TESTIMONY OF

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INTRODUCTION

Chairman D'Esposito, Ranking Member Carter, and distinguished Members of the Subcommittee, thank you for inviting me to speak with you today. I appreciate the opportunity to discuss the Department of Homeland Security (DHS) Countering Weapons of Mass Destruction Office's (CWMD) efforts to safeguard the Nation from chemical, biological, radiological, and nuclear (CBRN) threats.

The DHS CWMD Office has a unique role and value proposition in the CBRN space. Established in accordance with Public Law 115-387, the *Countering Weapons of Mass Destruction Act of 2018*, (CWMD Act of 2018) CWMD is the single point of CBRN expertise within the Department and the linchpin to detect CBRN threats in the homeland. I thank our dedicated experts in CWMD, and our federal, state, and local partners for their commitment to the nation's security.

CBRN threats present dynamic challenges to the nation's security. These threats may emanate from nation-states, terrorists, lone actors, violent extremists, or natural causes. The risks are constantly evolving due to the evolution of technologies – for example, artificial intelligence (AI) - as well as the potential of spillover of animal pathogens to human populations.

Responding to this threat environment, CWMD is the hub for the Department's WMD/CBRN activities, providing coordination, strategy and policy guidance, intelligence analysis, operations support, and developing and deploying CBRN technologies through our research, development, testing, evaluation, and acquisition initiatives. With your support, the creation of an Office solely focused on WMD/CBRN threats has elevated and streamlined the ability of DHS to successfully resource and execute this critical mission, including further integrating the prevention and detection of all CBRN threats with our DHS stakeholders.

CWMD is better able to protect the homeland through its relationships with state, local, tribal, and territorial (SLTT) partners in order to equip them with CBRN training, equipment, technical assistance, and exercises. SLTT first responders are likely to be the first to identify a CBRN incident. As a nation, we are better protected in light of CWMD's expansive relationships throughout the nationwide CBRN ecosystem. This enhanced protection is a direct result of the CWMD Act of 2018.

I appreciate the subcommittee's leadership and bipartisan efforts to reauthorize CWMD and applaud House passage of H.R. 3224, the *Countering Weapons of Mass Destruction Extension Act of 2023*. I look forward to your continued support and stand ready to assist in the ongoing CWMD reauthorization process. An ongoing challenge is the termination of CWMD. I will reflect upon some of these challenges throughout this testimony.

In August 2023, I assumed the role of Assistant Secretary for CWMD. My priorities for the Office are to (1) maintain a collaborative, safe, and productive work environment; (2) ensure risk-based mission capability across the broad spectrum of CBRN threats, including ensuring that CBRN detection acquisition programs are informed by both intelligence and stakeholder requirements; (3) further integrate CWMD's support and partnerships into DHS operational

Components and Headquarters Offices, including the Science and Technology Directorate, and the Office of Health Security; (4) broaden partnerships across the federal government; and (5) strengthen assistance to and the relationships with SLTT partners.

CWMD provides extensive training, equipment, and technical assistance to U.S. Customs and Border Protection (CBP), Homeland Security Investigations, Transportation Security Administration, United States Coast Guard, and United States Secret Service. We also serve as a peer organization to the Cybersecurity and Infrastructure Security Agency and the Federal Emergency Management Agency (FEMA) in the lifecycle of CBRN incident management.

The President's FY 2025 Budget requests $418M to support 259 federal staff and the programs critical to the CWMD mission. CWMD allocates the $418M across four appropriations: Operations and Support; Research and Development; Procurement, Construction, & Improvements; and Federal Assistance – largely to SLTTs.

The programs, activities, and funding request that I will discuss today represent some, but by no means all of CWMD's work to mitigate the risks to the homeland.

RISK-INFORMED APPROACH TO PROTECT AGAINST CBRN THREATS

CWMD conducts national and tailored threat- and location-dependent risk assessments to support decision-making to protect the homeland from CBRN threats. Our capstone document, the CBRN Strategic Risk Assessment Summary (SRAS), provides a comprehensive, data-driven approach that integrates CBRN threat, vulnerability, and consequence information to inform DHS and SLTT stakeholder decision-making related to risk. The outputs from the SRAS are used to analyze existing capability gaps identified within the CBRN defense architecture with the intent of reducing CBRN risk as well as assisting in resource prioritization for FSLTT partners.

CWMD is building upon its longstanding, legislatively mandated Global Nuclear Detection Architecture in developing chemical and biological defense architectures. These nascent architectures will allow CWMD to better understand the complex CBRN defense space by identifying key stakeholder capabilities needed to coordinate detection, analysis, and reporting of unauthorized uses of WMD/CBRN materials and weapons. The architectures will assist CWMD and our partners in conducting data-driven, defensible analytical activities such as capabilities-based assessments to identify and inform mitigation of capability gaps, including strategy, policy, operations, and resource allocation decisions.

CBRN THREATS ENHANCED BY ARTIFICIAL INTELLIGENCE

CWMD is evaluating emerging technology threats in WMD/CBRN, such as from AI. Responsible use of AI holds great promise for advancing science, analyzing large complex datasets beyond human cognitive abilities, solving urgent and future challenges, and improving daily life. However, potential AI misuse poses consequential risk, requiring society-wide mitigation efforts.

The variety of publicly available AI models provides physical and life science researchers the enhanced ability to ideate novel biological and chemical agents and design experiments and to troubleshoot experimental procedures encountered during experiments. As AI technologies advance, use of these tools will likely lower the barrier for all actors across the sophistication spectrum to conceptualize and conduct CBRN attacks. To contain these risks, government and industry must work together to reinforce policies and codes of conduct based on voluntary commitments to mitigate against misuse of AI and AI-enabled tools.

Integration of AI into CBRN prevention, detection, response, and mitigation capabilities could yield important or emergent benefits. CWMD has already started applying AI to certain fields such as cargo screening, biosurveillance, and detection technologies, but other areas are fertile for further research in our mission. In each of these areas, developing an appropriate adoption strategy for next-generation AI-enabled technologies and interagency collaboration and lessons learned will be vital to implementation success.

DHS, in coordination with the White House Office of Science and Technology Policy and the Department of Energy, is tasked with conducting an evaluation of the CBRN specific risks of AI and how AI could be applied to mitigating CBRN threats. CWMD's centralized role and subject matter expertise enable us to explore ways to leverage AI for our collective benefit while identifying novel CBRN risks to the homeland because of lower barriers to entry for malign actors. CWMD is supporting the Secretary's mandate in the Executive Order on Artificial Intelligence to evaluate the potential for AI to be misused to enable the development or production of CBRN threats.

WARNING OF BIOLOGICAL THREATS AND INCIDENTS IN TIME TO SAVE LIVES

CWMD's flagship biodefense programs aim to provide early warning of biological attacks or incidents with the goal of enabling a rapid response to save lives.

National Biosurveillance Integration Center (NBIC)

The National Biosurveillance Integration Center integrates, analyzes, and distributes information about ongoing and emerging biological incidents to help ensure the Nation's responses at all levels of government are well informed, save lives, and minimize economic impact. NBIC is unique in the biosurveillance community in that it looks across all biological threats – pandemics, accidents, and bioterrorism – and across multiple sectors – wildlife, human health, agriculture, and the environment. NBIC also provides deep analysis on the impact of these biological threats to homeland security.

NBIC disseminates biosurveillance tools, analysis, and information to support common situational awareness and operational responses. NBIC is expanding its reach into partner biosurveillance organizations and systems to greatly enhance its analytic capabilities to handle the increasing complex information needs of leaders within the Department as well as our federal and SLTT partners.

BioWatch
As the homeland's only operational biodetection capability, CWMD's BioWatch Program gives warning of an airborne bioterrorist attack in over 30 major metropolitan areas across the United States, covering over a third of the U.S. population. Outward signs and symptoms of a biological attack may emerge slowly. BioWatch can detect the presence of certain biological agents in the air after release by a terrorist or other bad actor in order to marshal an earlier response.

Managed by CWMD, the BioWatch program is locally operated and supports coordination among scientists, laboratory technicians, emergency managers, law enforcement officers, and public health officials. Partnerships developed through participation in BioWatch have led to vast collaboration and planning efforts across all aspects of the CWMD mission. This includes more than 300 trainings delivered by BioWatch staff annually to nearly 1,700 jurisdictional stakeholders and federal interagency partners covering all aspects of CWMD's biodetection, incident characterization, and notification and response activities. CWMD's comprehensive CBRN mission provides training and layered defenses for all the BioWatch jurisdictions.

Additionally, the program facilitates over 100 exercises and drills in the jurisdictions per year. These activities not only help the jurisdictional stakeholders in their individual preparedness efforts, but provide countless opportunities to engage with other stakeholders, establish relationships and communication strategies, and improve overall situational awareness of partner activities that is vital to enable an effective response to an incident of any kind.

The BioWatch technology is proven, reliable, using polymerase chain reaction technology (PCR). PCR technology is the national standard and results are laboratory validated.

Environmental Biological Detection (EBD)
CWMD has the mission to aid in the detection of biological agents that pose the highest risk to public health and safety. CWMD's EBD efforts attempt to expand capabilities using a risk-based approach and advance developments that enable broader detection capabilities and decrease the timeline for treatment of aerosolized biological attacks.

Current EBD activities include the development of capabilities to improve warnings to public health officials, better inform SLTT response, and accelerate treatment decisions. EBD is focused on developing and deploying near-term mature technologies to meet BioWatch enhancement recommendations from our recent Integrated Project Team review, completed with input from SLTT stakeholders. EBD will also incorporate developing modeling capabilities, cybersecurity capabilities, and technology solutions.

CHEMICAL PREPAREDNESS AND CHEMICAL DEFENSE

Chemical Preparedness
CWMD established the ChemPREP Program to partner with SLTT stakeholders to examine each local jurisdiction's unique chemical risks and vulnerabilities, evaluate their ability to respond, and provide training to enhance their readiness. ChemPREP also seeks to connect local jurisdictions with other federal resources to improve coordination and overall preparedness.

CWMD has conducted seven ChemPREP engagements in five states (NY, MA, FL, AZ, TX) working with frontline responders from 14 federal organizations and 109 state and local organizations and partners including from Nassau and Suffolk Counties in New York. We are planning with New Orleans, LA to assess and optimize security in the jurisdiction in advance of next year's Super Bowl. In an effort to accelerate and expand the chemical defense knowledge base throughout the country for our SLTT partners, in FY 2024 CWMD is working with the Federal Law Enforcement Training Centers to develop standardized ChemPREP training for wider distribution.

Chemical Defense
In response to a 2018 Government Accountability Office (GAO) audit, CWMD established the DHS Chemical Coordination Group (CCG) in 2019 to meet the evolving threat from chemical attacks and incidents. This body is composed of representatives from DHS offices and agencies with significant chemical defense equities and serves as the primary coordination mechanism for DHS chemical defense. CWMD has hosted three DHS Chemical Defense Program Reviews, bringing DHS Components together to do deeper-dive discussions on topical areas.

INTELLIGENCE AND INFORMATION SHARING

The Intelligence Division of CWMD serves as the departmental lead for intelligence support related to all CBRN threats while also providing intelligence support to the DHS Office of Health Security and other federal agencies on food, agriculture, veterinary, and health security threats. The Division provides strategic and operational threat intelligence and expertise to ensure DHS and its federal and SLTT partners are equipped with timely and accurate intelligence to plan for, detect, and protect against threats. Supporting national and Departmental strategic objectives, the Intelligence Division produces an annual CWMD Homeland Threat Assessment to inform senior leaders and policymakers.

At the operational level, we provide threat intelligence on foreign and domestic CBRN threats; naturally occurring environmental threats; and food, agriculture, veterinary, and health security threats. The Division also creates tailored products and presentations to federal and SLTT partners and stakeholders upon request.

In FY 2023, the Division published its third annual program of analysis. Through more effective planning, the division increased overall production to 263 products from FY 2022 to FY 2023. The division also saw a significant increase in unique organizational customers; new customers included DHS operational Components and Headquarters Offices, the Food and Drug Administration, and Department of State.

DETECTING RADIOLOGICAL AND NUCLEAR (R/N) THREATS TO PREVENT ATTACKS

An act of radiological or nuclear (R/N) terrorism could have a devastating impact on the United States. DHS began the Securing the Cities (STC) Program to enhance the Nation's ability to detect and prevent terrorist attacks and other high-consequence events using nuclear or other radiological materials. CWMD provides detection equipment, training, exercise support, operational and technical subject matter expertise, and programmatic support through a cooperative agreement grant process with eligible U.S. regions. STC is functioning in 14 high-risk areas across the nation. The STC Program uses a regional approach to R/N detection that allows for a layered defense posture to increase the probability of detection. In addition, coordination with the Federal Bureau of Investigation (FBI), Department of Energy, and their specialized teams ensures a timely handoff and rapid response to possible terrorism.

The program works close with STC stakeholders in these jurisdictions, including training and equipping first responders and law enforcement officials with specialized R/N equipment, and providing support for R/N detection exercises. Each region is creating its R/N training and detection protocols in consultation with CWMD. Several of the STC regions are sprinting towards maturation to be prepared for the 2026 World Cup. In 2023, STC facilitated approximately 330 training courses with over 14,000 SLTT operators trained.

CWMD's Mobile Detection Deployment Program (MDDP) enhances CBRN detection and R/N interdiction capabilities by deploying equipment and technical support for state and local surge operations and events of national significance. MDDP significantly expands our protective footprint to help support SLTT law enforcement in CBRN detection. In FY 2023, MDDP was deployed 180 times into 42 states, two territories and one tribal area.

DEVELOPING AND DEPLOYING TECHNOLOGIES TO SUPPORT OPERATIONS

CWMD works to ensure implementation of robust domestic CBRN detection architectures through deployment of technologies. CWMD's research and development (R&D) program manages efforts to develop and demonstrate science and technologies that address gaps in the detection architecture, improve performance of CBRN detection and analysis, and reduce the operational burden of detection systems in the field. CWMD R&D's mission is to provide novel solutions that can be implemented in the field, and at scale. CWMD's Test and Evaluation Division conducts rigorous and comprehensive assessments to ensure that the technologies acquired by CWMD are both effective and suitable for the CBRN detection and prevention mission.

CWMD's Acquisition Division develops, acquires, and supports CBRN detection systems to deliver capabilities for operational partners to counter WMD threats. For example, CWMD's Acquisition Division is deploying 216 new enhanced Radiation Portal Monitors (RPMs) at specific high-volume ports of entry, improving detection capability and minimizing nuisance alarms. Moreover, CWMD is collaborating with CBP to minimize close-proximity interference between non-intrusive inspection equipment and existing RPM technology. CWMD acquires

small-scale portable CBRN detection systems that can be carried, moved, or worn by the user. Most recently, from FY 2020 to FY 2024, CWMD procured over 36,000 new Personal Radiation Detectors (PRDs) for the DHS operational components and STC partners.

THE CWMD WORKFORCE

The CWMD workforce is among the best and brightest in the federal government who work behind the scenes. The accomplishments of this team make the nation safer.

Initially, the office faced challenges, including frequent leadership changes, faltering morale, and staff turnover as discussed in the July 2022 GAO report, *Countering Weapons of Mass Destruction: DHS Office Has Opportunities to Improve Partner Services and Employee Morale* (GAO-22-106133), subsequently there were some promising signs in improving morale and stakeholder feedback.

Uncertainty around CWMD's future reversed many of those gains and had a devastating effect on the morale and retention of the office's highly skilled and in-demand workforce. From October 2023 through February 2024, CWMD lost 24 federal employees, approximately 10 percent of our federal workforce, with 12 employees leaving in December 2023 alone – more than 3 times the average loss in a month. This represents a loss over 300 person years of CWMD/CBRN experience. Backfilling these critical vacancies should help morale, but a long-term or permanent reauthorization is paramount to attracting and retaining high-quality candidates.

CWMD leadership recognizes that transparency and keeping staff informed are critical to an engaged workforce. Since September, I conducted 17 virtual town halls with an average of 450 staff and contractors. The primary topics for the town halls last autumn were related to potential office termination; since January, we have focused the town halls on mission highlights from the staff perspective, employee resources, our mentoring program, social events, and office engagements.

I hold open office hours to engage with the workforce collectively and one-on-one in order to hear directly what is most important to them. I have also sent 25 weekly newsletters and bulletins highlighting the key work of the agency and upcoming events. Additionally, CWMD hosted six Lunch & Learns with an average of 130 participants.

All these actions play a significant role in improving CWMD employee morale. However, without long-term or permanent reauthorization, CWMD will face steady attrition. The Administration has long sought permanent reauthorization to ensure CWMD has a fully engaged workforce capable of continuing critical national security programs that support frontline operators and local communities.

CONCLUSION

CWMD remains focused on countering CBRN threats. While we are a relatively new office, we have matured quickly. We closely coordinate DHS efforts across the countering-WMD mission, provide our federal and SLTT partners with CBRN detection equipment, and run programs to protect the nation from CBRN security threats.

CWMD's unique role and value proposition in the CBRN space is the cornerstone of providing layered prevention and detection of CBRN threats. CWMD is the linchpin between our DHS and SLTT stakeholders and the federal partners who would provide the response in the event of a CBRN incident. We are maturing detection and preparation capabilities to support stakeholders, while also better integrating our unique expertise within the Department and the overall CBRN ecosystem. I am committed to ensuring the CWMD prevention and detection mission is well-integrated with our DHS operational components and offices.

On behalf of the CWMD staff who work tirelessly to keep the homeland and the American people safe, I look forward to our continued work with Congress to achieve an enduring reauthorization of our office. Thank you again for the opportunity to testify and I look forward to your questions.