allies safer by countering the threats posed by the proliferation and use of weapons of mass destruction (WMD) and improvised threats.

WMD Threats

Over twenty years ago, a small but dedicated group of radicalized criminals used sarin gas to attack critical transportation corridors in Tokyo. In a matter of minutes, their attack killed over a dozen people and sickened thousands, and images of the incident were splashed across TVs to billions around the globe. The attack clearly demonstrated the potential for terrorists to gain international attention with a relatively small amount of resources. It showed that the battlefield extends beyond declarations of war by nation-states. Further, this attack made it clear that WMD events are not just theoretical and were likely to happen again. It also revealed the challenges facing first responders and medical facilities when responding to even a small-scale attack.

That incident, as well as other events and threats around that time, influenced then-Defense Secretary William Cohen to ask Deputy Secretary of Defense John Hamre to examine all of the Department of Defense (DoD) organizations dealing with threats from WMD. As a result of that study, the Department concluded that our nonproliferation and counterproliferation efforts were not well focused in terms of an "institutional center of gravity within the Department." The Defense Threat Reduction Agency (DTRA) was created one year later, in 1998, integrating three legacy Countering Weapons of Mass Destruction (CWMD) agencies into one.

In the nearly twenty years since, the barriers between WMD and those with the will to use it continue to fall – with the threat becoming increasingly complex and global in nature. In Iraq and Syria, the Islamic State in Iraq and Syria (ISIS) is using chemical weapons on the battlefield. These attacks demonstrate that ISIS has developed a clear intent to acquire and use WMD, and through trial and error, they may get better at it.

The threat of terrorism is increasingly complex and transregional in nature. Social media is allowing terrorists to recruit more easily and spread their expertise more rapidly, across various nationalities and ideologies. Terrorist groups are no longer required to fund, train, and equip fighters in secret camps; instead, they can inspire unconnected but motivated individuals who will attack and declare their allegiance just prior to, or after an attack. And, along the way, these motivated individuals can receive technical assistance from a distance in their plans, all through today's technology.

Who We Are

For all of these reasons, there is a clear need for on-call, comprehensive CWMD expertise. That's what the Defense Threat Reduction Agency provides. Our expertise spans the full WMD threat spectrum – chemical, biological, radiological, and nuclear weapons, high yield explosives, and improvised threats. While we are not the only players on the CWMD field, we provide critical support to a USG whole-of-government approach to this critical security mission.

As DoD realized in 1998 when it established DTRA, the most effective way to leverage this expertise is to locate it in one place and provide efficient communication channels for collaboration. As a Defense Agency, DTRA operates under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology and Logistics, through the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. In this role, we support and enhance the nuclear enterprise; we support overall USG efforts to prevent the proliferation and use of WMD and improvised threats; and we perform and manage a

research and development portfolio to develop tools and capabilities in WMD and improvised threat environments. In fact, DTRA provides the United States Special Operations Command (USSOCOM) with all of its WMD counterproliferation Science and Technology capabilities. As a Combat Support Agency, DTRA communicates directly with the Offices of the Chairman of the Joint Chiefs, and provides direct support to Combatant Commanders and the Services.

What We Do

Our programs come in many shapes and sizes and we work with both military and civilian personnel. On any given day, tens to hundreds of DTRA experts are dispatched overseas, and in certain cases to some of the most dangerous and sensitive of areas, in order to provide analysis, research, testing, training, and operational expertise.

Within DTRA, we have nuclear physicists, microbiologists, chemists, current and former Special Operations Forces personnel, logisticians, linguists, lawyers, contract specialists, accountants, and many other expert professionals working side by side to eliminate WMD threats. If you observed our biweekly Director's Update Briefings, you would hear about our teams deployed throughout the world on specific missions. You would also hear about the critical science and technology work that feeds into our operational mission and across the DoD and Interagency; research and development testing taking place that week; analysis of WMD threats; key leader engagement and partnership opportunities, and significant events or decision points on the horizon. All of these discussions are shared and coordinated with every DTRA entity so that maximum collaboration and information sharing occurs continuously.

Counter-ISIS

An area of key interest in those biweekly meetings is DTRA's support to Operation Inherent Resolve (OIR). In September 2015, DTRA stood up a Counter ISIS Chemical and Biological Working Group composed of personnel from across the Agency. This Working Group coordinates capabilities for urgent need requirements supporting the Warfighter. DTRA's counter-ISIS activities specifically focus on: chemical agents, potential radiological or

biological threats or threats from small unmanned aerial systems, commercial grade explosives, homemade explosives and their chemical precursors, and improvised explosive devices.

DTRA enables OIR Coalition Forces and partner nations to counter ISIS through seven lines of support:

1) **Threat Awareness:** DTRA identifies critical links and nodes in ISIS improvised threats and WMD proliferation networks to inform the coalition's counter-ISIL campaign.
2) **Research and Development:** DTRA develops material and non-material solutions against ISIS WMD and improvised threats. In January 2017, DTRA transitioned a novel chemical detection platform to the Warfighter. DTRA continues to support the broader U.S. government effort to provide the coalition with capabilities to detect and defeat ISIS small unmanned aerial systems.
3) **Planning:** DTRA analyzes operational courses of action and available countermeasures to inform pre-mission planning for employing coalition forces in unique improvised threat and WMD environments in Iraq and Syria. In October 2016, DTRA provided an analysis of options to store, transport, and dispose of chemical and biological material of concern in the region.
4) **Deployable Capabilities:** DTRA maintains deployable teams with specialized equipment and expertise available to assist the coalition in a WMD contingency. DTRA also integrated tactical improvised threat experts into the coalition's component commands. In the summer of 2016 and in February 2017, DTRA advised on the secure and timely movement of suspected chemical samples to labs for characterization.
5) **Training and Equipping Coalition Forces:** DTRA leverages the Department's existing authorities, including the Iraq Train and Equip Fund, to provide military and civilian first responders with training and equipment to defend against chemical, biological, radiological, and nuclear threats. DTRA supported a Warfighter request to provide the Government of Iraq handheld chemical detectors to enable Iraqi responders to identify and respond to incidents involving chemical weapons, including the use of toxic industrial chemicals.
6) **Building Regional Capacity:** DTRA fosters enduring relations with partner nations' border security organizations to prevent WMD and illicit improvised threat related

materials from crossing borders. DTRA continues to enhance the capabilities of countries like Jordan and Lebanon to detect, identify, track, and interdict potential traffickers of illicit materials on the Syrian border. Along with a network of fixed and mobile sensors along these borders, DTRA also delivers critical WMD detection training and equipment enabling these partner nations to prevent illicit trafficking of WMD. This work is crucial given the possible desire of some terrorist groups to use WMD materials against the United States and our partners. DTRA is training and equipping Turkey's explosive ordnance disposal units along the Turkey-Syria border. DTRA also works collaboratively with partners in the region to prevent non-state actor acquisition of dangerous biological materials while also providing them with the tools to detect a potential bioterrorism attack.

7) **Reachback:** DTRA's cadre of chemical, biological, radiological, and nuclear experts continue to provide the coalition decision support products for kinetic and non-kinetic operational planning and post-event analysis, 24 hours a day, 7 days a week. During FY16, DTRA provided 522 technical products to USCENTCOM and OIR; further, we have provided over 60 Requests for Information products so far in FY17 that enabled the Warfighter to target ISIS facilities.

DTRA's future support shifts from building regional capacity to sustaining regional capacity through enduring partnerships; efforts to determine how provided capabilities enable and improve operational results; and, innovating new capabilities to counter ISIS WMD networks globally.

Chemical

In addition, our chemical weapons experts are working to improve the safety and security of toxic industrial chemicals in the Middle East and North Africa to make it more difficult for terrorist groups, such as ISIS, to use them as improvised weapons. We are also developing contingency plans to assist with the destruction of chemical weapons and related materials, both for legacy nation-state programs and for improvised terrorist programs, should a cooperative environment emerge. Our current government partners include the Edgewood Chemical and

Biological Center in Aberdeen, Maryland; the State Department Chemical Security Program; the Pacific Northwest National Laboratory; the Sandia National Laboratory; the Oak Ridge National Laboratory; and the Government of Jordan. We are working to expand these efforts to other partners in the Middle East and North Africa.

Biological

Our biological security experts are consolidating and improving the security of dangerous pathogen collections across the planet, collaborating closely with other like-minded nations to prevent nefarious transfer of biological materials. We are working cooperatively with partner countries and the international community to minimize the threat posed by deliberate, accidental, and natural infectious disease outbreaks of security concern that place at risk U.S. national security and potential intentional attacks involving weaponized pathogens, while developing new means for protecting our military personnel against biological terrorism or threats

As the 2014-2015 Ebola outbreak in West Africa demonstrated, outbreaks do not respect boundaries or borders, and pose a significant threat to the stability of countries and regions. The increased movement of people geographically means that devastating diseases, whether spread naturally, accidentally, or intentionally can be transmitted worldwide. DTRA addresses the outbreak risk of diseases of concern by promoting best practices in biological safety and security, improving partner countries' abilities to rapidly detect and report dangerous infections, and enhancing partnerships that facilitate information sharing.

Radiological/Nuclear

DTRA is involved with efforts to secure weapons-usable nuclear materials worldwide, understanding and predicting nuclear weapons effects, and ensuring the survivability of United States Nuclear Command, Control, and Communications.

DTRA provides nuclear enterprise support to the Department of Defense and Interagency stakeholders that helps to ensure the safety, security, reliability, and effectiveness of the U.S. nuclear deterrent force. Our nuclear experts are supporting sustainment of current and future

nuclear deterrent capabilities; implementation of nuclear enterprise review recommendations; and nuclear enterprise recapitalization efforts. We have systems in place to guarantee that we have complete control and accounting of our nuclear weapons at all times. In response to DoD's 2014 Nuclear Enterprise Review, DTRA's role was modified from conducting Nuclear Surety Inspections at each Air Force and Navy Nuclear Capable Unit to performing Oversight Inspections of all Air Force and Navy Nuclear Surety Inspection Teams.

We make sure the Navy and the Air Force's inspections provide tangible proof that every safety system is in place, maintained and in working order, and put the operations, maintenance, and security forces through drills and exercises to ensure that everyone knows their jobs; they know the proper procedures, and they know how to react when the situation changes. Our collective goal is to protect, control, and serve the nation with 100% assured predictability, reliability, and confidence in our nuclear weapons stewardship.

DTRA is also the home of the Defense Nuclear Weapons School. This illustrious school will celebrate its 70th anniversary in April 2017 and remains a center of excellence in training our next generation of CWMD experts. The school provides hands-on training on the DoD's only live radiological field training site and maintains the Nuclear Weapons Instructional Museum which allows for training related to all weapons that have been or are deployed in the U.S. nuclear stockpile. In fact, nearly 29,000 students attended classes or received distance learning instruction from the school in FY16 – including over 7,000 students attending in-resident, mobile training, and the Nuclear Weapons Instructional Museum. Students included domestic and international personnel – including U.S. Civil Support Teams and our allied partners.

DTRA also provides nuclear forensics and attribution capabilities. For example, DTRA developed the Discreet Oculus Prompt Diagnostics Sensor System as a research and development effort to create a ground-based prompt detection and diagnostics system. The system complements current global- and space-based prompt nuclear effects monitoring systems. It is designed to support the United States Government's efforts to develop timely and accurate technical nuclear forensics conclusions after a nuclear attack on the United States. Discreet Oculus systems are now deployed in three cities with the next deployment scheduled for 2018.

Maintenance of these systems will transition to the United States Air Force Technical Applications Center in 2018.

Information collected by this system after an attack will be used to help national and military leaders identify what was detonated, where the materials came from, and who launched or supported the attack.

High Yield Explosives

DTRA structural dynamics experts are working on solutions to protect military and related government facilities at risk while developing new means for mitigating blast effects resulting from a variety of explosive devices against structures and other infrastructure. Our products are also used internationally and have been critical to our partners' efforts in constructing facilities that require the highest levels of protection for personnel and equipment.

For example, DTRA developed the Vulnerability Assessment and Protection Option (VAPO). VAPO is a software modeling and simulation toolset designed to provide assessment capability in support of vulnerability assessment teams and force protection evaluators and planners. VAPO allows users to evaluate a single or multi-building site to assess its vulnerability to an array of threats, including high explosive, chemical, and biological weapons inside or outside of buildings, nuclear threats, and vehicle barrier ramming. Using physics-based models validated through testing, the tool predicts structural, window, equipment damage; progressive collapse; and human injury. VAPO is currently used by the DoD, USG entities, and international allies to protect structures and infrastructure around the world. DTRA signed an agreement earlier this month with the Department of Homeland Security to make VAPO available to State, Local, Tribal, and Territorial Government agencies.

CWMD Strategy

The Agency's focus is to keep WMD out of the hands of terrorists and other enemies by locking down dangerous materials, destroying legacy weapons, preparing for, and responding to WMD incidents, and developing technologies to prevent, defend against, and counter a WMD attack.

In line with the Department's 2014 Strategy for Countering Weapons of Mass Destruction, DTRA supports the full scope of DoD's efforts to prevent acquisition, contain and reduce threats, and respond to crises.

Prevent Acquisition

The most effective means to reduce WMD threats is at the source. It is common sense to go where the problem begins and attempt to counteract and eliminate these threats as far away from American soil as possible.

One of the core elements of DoD's efforts to prevent the acquisition of WMD was created by your former colleagues Senator Richard Lugar and Senator Sam Nunn. In fact, the Nunn-Lugar Cooperative Threat Reduction (CTR) Program celebrated its 25th anniversary in December 2016.

The evolution of Nunn-Lugar has been remarkable. The Program is responsible for destroying more than 7,000 Soviet-era warheads, 2,500 missiles, and 155 bombers and securing numerous nuclear sites. Following our success in eliminating access to materials in the former Soviet Union, however, the strategic environment has evolved as state and non-state actors seeking WMD have dispersed to other geographic areas and potential WMD sources. This evolution required a shift in our thinking as well and is the reason why we previously requested - and received - Congressional approval to expand Nunn-Lugar authority. Now, in close collaboration with our partners at the State Department and the National Nuclear Security Administration, CTR operates in over 30 countries across Africa, Asia, and the Middle East. The CTR Program's unique combination of technical expertise, strategic relationships, and agile

authorities ensure that the United States and our allies and partners have the tools necessary to counter the full scope of WMD threats facing the world today.

For example, DTRA is focused on helping African nations secure naturally-occurring dangerous pathogens. Deadly agents on the African continent, like Ebola virus, Marburg virus, and anthrax were once used to make biological weapons during the Cold War; these lethal pathogens are now safeguarded, cataloged, and, if needed, destroyed as part of CTR's Cooperative Biological Engagement Program. This program is reducing access to biological materials while expanding international partnerships to better counter natural and man-made biological events. These efforts advance the U.S. commitment under the Global Health Security Agenda to assist 31 countries and 1 region to prevent, detect, and respond to infectious disease threats. As the entire world learned during the 2015-2016 Ebola crises, containment and safeguarding of such dangerous pathogens that could quickly evolve into broad threats, is extremely critical for our Warfighters' and the world's safety.

DTRA, with primary focus on pathogens of security concern, works closely with the Departments of Health and Human Services, the Centers for Disease Control and the United States Department of Agriculture and others to maximize expertise and relationships within the global health community to improve early warning and detection capabilities and to mitigate pandemic disease threats. In close coordination with our research and development arm, we are also creating partnerships with industry for advanced development and manufacturing of medical countermeasures to counter emerging bio threats and infectious diseases. For example, we are leveraging the capabilities of DoD's Advanced Development and Manufacturing (ADM) facility in Alachua, Florida to develop pretreatments that protect the force against Botulinum neurotoxin (toxin threats).

Another critical nonproliferation function of DTRA is our work implementing arms control treaties and confidence building and transparency measures. Through various agreements, the United States seeks to control, safeguard, and eliminate existing weapons and to verify and monitor compliance with agreements intended to prevent the proliferation of nuclear, chemical, biological, and conventional weapons. As the focal point for U.S. treaty implementation,

DTRA's inspectors provide the Secretary of Defense and interagency partners with first-hand evidence that international commitments are fulfilled through the verifiable accounting for and reduction of the world's weapons stockpiles. DTRA inspectors and technicians provide critical subject matter expertise to interagency teams on the front lines of international negotiations and monitoring organizations. In addition to conducting inspections, DTRA researches and develops technologies to enhance the rapid detection and characterization of nuclear events worldwide, and upgrades and operates 31 international monitoring stations for nuclear events. We also provide support to COCOMs that receive foreign inspections and monitoring and provide valuable insights into mitigating techniques for sensitive U.S. facilities and activities.

Contain and Reduce Threats

If our programs and our efforts are unable to stop these WMD threats at the source before they proliferate, we help Combatant Commanders and military Service Components mitigate threats before they reach the U.S. homeland. Detection, interdiction, and if needed, destruction of these weapons and materials are the goal, thus disrupting the supply or smuggling routes and providing our national leadership with knowledge concerning important threat details. Working with our international partners, the Department's goal is to deter, dissuade, and deny those who both produce and attempt to gain access to these materials and drive them out of business.

For example, the Nunn-Lugar CTR Program's Proliferation Prevention Program, or PPP, enhances the capacity of partner countries to deter, detect, interdict, and respond to the attempted proliferation or smuggling of WMD. It provides specialized equipment, training, and facility upgrades for partner nation border security and law enforcement organizations. Training is institutionalized through a train-the-trainer approach and sustained with periodic local and regional WMD Integrated Exercises which enable participants to use program skills and equipment within a realistic training environment. The Proliferation Prevention Program's partners span the Caucuses, Eastern Europe, Central Asia, Southeast Asia, Northern Africa, and the Middle East.

DTRA also supports the Proliferation Security Initiative (PSI) Support Cell, and thus helps facilitate engagements focused on ensuring that PSI endorsers are prepared to uphold their commitment to the Statement of Interdiction Principles to prevent the proliferation of WMD and WMD-related material. There are now 105 PSI endorsees worldwide, and DTRA-facilitated engagements occurred in each AOR last year.

Because of DoD – and the broader U.S. Government's – success in interdicting and eliminating weapons at the source, in many cases we have literally driven the enemy underground. As a result, our national security leadership and military commanders need non-nuclear capability to strike at Hard and Deeply Buried Targets. DTRA works closely with the Defense Intelligence Agency to find these targets and provide Combatant Commanders and Service Components with effective CWMD contingency responses.

Respond to Crises

Our DTRA workforce performs countering weapons of mass destruction (CWMD) planning and exercise support and provides expertise to the Combatant Commands and other customers.

For example, DTRA leads, supports and participates in numerous joint exercise and training events throughout each calendar year, based on Joint Doctrine, Commanders' Objectives and mission requirements. The goal of these training events is to ensure the Military Services understand what would be needed in a WMD event and to prepare DTRA to successfully employ joint forces to conduct CWMD operations.

One of the largest of these exercises is the Nuclear Weapon Accident Incident Exercise (NUWAIX). This exercise is a Secretary of Defense directed, United States Northern Command executed and DTRA led field training exercise. This annual event exercises a whole of government response involving custodial nuclear weapons or materials. These efforts allow for the identification of gaps in nuclear weapons accident/incident response capabilities and means and methods to repair those vulnerabilities. NUWAIX involves as many as 1,000 people across

the country and includes participants throughout the interagency and state and local participation, when possible.

Overseas, DTRA's Chemical, Biological, Radiological, Nuclear, high-yield explosive (CBRNE) Preparedness Program (CP2) supports all the Combatant Commands by providing partner nations with skillsets to effectively respond to WMD incidents through increased tactical and operational capabilities. The goal of CP2 is to enhance regional and national CBRNE response planning and capabilities to minimize the impact of WMD events and to decrease reliance on U.S. response assets. CP2 currently uses Section 1204 of the FY14 NDAA and plans to use Section 333 of the FY17 NDAA, both provided by Congress, to train and equip both civil and military first responders within authorized countries to enhance their overall preparedness for CBRNE events.

DTRA Research and Development

Our CWMD research, development, test, and evaluation (RDT&E) program can trace its roots back to the Manhattan Project where we provided expertise in weapons effects – work that we still do today. DTRA does not own or operate any functional laboratory, but we are able to select from the full range of national expertise, wherever that may be. Our performers include the DoD laboratories and Department of Energy/National Nuclear Security Administration (DOE/NNSA) labs, contractors, Federally-Funded Research and Development Centers, University-Associated Research Centers, academia, and of course both large and small innovative companies. We provide and operate unique and essential test and evaluation capabilities at government facilities in New Mexico and Nevada to meet our own mission requirements, and those of our various customers and stakeholders.

DTRA RDT&E programs respond to the most pressing CWMD challenges including stand-off detection that seeks to identify CBRN materials from safe distances, tracking, and interdiction of WMD; modeling and simulation to support weapons effects and hazard predictions; classified support to Special Operations Forces; defeat of WMD agents and underground facilities; and protection of people, systems, and infrastructure against WMD effects.

DTRA RDT&E is unique – it is solely focused on CBRNE; tied closely with the Agency's Combat Support responsibilities; and is nimble and responsive to urgent needs. DTRA's test beds provide unmatched threat-representative target structures and threat-characteristic geologies. We support a number of Service, Joint Staff, and Combatant Command priorities, including development of the Large Caliber Penetrator; expanded tactics, techniques, and procedures for use of the Joint Programmable Fuse; and enhanced U.S. missile defeat capabilities.

DTRA has a comprehensive, balanced CBRNE Science and Technology portfolio that supports DoD goals and is well connected with DoD customers, the interagency, and our international partners. Our RDT&E approach balances the need for near-term pay-off with the need for long-term technology and capability development and investment. Our work is centered upon the following programs: Basic Research (6.1), Applied Research (6.2), Advanced Technology Development (6.3), and System Development and Demonstration (6.5).

These programs have resulted in significant capability transfer to the Warfighter. DTRA has transitioned nuclear detection and forensic capabilities to the Air Force Technical Applications Center and the Army's 20th CBRNE Command. All 57 National Guard Civil Support Teams are fielding the Mobile Field Kit, a hand-held device and application that integrates and coordinates the readings from multiple radiation sensors. Our National CWMD Technical Reachback Support Enterprise provides 24/7 CBRNE decision support capability for planning, operations, and post-event analysis to Combatant Commands, the Office of the Secretary of Defense, the Joint Staff, the Intelligence Community, and other USG agencies. We are developing capabilities for missile defeat, advanced analytics and discovery processes to predict the emergence of future threats, standards and technologies to protect critical systems from electromagnetic pulse, and models to predict the multidimensional effects of nuclear weapons use for the United States Strategic Command.

Authorities

None of the activities or capabilities above would be possible without the unique authorities and funding that Congress provides to DoD each year that allows us to respond to these challenges. When DoD and the Warfighter are presented with a WMD challenge, we carefully review the Department's various authorities and funding, in consultation with our interagency partners who collaborate us in this mission space, and approach problems on a regional, mission-focused basis. We have internally organized ourselves to promote multi-directional communication, rapid innovation, and quick turn decision-making to achieve success. DTRA's ability to rapidly respond to the nation's requirements remains at the fundamental core of the Agency's mission and directly enables accomplishment of real-time U.S. national security objectives.

Changes Impacting DTRA Mission Space

There have been a number of significant changes in the DTRA mission space since we last appeared before the Committee in February 2016.

A key focus of these changes is our power to innovate. I don't just mean this in the technical research and development sense, although that is a part of it; innovation is about new partners and relationships, new forums of collaboration, new ways of doing business and thinking outside of the box. For DTRA, we are well positioned to innovate in ways not previously considered.

Countering Improvised Threats

On October 1, 2016, the Joint Improvised Threat Defeat Organization (JIDO) transitioned under the authority, direction and control of DTRA, thus expanding DTRA's mission space to include countering improvised explosive devices (IEDs) and improvised threats. JIDO was previously known as the Joint Improvised Threat Defeat Agency, or JIDA. The improvised threat defeat mission disrupts the planning and operations of violent extremist organizations and enables our Warfighters to rapidly adapt to and overcome emerging threat tactics, techniques, and procedures. Employment of IEDs and improvised threats against deployed U.S. forces and our

partners presents significant tactical risk to operations and an increased strategic risk to the national goals of overseas conflicts. DTRA is now responsible for enabling DoD actions to counter improvised threats with tactical responsiveness in support of Combatant Commanders' effort to prepare for and to adapt to battlefield surprise.

Just two weeks ago, we briefed the professional staff members on the House and Senate Armed Services Committees on the progress of JIDO's transition under DTRA. The takeaway message shared in that briefing is that there are many opportunities for coordination, collaboration, and integration. Collectively, we provide training, exercise support, threat analysis, forensics, sensor development, defeat tools, testing and evaluation, and more. Further, the threat networks that use or facilitate the use of IEDs or other improvised threats also have an interest in using WMD – and vice versa.

Financial Improvement and Audit Readiness

DTRA continues to conduct financial improvement and audit readiness (FIAR) activities to demonstrate that we are faithful stewards of the taxpayers' dollars. We have successfully undertaken corrective actions to address issues raised by the FIAR. Specifically, we continue to tackle integration of the Joint Improvised Threat Defeat Organization into DTRA; the systemic Departmental challenges including Funds Balance with Treasury reconciliation; unsupported journal vouchers; and property reporting challenges. We will continue to aggressively correct any deficiencies and work with the Defense Finance and Accounting Service in preparation for examination.

Management Headquarters Activities

DTRA is in compliance with the Department-directed 25% reduction in costs associated with Management Headquarters Activities (MHA). This reduction will be fully achieved by FY 2020. The current MHA reduction includes 75 civilian full time equivalents (FTE). We anticipate that 51% of our FTE reductions will be achieved by the end of FY18.

Conclusion

In closing, I would like to thank the Committee for this opportunity to share some of our recent efforts and accomplishments. DTRA's workforce is incredibly capable and extremely proud of its contributions to making the world safer. There are a number of challenges on the horizon, but I am confident that we will find the right techniques and tools to address these threats. I hope that we will continue to maintain the Committee's trust and support in countering WMD and improvised threats and ensuring our security. Thank you, again, for the opportunity to be here today. I would be pleased to respond to your questions.

Shari Durand,
Acting Director

Shari Durand, a member of the senior executive service (SES), is the Acting Director of the Defense Threat Reduction Agency (DTRA) located on Fort Belvoir, Virginia. The DTRA mission is to safeguard the U.S. and its allies from weapons of mass destruction (WMD), specifically chemical, biological, radiological, nuclear, and high-yield explosive threats, and improvised threats by providing the means to prevent and counter the proliferation of WMD and improvised threats and to reduce, eliminate, and mitigate their effects. This includes helping ensure the U.S. maintains a safe, secure, effective and credible nuclear weapons deterrent. As the DoD Combat Support Agency for the Counter WMD and improvised threats mission, DTRA develops and provides operational support for associated capabilities to warfighters worldwide.

Prior to her current assignment, Ms. Durand was the Executive Director for DTRA, where she served as the senior career executive and oversaw day-to-day operations, strategic management, budgetary requirements, business planning and execution and communications for a worldwide combat support agency of more than 2,000 civilian and military personnel. Before becoming the Executive Director in 2012, she was DTRA's associate director, business enterprise and component acquisition executive (CAE) from August 2007 through May 2012, and established and implemented policy and procedures, ensured adherence with applicable laws and regulations and monitored compliance in the areas of acquisition; contracts; finance; logistics; engineering; facilities; and environmental, safety, and occupational health. As the CAE, Ms. Durand guided annual acquisition strategies for the entire acquisition portfolio valued at over $1 billion.

In November 2000, Ms. Durand was promoted to the SES as the assistant deputy commandant, installations and logistics (contracts), Headquarters, U.S. Marine Corps (HQMC), Washington, D.C. In June 2003, she was selected as DTRA's director, acquisition and logistics directorate and CAE. In October 2003, she was appointed deputy director, business directorate when the acquisition and logistics, resource management and information management directorates merged. In July 2005, the agency reorganized into a four-enterprise structure, and Ms. Durand was appointed deputy associate director, business enterprise/CAE. Additional career assignments include Naval Supply Center, Norfolk, Virginia; Naval Air Systems Command, Washington, D.C.; Navy Public Works Center, San Diego; Naval Facilities Contracts Training Center, Port Hueneme, California, and Naval Facilities Engineering Command, Washington, D.C.

Ms. Durand received a Bachelor of Arts in psychology from Athens State College in Alabama; a Master of Science in procurement management from American University, Washington, D.C.; graduated from the Naval Air Systems Command's senior executive management development program, and is a member of the Department of the Navy's acquisition professional community.

Ms. Durand's awards include a Presidential Rank Award in the meritorious category; a Secretary of the Navy Competition Award for her work as the contracting officer for the first low-rate initial production contract of the airborne self-protection jammer; a Department of the Navy meritorious civilian service award for her performance as the acquisition officer at Navy Public Works Center, San Diego; a superior civilian service award for her performance as assistant deputy commandant, installations and logistics (contracts), HQMC; a DTRA exceptional civilian service award, and a Secretary of Defense meritorious civilian service award.

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

MARCH 23, 2017

RESPONSE TO QUESTION SUBMITTED BY MS. STEFANIK

Ms. DURAND. The Middle East and North Africa (MENA) region continues to be volatile, with many destabilizing state and non-state actors posing threats across the chemical, biological, radiological, and nuclear spectrum. In this region, we are observing the use not only of traditional chemical warfare agents but also toxic industrial materials (TIMs) such as chlorine as chemical weapons. We also see the proliferation of radiological and nuclear materials and technologies that must be considered "high threat" due to their potential to cause WMD-like consequences. Most of these materials are in widespread use for legitimate medical, industrial, or commercial power purposes for domestic use and regional export. However, we have concerns when this material is not properly secured and/or accounted for at production or storage sites and in transit to end-use or disposition facilities. The DOD Cooperative Threat Reduction (CTR) Program will continue to work together with interagency and international partners to ensure that security gaps are identified and reduced, to share best practices, and to coordinate efforts to prevent material from falling into the hands of nefarious regional actors who could use it against the United States, U.S. forces abroad, or U.S. allies. Another concern is that malevolent non-state actors may try to proliferate WMD-associated materials or knowledge from Iraq, Syria or other ungoverned territories such as Libya to threaten our allies and partners in the region. To this end, we are working with our partners in Jordan, Lebanon and Tunisia to help them develop the capabilities to secure their borders and be able to interdict WMD-related materials on the move. Resourcing these urgent requirements has required us to reprioritize and reallocate CTR Program funds and manpower away from other emerging threats; however, we believe this is the correct decision. DTRA's Chemical, Biological, Radiological and Nuclear (CBRN) Preparedness Program (CP2), which supports Operation Inherent Resolve, must also balance and prioritize training and equipping partner nations for countering weapons of mass destruction (CWMD) operations within a variety of constraints. DTRA's work with the Combatant Commands through CP2 has successfully increased Turkey's interoperability with U.S. Forces to respond to CBRN incidents on and around Turkey's southeastern border and bolstered Iraq's ability to respond to chemical threats posed by ISIS. It is only through constant vigilance with the Combatant Commanders, Embassy Country Teams and partner nations that DTRA assists a partner nation to develop their WMD preparedness and incident-response capability for the next threat, rather than reacting to the current WMD threat. Our concern in the long-term is ensuring that the partner nation can sustain DTRA's CWMD security cooperation train and equip efforts under the new authority provided in Section 333 of the FY17 NDAA. [See page 21.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. WILSON

Dr. HOPKINS. The Secretary of the Army, on behalf of the Secretary of Defense, will soon submit the requested 2017 NDAA report to the congressional committees on April 10, 2017. The report will address an assessment conducted between August and December 2015 to determine the optimal distribution of research, development, and production activities at the laboratories supporting the Chemical and Biological Defense Program (CBDP). The initial corrective action was to consolidate the oversight responsibilities that had been spread amongst numerous distinct chains of command. The Deputy Secretary of Defense designated the Secretary of the Army as the Executive Agent for the DOD-wide Biological Select Agents and Toxins (BSAT) Biosafety Program on July 23, 2015. The Secretary of the Army delegated authority to the Surgeon General of the Army as the Executive Agent Responsible Official (EARO) for the DOD BSAT Biosafety Program to consolidate oversight across the Department. To optimize the utilization of subject matter expertise, the Secretary of the Army approved further delegation of authority to the Commanding General, U.S. Army Medical Research and Materiel Command (USAMRMC). The Commanding General, USAMRMC, created the BSAT Biosafety Program Office (BBPO) to advise on biosafety, provide oversight of DOD BSAT laboratory operations, and serve as a unified DOD interface with regulatory agencies. To consoli-

date the Department's biosafety and biosecurity oversight responsibilities, the Deputy Secretary of Defense also designated the Secretary of the Army as the Executive Agent for the DOD BSAT Biosecurity Program on January 3, 2017. This facilitates the synchronization and unity of effort for both biosafety and biosecurity issues. Another corrective action that has already taken place is the realignment of oversight of the Dugway Proving Ground (DPG) Life Sciences Division (the source of the incompletely inactivated anthrax spore shipments) to the U.S. Army Edgewood Chemical Biological Center at Aberdeen Proving Ground, Maryland. The EARO is responsible for tracking the remaining biosafety recommendations and is available to provide more detailed information in this area. The CBDP is also conducting an infrastructure assessment that will support the analysis of options to reduce the number of labs that handle select agents and/or reduce costs. [See page 16.]

Mr. VERGA. The Secretary of the Army, on behalf of the Secretary of Defense, submitted the requested National Defense Authorization Act (NDAA) for Fiscal Year 2017 report to the congressional committees on April 10, 2017. The report addresses an assessment conducted between August and December 2015 to determine the optimal distribution of research, development, and production activities at the laboratories supporting the Chemical and Biological Defense Program (CBDP). The initial corrective action was to consolidate the oversight responsibilities that were previously spread among numerous distinct chains of command. The Deputy Secretary of Defense designated the Secretary of the Army as the Executive Agent for the DOD-wide Biological Select Agents and Toxins (BSAT) Biosafety Program on July 23, 2015. The Secretary of the Army designated the Surgeon General of the Army as the Executive Agent Responsible Official (EARO) for the DOD BSAT Biosafety Program to consolidate oversight across DOD. To optimize the utilization of subject matter expertise, the Secretary of the Army approved further delegation of authority to the Commanding General, U.S. Army Medical Research and Materiel Command (USAMRMC). The Commanding General, USAMRMC, created the BSAT Biosafety Program Office (BBPO) to advise on biosafety, provide oversight of DOD BSAT laboratory operations, and serve as a unified DOD interface with regulatory agencies. To consolidate DOD's biosafety and biosecurity oversight responsibilities, the Deputy Secretary of Defense also designated the Secretary of the Army as the Executive Agent for the DOD BSAT Biosecurity Program on January 3, 2017. This facilitates the synchronization and unity of effort for both biosafety and biosecurity issues. Another corrective action that has already taken place is the realignment of the Life Sciences Division that was the source of the incompletely inactivated anthrax spore shipments from Dugway Proving Ground (DPG), Utah, to the U.S. Army Edgewood Chemical Biological Center at Aberdeen Proving Ground, Maryland. The EARO is responsible for tracking the remaining biosafety recommendations and is available to provide more detailed information in this area. The CBDP is conducting an infrastructure assessment that will support the analysis of options to reduce the number of laboratories that handle select agents and to reduce costs. [See page 16.]

RESPONSE TO QUESTION SUBMITTED BY MS. GABBARD

Ms. DURAND. Weaponization of botulinum neurotoxin (BoNT) requires a high degree of sophistication, time, and expense. Work on a vaccine against BoNT A/B is nearing completion and full Food and Drug Administration (FDA) licensure of a DOD developed vaccine is planned for FY23. The DOD is also utilizing its Advanced Manufacturing Facility in Achalucha, Florida, to develop antibody drugs against BoNT A/B. The first product being developed on this platform is against BoNT A/B. [See page 13.]

RESPONSE TO QUESTION SUBMITTED BY MR. SCOTT

Mr. VERGA. A decision on whether and how to engage with a country that shares some of our interests, but not our values, would be made on a case-by-case basis, and would take into consideration the national security interests of the United States, the particular circumstances of the information and country in question, and applicable laws and regulations regarding information sharing with the particular foreign government.

Regarding the Russian Federation, the Department will continue to urge Russian adherence to its obligations (such as under the Minsk Agreement and arms control treaties) and related global norms that uphold international peace and security. However, both as a matter of policy and pursuant to the National Defense Authorization Act for Fiscal Year 2017, bilateral military-to-military cooperation with the Russian Federation Ministry of Defense remains prohibited. Interactions with the

Russian military are currently limited to those communications needed to de-conflict operations and ensure the safety of our forces in close proximity, as in Syria, to ensure compliance under international agreements, and activities required to support our efforts in Afghanistan. [See page 20.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 23, 2017

QUESTIONS SUBMITTED BY MS. STEFANIK

Ms. STEFANIK. Near-peer adversaries such as North Korea and Iran are building super-hard and deeply buried facilities to conceal weapons development and other activities.

Could you describe the requirements that are currently articulated for detecting, characterizing and neutralizing such sites?

Do you have any specific or unique requirements from any of the combatant commands?

Would you consider the existing government-owned test sites at Fort Hood, White Sands, and other locations sufficient to conduct the kinds of research and development being planned to counter these developments?

Are there any additional capability needs to test and demonstrate new technologies and methods to locate, assess, and characterize super-hard and deeply buried facilities that are not captured by any existing requirements?

Ms. DURAND. Thank you for that question Congresswoman Stefanik. While warfighter and Combatant Commander requirements cannot be described in this open forum, I will address your question the best I can at an unclassified level. The Test Resource Management Center (TRMC) FY 2016–2026 Strategic Plan for DOD T&E Resources describes current and anticipated test facility requirements. DTRA research and development test and evaluation (T&E) capability needs evolve as intelligence assessments and combatant commander plans change. Existing requirements documents capture the hardened and deeply buried target T&E needs that we are aware of today. More details on the challenges associated with hardened and deeply buried targets may be found in the classified 2013–2014 Report to Congress on Weapons and Capabilities to Defeat Hardened and Deeply Buried Targets dated April 2015 and submitted jointly by the Secretary of Defense, the Secretary of Energy, and the Director of National Intelligence. This classified report was transmitted to the Congressional Armed Services, Intelligence and Appropriations Committees in letters dated 4 May 2015, and signed by the then Under Secretary for Acquisition, Technology, and Logistics, Frank Kendall.

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. Among the provisions in the new administration's budget framework are reforms to key public health, emergency preparedness, and prevention programs. Changes would include the creation of a Federal Emergency Respond Fund for rapid response to health outbreaks, and a CDC block grant to address state-specific challenges. How do the proposals in the budget framework fit into the bio defense strategy mandated by the Fiscal Year 2017 NDAA and being developed by the interagency? In what ways will the proposed increase of our nation's emergency response funds enhance agency collaboration?

Dr. HOPKINS. As we've seen with H1N1, MERS CoV, Ebola, and now Zika, swift and efficient response to biological threats is the best way to mitigate the impact of the event. As DOD will always be in support of civilian response to biological incidents when requested, we defer to DHS and HHS on assessing how coordination might be enhanced by the creation of Federal Emergency Respond Fund for rapid response to health outbreaks. However, the creation of such a fund would likely facilitate provision of DOD support during a response to a biological incident.

Mr. LANGEVIN. The 2014 Department of Defense CWMD Strategy identifies a foundational activity and task as maintaining and expanding technical expertise. What investments and programs is the Department undertaking to maintain and expand technical expertise for a robust workforce? Do efforts include investment in STEM programs for a future workforce?

Mr. VERGA. DOD recognizes that being on the cutting-edge of science and technology in any discipline requires an adaptive technical workforce that has access to the best equipment and facilities. DOD has significant investments in these areas relevant to technology. DOD routinely makes targeted investments in areas of emerging technology of future relevance to Defense innovation. For example, DOD recently committed $45 million in funding to build and strengthen its laboratory

workforce and equipment to perform Synthetic Biology for Military Environments in a manner that builds a multi-service DOD community of researchers that collaborate on meeting defense objectives.

Mr. LANGEVIN. Among the provisions in the new administration's budget framework are reforms to key public health, emergency preparedness, and prevention programs. Changes would include the creation of a Federal Emergency Respond Fund for rapid response to health outbreaks, and a CDC block grant to address state-specific challenges. How do the proposals in the budget framework fit into the bio defense strategy mandated by the Fiscal Year 2017 NDAA and being developed by the interagency? In what ways will the proposed increase of our nation's emergency response funds enhance agency collaboration?

Mr. VERGA. As we've seen with H1N1, MERS CoV, Ebola, and now Zika, a swift and efficient response to biological threats is the best way to mitigate the impact of the event. As DOD will always be in support of domestic response to biological incidents, we defer to the Department of Homeland Security and the Department of Health and Human Services on assessing how coordination might be enhanced by the creation of a Federal Emergency Respond Fund for rapid response to health outbreaks. However, the creation of such a fund would likely facilitate provision of DOD Defense Support of Civil Authorities during a response to a biological incident.

QUESTIONS SUBMITTED BY MR. SHUSTER

Mr. SHUSTER. What is the Defense Threat Reduction Agency doing to leverage existing information management systems, such as the NGB's Civil Support Team (CST) Information Management System (CIMS), to ensure such prior investments are efficiently used by follow-on forces like the NGB's Chemical, Biological, Radiological, Nuclear, and High explosive Enhanced Response Force Package (CERFP) and Homeland Defense Response Force (HRF)?

Dr. HOPKINS. The Defense Threat Reduction Agency (DTRA) is currently working with the National Guard Bureau (NGB) to field the tools (Mobile Field Kit—CBRN and Tactical Assault Kit) that currently comprise the Chemical Biological Radiological & Nuclear Information Management System (CIMS 2018) to all 57 Civil Support Teams. We recently began a new pilot program with NGB to explore how this technology would be applicable to the CERFPs & HRFs. To date, this has included providing initial training and conducting exercises with the Massachusetts CBRN Task Force & Homeland Response Force. These exercises have enabled DTRA to work with NGB to determine requirements for, and begin developing, additional capability required of CIMS 2018 to be applicable to these forces. In addition to working with NGB, DTRA is currently working with others to leverage existing capabilities to ensure CIMS 2018 data can inform and receive data from other decision makers as necessary. An example of this work recently occurred during the 2017 Presidential Address to the Joint Session of Congress when Mobile Field Kit—CBRN (MFK–CBRN) was used to pass information from the 33rd CST to the Situation Awareness Geospatial Enterprise (SAGE), NORTHCOM's situational awareness platform and to the DTRA Joint Operations Center.

Mr. SHUSTER. Do you have a timeline and investment plan for the deployment of NGB's Civil Support Team (CST) Information Management System (CIMS) to follow-on forces?

Dr. HOPKINS. Congressman, I respectfully suggest this question should be referred to the National Guard Bureau.

Mr. SHUSTER. What is the Defense Threat Reduction Agency doing to leverage existing information management systems, such as the NGB's Civil Support Team (CST) Information Management System (CIMS), to ensure such prior investments are efficiently used by follow-on forces like the NGB's Chemical, Biological, Radiological, Nuclear, and High explosive Enhanced Response Force Package (CERFP) and Homeland Defense Response Force (HRF)?

Mr. VERGA. The National Guard Bureau (NGB) continues to work with the Defense Threat Reduction Agency on leveraging, to the maximum extent possible, available capabilities of the current NGB Civil Support Team (CST) Information Management System (CIMS) for the National Guard (NG) CIMS. NG CIMS package fielding to weapons of mass destruction (WMD)–CSTs, CERFPs, and HRFs is projected to begin in late Fiscal Year (FY) 2018.

Mr. SHUSTER. Do you have a timeline and investment plan for the deployment of NGB's Civil Support Team (CST) Information Management System (CIMS) to follow-on forces?

Mr. VERGA. The National Guard Bureau (NGB) is currently conducting implementation activities for the National Guard (NG) Chemical, Biological, Radiological, and

Nuclear (CBRN) Response Enterprise (CRE) Information Management System (NG CIMS) Phase I capabilities (initial common operating picture and sensor integration capability). Phase I pilot testing includes multiple weapons of mass destruction (WMD)-CSTs and the Massachusetts Homeland Response Force and runs through the end of FY 2017. The NGB is currently conducting planning activities for Phase II (information management tools) and Phase III (enterprise and interagency systems interoperability) capabilities. NG CIMS fielding to WMD–CSTs, CERFPs, and HRFs is projected to begin in late FY 2018. Adequate funding is programmed to support NG CIMS through Phase II, Phase III, and unit fielding.

Mr. SHUSTER. What is the Defense Threat Reduction Agency doing to leverage existing information management systems, such as the NGB's Civil Support Team (CST) Information Management System (CIMS), to ensure such prior investments are efficiently used by follow-on forces like the NGB's Chemical, Biological, Radiological, Nuclear, and High explosive Enhanced Response Force Package (CERFP) and Homeland Defense Response Force (HRF)?

Ms. DURAND. The Defense Threat Reduction Agency (DTRA) is currently working with the National Guard Bureau (NGB) to field the tools (Mobile Field Kit—CBRN and Tactical Assault Kit) that currently comprise the Chemical Biological Radiological & Nuclear Information Management System (CIMS 2018) to all 57 Civil Support Teams. We recently began a new pilot program with NGB to explore how this technology would be applicable to the CERFPs & HRFs. To date, this has included providing initial training and conducting exercises with the Massachusetts CBRN Task Force & Homeland Response Force. These exercises have enabled DTRA to work with NGB to determine requirements for, and begin developing additional capability required of, CIMS 2018 to be applicable to these forces. In addition to working with NGB, DTRA is currently working with others to leverage existing capabilities to ensure CIMS 2018 data can inform and receive data from other decision makers as necessary. An example of this work recently occurred during the 2017 Presidential Address to the Joint Session of Congress when Mobile Field Kit—CBRN (MFK–CBRN) was used to pass information from the 33rd CST to the Situation Awareness Geospatial Enterprise (SAGE), NORTHCOM's situational awareness platform and to the DTRA Joint Operations Center.

Mr. SHUSTER. Do you have a timeline and investment plan for the deployment of NGB's Civil Support Team (CST) Information Management System (CIMS) to follow-on forces?

Ms. DURAND. Congressman, I respectfully suggest this question should be referred to the National Guard Bureau.

QUESTIONS SUBMITTED BY MR. FRANKS

Mr. FRANKS. How can the DOD defend against EMP detonations over international waters (beyond 24 miles)?

How does DOD/DTRA and other DOD units propose to defend the Nation from high-altitude EMP attacks initiated over international waters near (e.g. within 500 miles) of U.S. coasts?

Dr. HOPKINS. Congressman, this question should be directed to U.S. Northern Command for defense against incoming missile or airborne threats.

Mr. FRANKS. How would DOD/DTRA and other DOD units defend against a slow-moving weather balloon containing a nuclear device launched 50 miles from the United States coast at night? How would it be detected and destroyed without triggering an EMP detonation? Would the detection/destruction method work if the device was launched opportunistically inside the eye of a hurricane?

Dr. HOPKINS. Congressman, this question should be directed to U.S. Northern Command for defense against incoming missile or airborne threats.

Mr. FRANKS. What is DOD policy on the extent to which all DOD offensive, defensive, and logistic support equipment and facilities are to be mitigated against EMP, and for facilities to have on-site EMP mitigated reliable long-term power?

Dr. HOPKINS. Per Department of Defense Instruction 3150.09, it is DOD policy that the force will be equipped to survive and operate in nuclear environments, including electromagnetic pulse (EMP), as a deterrent to adversary use of weapons of mass destruction against the United States, its allies, and its interests consistent with the DOD Strategy for Countering Weapons of Mass Destruction. The ability of the force to operate in these environments must be known and assessed on a regular basis, and mission critical systems that must survive and operate in nuclear environments will be specified. Mission critical facilities with EMP-survivability requirements will be equipped to survive and operate in EMP environments, including their necessary power supplies.

Mr. FRANKS. How can the DOD defend against EMP detonations over international waters (beyond 24 miles)?

How does DOD/DTRA and other DOD units propose to defend the Nation from high-altitude EMP attacks initiated over international waters near (e.g. within 500 miles) of U.S. coasts?

Mr. VERGA. The United States is currently protected from high-altitude electromagnetic pulse detonations by the Ground-based Midcourse Defense system. Due to the classification levels associated with this threat, the Department can make the appropriate personnel available to provide a briefing on this specific threat scenario to Congressman Franks should it be requested through Legislative Affairs.

Mr. FRANKS. How would DOD/DTRA and other DOD units defend against a slow-moving weather balloon containing a nuclear device launched 50 miles from the United States coast at night? How would it be detected and destroyed without triggering an EMP detonation? Would the detection/destruction method work if the device was launched opportunistically inside the eye of a hurricane?

Mr. VERGA. Military forces and posture to defend the United States from attack are employed under U.S. Northern Command (USNORTHCOM) and U.S. Pacific Command (USPACOM). Due to the classification levels associated with this threat, the Department can make the appropriate personnel available to provide a briefing on this specific threat scenario to Congressman Franks should it be requested through Legislative Affairs.

Mr. FRANKS. What is DOD policy on the extent to which all DOD offensive, defensive, and logistic support equipment and facilities are to be mitigated against EMP, and for facilities to have on-site EMP mitigated reliable long-term power?

Mr. VERGA. DOD remains fully committed to ensuring the ability of defense critical assets to execute essential DOD missions in any environment. The Department recognizes the unique challenges posed by electromagnetic pulses (EMPs) and the impact that EMPs can have on critical systems and capabilities. The Department addresses the vulnerability of and mitigation for EMP through several mechanisms, and works collaboratively across the Department and with other Federal departments and agencies, such as the Department of Energy, so that risk can be appropriately managed to ensure the Department's ability to execute critical missions in all threat environments.

Mr. FRANKS. What are the major outcomes to date of the Defense Threat Reduction Agency (DTRA) EMP mitigation project responsive to RFP DTRA152–006?

What are the major outcomes and findings of the DTRA pilot projects under contract responsive to the RFP DTRA152–006 to make Defense Critical Infrastructure (DCI) mitigated against electromagnetic pulse (EMP) threats, including extreme solar storms causing geomagnetic disturbances (GMD)?

Ms. DURAND. Work on High Altitude Electromagnetic Pulse (EMP) research on the effects on DOD facilities and systems has been performed for over 30 years. This research has resulted in the publication of HEMP environmental and protection military standards and handbooks for the ground facilities and systems, military aircraft, military surface ships. We have a long history of both HEMP phenomenology, testing and effects on systems as well as critical facilities. This has led to research and development of technologies that protect our most critical facilities and systems against HEMP. Recently, attention has been focused on HEMP and its effects on Defense Critical Infrastructure. This emerging research area is looking at the effects of HEMP and the loss of power on critical defense installations in the performance of their missions. The national power grid survivability and performance is the responsibility of the Departments of Energy and Homeland Security. DTRA has recognized the need to perform R&D on the technologies and methodologies required for critical military installations to seamlessly "island" off the power grid in the event of a national disaster, including HEMP, in order to sustain mission operational capabilities. Consequently, DTRA initiated three SBIRs to explore the current state of related technologies and methodologies. The R&D of the SBIR efforts will be focused on the new technologies, renewable power sources and state-of-the-art switching capabilities to island off the grid and seamlessly reconnect to the grid. Cost efficiency in successful islanding concepts is a priority of the research. We expect our vast experience in HEMP hardening of complex military systems and facilities can be leveraged in this new research area to be more cost-effective. The SBIR Phase II efforts will focus on taking the concept from idea to prototype and working with more realistic scenarios such as designing an optimization model for a specific site based on their load requirements, available resources, and incorporation of renewable energy. Phase II efforts may also include designing and testing EMP hardened prototype components. As of February 2017, one Phase II has been awarded and the others are being evaluated. At this time there are no major out-

comes or findings to report. We expect to have the Final Reports finished by approximately Dec 2019.

Mr. FRANKS. What was learned to date regarding the DTRA152–006 projects concerning costs for mitigating DCIs against: a. Direct EMP damage? b. For on-site electrical power what are the costs and/or energy savings regarding having energy generated on-site? c. Is it worthwhile for NDAA legislation to require such EMP mitigation and on-site power generation at other DCIs?

Ms. DURAND. The DTRA152–0006 proposals are not yet awarded. The process of evaluating contractor proposals is on-going. Contract awards are expected by Oct 2017. We do not feel that it is necessary that the NDAA require such EMP mitigation or on-site power generation at other DCIs.

Mr. FRANKS. Will DTRA publish an unclassified DTRA152–006 report with a classified appendix as appropriate? Is it worthwhile for the NDAA 2018 to require this?

Will DTRA publish an unclassified report for the House Armed Services Committee that describes in detail the outcomes and findings to date of the DTRA 152–006 pilot projects—and include as a separate appendix any classified material? [Such as within two months so the Department of Homeland Security (DHS) can use the information while preparing its strategy for protecting the Homeland from EMP/GMD (as required by 6 U.S.C.) Such unclassified report will be helpful for other projects with similar goals to protect other infrastructure.]

Ms. DURAND. DTRA will publish an unclassified report containing the detailed outcomes and findings upon conclusion of the Phase II SBIR contract efforts in response to RFP DTRA152–006. If applicable, a classified separate classified annex will be submitted. We do not feel it necessary that the NDAA 2018 require this specifically. The Phase II SBIRs are two-year R&D efforts. We expect to have the Final Report finished approximately Dec 2019.

Mr. FRANKS. What are DTRA plans to support EMP mitigated DOD telecommunications between DCIs and central NORTHCOM command? What are DTRA plans to support EMP mitigated DOD telecommunications between DCIs in event of nationwide EMP, including supporting signal regeneration/repeater stations across the Nation (every 40 to 50 miles) that boost decreasing signal strength using electric power that may likely be disabled?

Ms. DURAND. Congressman, this question should be directed to U.S. Northern Command for defense against incoming missile or airborne threats.

Mr. FRANKS. To enable logistic support to DCIs from civilian infrastructures, what challenges must be overcome for civilian signal regeneration stations every 40 to 50 miles nationwide to have on-site EMP mitigated long-term/renewable power to enable these stations to pass telecommunications signals to and from DCIs to such civilian infrastructure?

How does DTRA intend to ensure DOD domestic communications between DCIs can travel distances if the commercial regeneration/repeater stations nationwide are disabled either due to: a. The direct effects of an EMP destroying the electronic systems of such regeneration stations? b. The loss of electric power from commercial sources?

Would NDAA 2018 legislation requiring certain rulemaking by the Federal Communications Commission regarding civilian regeneration stations be helpful regarding logistic support asked about in the questions above?

Since DCIs receive logistic support in terms of food, fuel for vehicles and air transport, equipment supplies from across the Nation, how does DTRA envision this need being met as far as the suppliers of these logistic needs having the electrical power and telecommunications to facilitate meeting these needs?

Ms. DURAND. Congressman, the Department of Homeland Security is the most appropriate organization to address this question.

Mr. FRANKS. What civilian telecommunications support might the NDAA 2018 require to help ensure civilian infrastructure providing logistic support to DCIs have needed telecommunications?

Ms. DURAND. Congressman, the Department of Homeland Security is the most appropriate organization to address this question.

Mr. FRANKS. Should NDAA 2018 require expanding the entities served by the First Responder Network Authority (FirstNet) to include as deserving of priority access DCIs, other national security and homeland security personnel and personnel providing critical logistic support to DCIs, explicitly require FirstNet homeland security, national security, and civilian sites providing logistic support to them to be adequately mitigated against EMP—and require any FirstNet contracts not doing so to be re-negotiated or cancelled and replaced by contracts providing such support?

FirstNet has defied and ignored its Congressional mandate and defied its requirement that it adequately "address special considerations for areas or regions with

unique homeland security or national security needs.address special considerations" [47 U.S.C. 1426(b)(2)(D)]

In order to increase the likelihood that civilian logistic support will be available to DTRA DCIs in the event of a nationwide EMP, should NDAA 2018 require FirstNet's National Public Safety Broadband Network (NPSBN) to meet its mandate, including mitigation against EMP?

In the NDAA for 2017, PL 114–328, Sec. 1913(a)(2) it established 6 U.S.C. 121(d)(26)(A)(i) which states, that DHS is to provide 6 months after December 23, 2016, "a recommended strategy to protect and prepare the critical infrastructure of the homeland against threats of EMP and GMD."

Does this recent legislation justify the NDAA requiring FirstNet to explicitly ensure the security and resiliency of the NPSBN against EMP?

Does DTRA see it within its scope to coordinate with FirstNet to identify the feasibility, installation impacts, maintenance, training, and associated costs to implement the issues above?

Ms. DURAND. Congressman, the Department of Homeland Security is the most appropriate organization to address this question.

Mr. FRANKS. Would it be helpful that federally owned electric power generation, transmission, and distribution assets be required by NDAA 2018 legislation to make their assets EMP mitigated so that civilian supporting infrastructure in such areas can better support DCIs?

Ms. DURAND. Congressman, the Department of Homeland Security is the most appropriate organization to address this question.

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