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Statement of

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INTRODUCTION

Chairman Langevin, Ranking Member Stefanik, and distinguished members of the Subcommittee, I am honored by your invitation to represent the men and women of the Department of Defense (DoD) who work to reduce the threats to our forces and populace posed by weapons of mass destruction (WMD) and to testify on their efforts to counter these threats.

Three offices subordinate to the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (NCB) are responsible for ensuring DoD maintains the readiness and resilience to counter WMD. The Office of Nuclear Matters (NM) advises the Under Secretary of Defense for Acquisition and Sustainment and the Secretary of Defense on nuclear weapons and forensics as well as defense-related aspects of nuclear energy. The Office of Chemical and Biological Defense (CBD) oversees the research, developments, and acquisition of all of the equipment necessary to protect our warfighters from chemical and biological weapons. The Office of Threat Reduction and Arms Control (TRAC) ensures effective implementation of the U.S. Chemical Weapons Demilitarization and Cooperative Threat Reduction Programs, U.S. compliance with certain arms control treaties, and readiness for a variety of countering WMD missions. And, although a separate Defense Agency, the Defense Threat Reduction Agency (DTRA) works with and through my office to ensure DoD's investments align with the National Defense Strategy's three lines of effort to increase lethality, strengthen alliances, and execute business reform, as well as the DoD's Countering Weapons of Mass Destruction (CWMD) strategy to prevent WMD acquisition, contain and reduce threats, and respond to crises. I am responsible for enabling and synthesizing the work of these offices and serving as a DoD representative, advisor, and technical expert in interagency and international CWMD engagements to ensure activities are aligned across the U.S. Government and beneficial to the United States and its allies and partners.

THREAT ENVIRONMENT

The globalization, permutation, and accelerated development of science and technology underpinning WMD represent new challenges and hazards in our changing environment. Russia and China are modernizing and expanding their nuclear forces, and rogue regimes such as North Korea threatens the world through its pursuit of weapons of mass destruction and long-range missile capabilities. Iran is a destabilizing regional presence through its pursuit of nuclear capabilities and sponsorship of terrorism. Others are actively researching novel forms of chemicals that have been or could be weaponized as well as advances in biology and genetic engineering. A handful of countries have recently used chemical weapons against their adversaries or citizens. The attempted assassination of Sergei and Yulia Skripal with a Novichok agent in Salisbury, UK, and the assassination of Kim Jong Nam with VX, remind us that the nature of these threats is both changing and growing. Non- State actors have developed and used crude chemical weapons and continue to refine their recipes, means of delivery, and tactics. These truths suggest a persistent and growing mindset that access to WMD provides tactical, operational, and strategic advantages.

In addition to a return to great power competition, we are also faced with non-traditional, asymmetric, and sophisticated threats. Anticipating and overcoming these

increasingly complex threats require renewed focus, innovative thinking, and clear priorities. I have directed the offices responsible for modernization of our nuclear warheads and delivery systems, chemical and biological defense, and threat reduction and arms control to increase focus on these new threats.

We must also change how we think about strategic deterrence. In addition to modernizing our nuclear deterrent and defensive capabilities, we must more effectively leverage all the instruments of national power to deter State and non-State actors from pursuing or developing chemical, biological, radiological, and nuclear capabilities. The United States must engage the global community to improve WMD deterrence. Failure to do so risks accepting an environment in which WMD use is broadly viewed as an acceptable form of warfare.

IMPLEMENTATION OF THE NATIONAL DEFENSE STRATEGY

The National Defense Strategy outlines three key lines of effort, namely enhancing lethality, strengthening alliances and partnerships, and reforming business practices. The Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (OASD(NCB)) as part of the DoD CWMD Enterprise is fully committed to executing initiatives in each of the three lines of effort outlined in the Strategy, with a focus on the priority defense objective to dissuade, prevent, and deter State and non-State adversaries from acquiring, proliferating, or using WMD. The modernization of our nuclear deterrent to ensure we maintain a capability that is flexible, adaptive, and credible is the single most important element in deterring our adversaries and reassuring our allies and partners. It serves as a foundational capability that enables all other efforts, including CWMD activities.

We are working to counter the proliferation and use of WMD through investing in capabilities to detect and attribute the proliferation or use of nuclear weapons, by modernizing our capabilities to address the threats posed by fourth-generation agents such as Novichoks, pharmaceutical-based agents like fentanyls, and new biological threats resulting from the ongoing revolution in biotechnology. These initiatives serve to enhance our operational capabilities by providing the President and his national security team with options and providing warfighters with the tools they need to counter the use of WMDs and to remain effective on the battlefield. We are also implementing innovative business practices to accelerate destruction of the U.S. chemical weapons stockpile. The sooner we complete destruction, the sooner we can divert these fiscal resources to further enhancing lethality; complete destruction will also strengthen our alliances and partnerships by demonstrating commitment to our treaty obligations.

ENHANCING LETHALITY (Line of Effort 1)

WMD are considered a separate class of weapons because of their especially destructive power and ability to overwhelm the adversary's ability to respond. If the UK's experience in Salisbury shows us anything, it's that a few grams of Novichok intended for a singular human target can sow terror, cause collateral illness and death, and result in remediation activities costing millions of dollars. And, although breakthroughs in previously disparate branches of science and technology – including chemistry and biology, artificial intelligence, computer science, and nano-

engineering – enable the development of new countermeasures, they also present new threats by enabling the development of new weapons. We must ensure the effectiveness and credibility of our own nuclear forces through our nuclear modernization and sustainment programs and counter adversary WMD capabilities through research, detection, improved defenses, and mitigation measures.

The mix of science-based threats – ranging from chemical, biological, and nuclear to space and cyber – necessitates a flexible, adaptable, and resilient defense. Our approach to addressing this threat space is multidimensional. We are leveraging and improving our deterrence, as well as offensive, protective, response mitigation, and predictive capabilities. We are committed to ensuring our nuclear deterrent is safe, secure, effective, and survivable. And we are working to ensure our Warfighters are prepared to counter WMD threats, and we are improving resilience and defensive capability so our forces can fight and win in any environment.

Ensuring a safe, reliable, and effective nuclear deterrent

Consistent with the National Defense Strategy, modernization of our nuclear force continues to be the DoD's highest priority. The modernization of our existing nuclear force, which predates the dramatic deterioration of our strategic environment, and the expansion of nuclear options now, to include low-yield options, is important for the preservation of credible deterrence against regional aggression. The modernization of our aging nuclear force, designed to meet the demands of our U.S. strategy, has necessitated increased investment in DoD and the National Nuclear Security Administration (NNSA) nuclear programs. We must continue these if we are to maintain a flexible, resilient, and credible deterrent. A strong nuclear posture is critical to preventing the use and proliferation of WMD. Our nuclear deterrent underwrites every U.S. military operation around the world and is the foundation and backstop of our national defense. Our extended nuclear deterrent commitments to allies and partners in Europe and the Asia-Pacific region reaffirm our mutual interests and shared views on regional threats. More so, our extended deterrence commitments have reduced the proliferation of nuclear weapons by minimizing the incentives for allies and partners to develop their own. Effective deterrence is the foundation for effective assurance, and our allies and partners under the U.S. nuclear umbrella, as well as our adversaries must not doubt our extended deterrence commitments, nor our ability and willingness to fulfill them. Further, our nuclear deterrent facilitates our diplomatic efforts and helps ensure conflicts with potential adversaries do not escalate to large-scale war.

Nuclear Physical Security

Critically important to nuclear weapons is the ability to secure them. The Office of Nuclear Matters' Physical Security Enterprise and Analysis Group (PSEAG) is charged with ensuring the safety and security of U.S. nuclear weapons. The Nuclear Matters team is currently updating physical security guidance for the protection of nuclear weapons and nuclear command and control facilities, as well as special nuclear material under DoD control. To gain insight into the effectiveness of our policies and capabilities for protecting our nuclear weapons, the team also oversees the DoD Force-on-Force Program, which evaluates the effectiveness of nuclear security policy through testing, evaluation, and analysis of DoD nuclear security system environments and associated security forces. These efforts identify gaps in DoD and Military Department/Service nuclear security policy, test potential security capability enhancements, and inform risk-based

decisions affecting nuclear security policy across DoD. This exercise program accounts for foreign and domestic threats, including those posed by emerging and rapidly evolving technologies, such as unmanned systems. We are preparing for a Force-on-Force Exercise in August 2021 that will evaluate the effectiveness of nuclear security policy for Nuclear Command and Control Platforms. We regularly exercise Nuclear Weapons Accident and Incident response, and will do so again this year. This event will exercise response to the effects of an earthquake and aftershocks that cause a nuclear weapons accident and concerns over continuity of power to a naval nuclear reactor. These events will evaluate contamination effects and test the effectiveness of DoD and interagency response forces and consequence management plans.

To maintain the effectiveness of our nuclear weapons security systems and broader force protection efforts against traditional and emerging threats, the aforementioned PSEAG identifies and addresses materiel and analytical physical security needs identified by DoD Components. We use the PSEAG to address gaps in our ability to detect, delay, deny, defeat, and ultimately deter threats to our nuclear and non-nuclear assets, both at home and abroad. Through collaboration across DoD and with other U.S. Government departments and agencies, the PSEAG identifies capability gaps and proposed solutions while avoiding duplicative efforts. The PSEAG continually looks forward to address emerging threats, including countering unmanned systems. One example of the projects we manage is the joint DoD and NNSA Portable Intrusion Detection System (PIDS) that addresses similar needs to protect nuclear weapons and special nuclear material. PIDS will be a temporary system that can be deployed, set up, configured, and operational within a short time frame. The system will detect intrusions at the perimeter, provide location data (e.g., sector or zone) of intrusions along the perimeter, initiate the alarms and announce the location to security forces, and provide a means of assessing the alarms. PIDS is scalable for varying perimeter sizes, environments, and locations, and will be capable of rapid deployment to locations that require temporary perimeter detection. Another project is the Platform for Integrated Command, Control, Communications, and Responsive Defense (PICARD), which will leverage a secure cloud and open platform to create an architecture for future physical security systems. This project is designed to eliminate stovepiping of information and replace expensive legacy platforms that lack the infrastructure to turn the data into actionable information. PICARD will create an open platform for aggregating, analyzing, and effectively distributing data through a user-defined common operating picture.

Finally, I would be remiss if I failed to mention a growing threat to the WMD mission space. As our society's dependence on digital networks continues to grow, cybersecurity challenges highlight vulnerabilities we cannot afford to ignore. To be clear, I am not talking about "cyber" as a WMD, as we limit the terminology of WMD to CBRN weapons. However, cyber activities against U.S. ports, power grids, and similar targets have the potential to disrupt the nuclear deterrent as well as common methods of protection. The Nuclear Matters team is working to ensure physical security policy is aligned with cyber security policy and analyzing physical security equipment to determine whether there are vulnerabilities as a result of cyberattacks.

Countering Nuclear Threats and National Technical Nuclear Forensics

The U.S. ability to provide rapid attribution after the use of a nuclear or radiological weapon is underpinned by our technical nuclear forensics capability. Timely and accurate attribution of these events to their originator or originators contributes to strategic deterrence

against asymmetric or other non-traditional delivery of such weapons against the United States and our allies and partners. Further, these technical capabilities support our ability to detect the proliferation of nuclear weapons, which helps deter parties from attempting to acquire them.

DoD is the government-wide lead for post-detonation concepts of operation, capability development (including special collection and analysis capabilities), research and development, exercises, and support to all National Technical Nuclear Forensics (NTNF) scenarios both inside and outside the continental United States. Sustaining and improving DoD and broader U.S. technical nuclear forensics capabilities is paramount to ensuring we can provide timely and high- quality technical conclusions to national decision makers. In 2019, an assessment of DoD capabilities for NTNF was completed showing that DoD capabilities are lacking in several NTNF areas, and this was included as part of a larger interagency annual report to Congress. Ensuring DoD and all of our interagency partners are aligned and properly resourced for this mission is critical. As I have moved into performing the duties of the Assistant Secretary, the NTNF role looks to me like it needs attention, and I intend to address this issue as I serve in this role.

Disrupting Proliferation Networks and Defeating Weapons of Mass Destruction

The National Defense Strategy states an objective of "dissuading, preventing, or deterring state adversaries and non-state actors from acquiring, proliferating, or using weapons of mass destruction." The Threat Reduction and Arms Control office, through the Countering WMD Systems Program, directly supports this objective. It enhances warfighter lethality by developing and fielding capabilities to analyze, exploit, and disrupt critical nodes of WMD programs and proliferation networks as well as developing capabilities to detect, disable, or defeat WMD and delivery systems.

The CWMD Systems program focuses on prototype transition into fielded capabilities, or upgrades to existing capabilities and systems, in response to warfighter needs. This program is aligned with advanced technology development at DTRA, the Department of Energy national laboratories, and other organizations, leveraging their Research, Development, Test and Evaluation (RDT&E) investments to accelerate delivery of new or enhanced countering-WMD capabilities. The CWMD Systems program enables the Joint Force to reduce WMD threats and create options for the United States to prevent WMD use. Specific examples include enabling Special Operations Forces (SOF) and Explosive Ordnance Disposal (EOD) forces to counter WMD threats and enhancing the Air Force Technical Applications Center's (AFTAC) ability to monitor nuclear treaty compliance and detect nuclear events.

Expanding Resiliency and Strengthening Defenses of Our Forces Facing Chemical and Biological Threats

DoD's CBRN defense capabilities are a key component of an integrated national effort to counter WMD and address traditional and emerging CBRN threats. The traditional mission of the Chemical and Biological Defense Program remains unchanged; we must provide our warfighters with capabilities to fight through and win in chemical-biological-contested environments. The rapidly changing and emerging chemical and biological threat landscape mandates adjustments to mission execution. We must think creatively, develop new strategies and methodologies, and ultimately shift our priorities to address the emergence of new and complex threats. We must transform our enterprise and how we conduct business to ensure our Joint Force can remain lethal

when it encounters a CBRN threat.

This Committee's assessment when the Chemical and Biological Defense Program (CBDP) was statutorily established in 1993 was particularly prescient, when it stated the "chemical and biological threat has increased in terms of widespread proliferation, technology diversity, and probability of use." Unfortunately, the chemical and biological threats we face today are evolving at an accelerating rate. The acceleration and convergence of science and technology advances, resulting in the emergence of new agents and threats, are making this mission ever more dynamic, complex and challenging.

The proliferation of scientific knowledge highlights the dual-use dilemma we now face. Scientists around the world are making extraordinary advances in chemistry, biology, and medicine, all of which advance the human condition. Advanced machine learning algorithms further enable these advances as data repositories and online journals can be mined, giving rise to new insights into and opportunities to combat diseases that plague the human race. Yet, these developments also provide insight into human vulnerabilities, including at the genetic level. Compounding the opportunities, and the threat, are advances in technologies such as CRISPR-Cas9, which is used for genetic engineering. In 2019, a Chinese scientist claimed that he used CRISPR gene-editing technology to alter the genetic code of two human babies to make them immune to HIV. A Russian scientist is reportedly planning similar work, and now there are reports the CRISPR technology has advanced from single gene replacement to multiple gene replacement at the same time. Altering the human genome presents profound opportunities to cure disease and improve the human condition, yet it also presents frightening opportunities for malicious use. The overwhelming majority of research and development work going on around the world is for the benefit of mankind, but it is easy to see how these technologies could be redirected for malign means. Science is revealing the means to weaponize biology and chemistry in ways that were purely theoretical only 10 years ago. As we continue to move forward, it's becoming increasingly apparent that creativity is our limit, not science.

The emerging threat landscape extends to new and novel chemicals as well. New compounds developed to treat illness and pain can also be used for nefarious purposes. The results of Russian security forces' use of pharmaceutical-based agents (PBAs) in the 2002 Dubrovka Theater operation show just how potent these agents are. These are the new types of threats the CBDP must take "off the table" in a systematic and targeted manner.

The evolving strategic environment demonstrates an expanding range of possible challenges and emerging threats that have the potential to outstrip available resources, outperform traditional research and development processes, and outpace acquisition timelines. These issues are increasing risk not only to our military forces, but also our first responders and citizens at large. We are experiencing not an evolution of the threat, but a revolution. Without a concerted and conscious effort focused on mitigating the emerging threat, we will lose the opportunity to prevent the most harm. Our CBD program is looking at how to rebalance the portfolio to address future threats; and I have made enhancing the posture against novel agents and threats a priority. The CBD program has initiated a zero-based review to align program efforts more effectively and prioritize predictive methods needed to prevent attacks and deliver capabilities that enable the Joint Force to fight and win in any environment contaminated by chemical or biological agents. We will work with DoD and with our interagency partners to gain awareness and understanding of rapidly evolving technologies and their impacts across the chemical and biological defense

domain. Through creative solutions and dedication to increased engagement with the Military Departments and Services and the Combatant Commands, we enable and sustain a unified CBD program. We use agile processes to develop technologies to neutralize chemical and biological threats.

We are moving to get ahead of the threat by anticipating and understanding the convergence of novel science and technology advances as contextualized by feasibility and risk. As part of a layered defense, we deny the effects of WMD by developing and fielding a wide range of defensive equipment (e.g., protective suits, detectors, and medical countermeasures). We engage early and often with our Military Department and Service partners to ensure our products are responsive to operational requirements and close Joint Force gaps. Currently, we are focused on detection and identification of next-generation threat agents, improving personal and collective protection, advanced medical countermeasures, and diagnostics for clinical samples. Delivering these capabilities protects service members and improves decision making, which sustains lethality and ensures our Joint Force has the competitive advantage when operating in a CBRN-contested environment.

STRENGTHENING ALLIANCES AND PARTNERSHIPS (Line of Effort 2)

Countering WMD best succeeds as a global effort. Thus, we focus on empowering our allies and partners, and enhancing the capacity of regional and international organizations and initiatives to stop WMD threats close to the source. The United States can dramatically improve its preparedness for and response to WMD threats through effective collaboration with its interagency partners and international allies and partners. For example, the Office of Nuclear Matters provides oversight and management of nuclear threat reduction collaborations with foreign partners, primarily through Mutual Defense Agreements, to enhance our capabilities and our foreign partners' capabilities to detect, interdict, render-safe, and attribute nuclear threats. Collaborations like these yield insights derived from a variety of perspectives, opportunities to share the cost of research and development, and the chance to improve the interoperability of systems and processes.

Interagency Collaboration on Medical Countermeasures

A key to our success is integrated, strategic engagement with our interagency and international partners. We leverage the expertise and complementary missions of the Departments of Health and Human Services (HHS) and Homeland Security, as well as our global allies and partners. Internally, all of our medical countermeasures work is coordinated with the Office of the Assistant Secretary of Defense for Health Affairs. Examples of ongoing collaboration include coordination to manage stockpiles of medical countermeasures and, especially in the case of the HHS, coordinating medical countermeasures development and implementing industry incentives that maximize value while mitigating risk.

These investments and interagency engagements have led to beneficial industry engagements. For example, to support the development and manufacturing of medical countermeasures, DoD is leveraging Other Transaction Authorities provided by Congress to broaden the scope of countermeasures development. DoD is also investing in an agile manufacturing capability through the Advanced Development and Manufacturing (ADM) facility in Alachua, Florida. This facility provides the capability to develop and produce medical countermeasures rapidly on a smaller scale than needed for the public health sector. The Chemical

and Biological Defense Program has established a platform capability at the ADM to produce medical countermeasures more flexibly, rapidly, and at a lower cost. The first platform capability being worked pertains to monoclonal antibodies against botulinum toxin and plague. Our office will continue to augment this capability, which stabilizes the industrial base for medical countermeasures by allowing DoD to mitigate risks for industry early in the development process, and to have more control over the process overall.

Strengthening Our Arms Control Posture

Countries' compliance with their international obligations regarding chemical weapons reinforces the longstanding norm against the use of these heinous weapons. Our treaty commitments form the backbone of our nonproliferation posture. In this regard, accelerating destruction of the U.S. chemical weapons stockpile is critical to demonstrating our commitment to our international obligations. The Office of Threat Reduction and Arms Control is working diligently in cooperation with the Program Executive Office for Assembled Chemical Weapons Alternatives to eliminate safely the remaining stockpiles located in Colorado and Kentucky. The Department appreciates your unwavering support and efforts to ensure this program has the requisite resources to accomplish this important mission. We are confident that complete destruction of the remaining chemical weapons will occur by the congressional deadline of December 31, 2023, with safety always being the top priority.

My office maintains a strong and supportive relationship with the Organization for the Prohibition of Chemical Weapons (OPCW). To assure the OPCW that we are doing all we can to complete destruction of the U.S. stockpile, our office presents the U.S. Chemical Demilitarization briefing to the OPCW's Executive Council three times per year and annually briefs the OPCW's Conference of the States Parties. This past year, through the Cooperative Threat Reduction Program, we contributed $7.0M to assist the OPCW in building a new laboratory. We also successfully facilitated 10 inspections of DoD sites by the OPCW Technical Secretariat and hosted international dignitaries for an OPCW Executive Council visit to the Pueblo Chemical Agent-Destruction Pilot Plant in Pueblo, Colorado. This visit and our continued engagement with the OPCW further demonstrate the U.S. commitment to compliance with the Chemical Weapons Convention (CWC).

Through such engagements with interagency and international partners, and by ensuring our compliance and proper implementation of these treaties, the TRAC Office's Treaty Management team strengthens norms against use, increases our capabilities to detect non-compliance, and improves the enforceability of arms control agreements.

In response to the use of Novichok agent in Salisbury in March 2018, we worked with allies and partners to bolster support for adding Novichoks to the CWC's lists of controlled chemicals. In November 2019, the Conference of the States Parties to the CWC agreed to the addition of these agents to the Schedules, thus demonstrating the ability of the CWC to adapt and respond to new threats. We are now working closely with interagency and international partners to ensure the smooth implementation of this expansion.

DoD's Nuclear Arms Control Technology (NACT) Program, executed by DTRA with oversight from my office, advances nuclear proliferation and explosion monitoring capabilities

through advanced research and development of improved seismic, infrasound, hydro-acoustic, and radionuclide technologies. The NACT Program also delivers timely and accurate nuclear explosion monitoring data 24-hours-a-day, 7-days-a-week through the operation and maintenance of the U.S. International Monitoring System (IMS) stations. The 2018 NPR makes a clear policy commitment to maintaining the IMS and the International Data Center (IDC), which support a long-standing requirement to detect, locate, and characterize global nuclear events, as well as our commitment to nuclear nonproliferation objectives.

Collaboration with the UK on Chemical and Biological Weapons Elimination

Drawing from our experiences assisting in the elimination of declared Libyan and Syrian chemical weapons, we know it is important for DoD to maintain the material readiness to eliminate chemical and biological weapons (CBW), should DoD be called upon to do so. We have implemented a continuous process to evaluate threats, identify gaps in capability, and recommend investments in potential solutions to improve overall DoD readiness to assist in reducing the serious threat posed by existing and future variations of CBW. To achieve the necessary readiness, we must improve our operational flexibility by identifying and rapidly developing novel solutions through collaboration with industry, academia, and our international partners. We are working with several allies to ensure we are prepared to safely and efficiently destroy chemical or biological weapons, wherever and whenever they are found. The most mature of these engagements is a U.S.-UK Chemical and Biological Weapons Elimination Bilateral Group, which shares information about solutions for the full spectrum of CBW destruction activities and jointly evaluates and invests in solutions to address capability gaps.

Strengthening Alliances

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. To address these challenges, DTRA implements a number of WMD Threat Reduction activities, including the Cooperative Threat Reduction (CTR) Program; the Chemical, Biological, Radiological, and Nuclear (CBRN) Preparedness Program; the International Counterproliferation Program; and engagements supporting the Proliferation Security Initiative. Collectively, these programs constitute some of DoD's most effective and flexible tools for addressing WMD threats, strengthening U.S. security by stopping WMD threats closer to the source.

DoD's efforts continue to reduce the threat of WMD around the world, from detecting and preventing WMD proliferation in the Middle East and North Africa, to enhancing nuclear security and counter nuclear smuggling capabilities in Europe and Eurasia, 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. Recently, these efforts paid off when partners in Thailand, through capacities built via the CTR Program, successfully detected the first case of the novel coronavirus in their country. Their swift response helped mitigate the spread of the virus through Thailand and beyond.

REFORMING DoD BUSINESS PRACTICES (Line of Effort 3)

As the lead for the development of capabilities to counter WMD, our focus is on ensuring

DoD delivers CWMD capabilities that are tailored to the threat and managed efficiently, to ensure the best use of taxpayer money.

Accelerating Destruction of the U.S. Chemical Weapons Stockpile

As mentioned previously, we are diligently working to complete destruction of the remaining U.S. chemical weapons stockpile. We have effectively used a variety of Acquisition Management Tools to improve the Contractor's performance significantly over the past year. In addition, recently implemented acquisition strategies have resulted in improved program management, including proactive risk mitigation practices and expedited materiel solutions.

Destruction operations at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) in Colorado continue apace. The operators will destroy approximately 780,000 mustard agent-filled projectiles and mortars. To date, PCAPP has destroyed more than 209,000 munitions containing approximately 1,225 tons of mustard agent. The plant recently recorded its highest monthly throughput rates since the start of operations in 2016. The addition of Static Detonation Chambers (SDC) later this year will increase processing rates by destroying problematic munitions that cannot be processed in the main facility. Use of the SDCs, combined with improvements to the main facility, will increase worker safety while improving schedule performance and accelerating destruction.

I am pleased to say destruction operations began at the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) in Kentucky in June of 2019, with the startup of a SDC destroying mustard filled munitions. The SDC continues destroying munitions, although technical difficulties have resulted in lower than expected throughput. We are working to address these issues directly with the manufacturer, Dynasafe. The first munition destroyed in the main plant at Blue Grass, which began destruction operations on January 17, 2020, was a GB (Sarin)-filled projectile, the first nerve agent-filled munition to be destroyed in eleven years. The operators at BGCAPP will destroy more than 101,000 munitions containing either mustard or nerve agent. The program and plant leadership have been working closely with Kentucky's Chemical Demilitarization Citizens' Advisory Commission and the Chemical Destruction Community Advisory Board to ensure local citizens are provided regular updates on the status and safety of destruction operations.

Sponsoring University Affiliated Research Centers to Improve Capabilities

NCB sponsors the Geophysical Detection of Nuclear Proliferation (GDNP) University Affiliated Research Center (UARC) at the University of Alaska, Fairbanks. The GDNP is the Department's 14th UARC, specializing in research, operations, and STEM (science, technology, engineering, and mathematics) activities for detecting indications of nuclear proliferation through seismic, infrasound, hydro-acoustic, or radionuclide technologies. The Geophysical Detection of Nuclear Proliferation (GDNP) UARC will assist in the oversight and guidance of DoD research, development, testing, evaluation, and use of scientific and technological capabilities to be able to sense, locate, characterize, and assess more effectively the threat potential of nuclear activities worldwide. The UARC also will expedite the acquisition process for organizations to identify gaps and address those gaps quickly. Some of the specific areas the UARC is addressing for DoD involves developing infrasound propagation technologies to identify more clearly nuclear explosions, seismic data processing related to the proliferation of nuclear technology, and data

gathering in the Arctic region of large volumes of gravity-point information to support navigation and guidance correction models required for DoD systems.

Leveraging Innovative Acquisition Mechanisms

In 2018, as part of our bilateral engagement with the UK on the elimination of chemical and biological weapons, we began a first-of-a-kind industry competition designed to identify materiel solutions for the disablement and/or destruction of small quantities of weaponized and bulk CBW in austere environments. We have leveraged a flexible agreement between the U.S. DoD and UK Ministry of Defence and the UK's Defence and Security Accelerator to reach non-traditional small business and academia partners to achieve rapid results at low cost. U.S. and UK counterparts have shared the burdens of defining, shaping, and funding the competition and managing the awarded contracts. Phase I of the competition is complete, and Phase II is currently underway. This innovative approach has resulted in proofs of concept for seven new technologies and will produce demonstrable prototypes in 2021 at minimal cost to both parties.

CONCLUSION

Thank you for allowing me to describe the efforts the OASD(NCB) team is undertaking to counter the threats posed by weapons of mass destruction. Our highest priorities lie in our nuclear deterrent, preventing the proliferation of CBRN capabilities, ensuring our warfighters are postured to counter CBRN threats, and sustaining and improving our capability to support attribution of the use. We will continue to collaborate and coordinate with key DoD and interagency stakeholders, as well as our international allies and partners, to maximize our effectiveness and efficiency in confronting, deterring, and, if required, defeating those who threaten the use of WMD. Failure to do so risks the safety and security of our forces, our citizens, and our allies and partners. We must not, and will not, fail.

I cannot emphasize enough the importance of this Committee's support for sustaining and improving our capabilities in addressing these evolving threats, thereby helping to ensure the safety and security of our nation.