

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT

OF

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OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

HEARING ON

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Introduction

Chairman Lamborn, Ranking Member Moulton, and distinguished Members of the subcommittee, thank you for this opportunity to discuss the development of the Navy's Conventional Prompt Strike (CPS) hypersonic weapon. It is an honor to represent the Navy's Strategic Systems Programs (SSP) and the contributions the Navy provides to our national and global security.

Hypersonic systems – capable of flying at speeds greater than five times the speed of sound (Mach 5) – provide a combination of speed, maneuverability, and altitude that enables highly survivable, medium and intermediate-range, rapid defeat of time-critical, heavily-defended and high value targets. Hypersonic technologies are one of 14 critical technology areas that the Department of Defense is focused on to accelerate development consistent with the 2022 National Defense Strategy (NDS) and Joint Warfighting Concepts. Advancing both offensive and defensive hypersonic technologies directly contributes to the three pillars of the NDS: integrated deterrence; campaigning; and building enduring advantage. Potential strategic competitors have spent two decades investing in capabilities and modernizing their militaries, ultimately developing highly capable systems to challenge our dominance on the battlefield. The need for offensive hypersonic capability is driven by an element of this dynamic, specifically our adversaries' decades-long investment in creating a highly contested environment through the deployment of anti-access, area denial technologies and the existence of heavily-defended, time-critical targets that are less vulnerable to traditional subsonic strike assets. U.S. hypersonic weapons will be highly maneuverable and operate at varying altitudes, providing the warfighter with a survivable option to strike targets hundreds and even thousands of miles away, in a matter of minutes. U.S. hypersonic weapon systems are necessary to defeat adversary high-end capabilities, which are designed to challenge our battlefield dominance in the air, on land, at sea, and in space, and provide the Joint Force with a credible, medium and intermediate-range capability to strike key targets and serve as a complement to other U.S. conventional strike capabilities.

Joint System

Hypersonics is one of the highest priority critical technology areas the Department of Defense is pursuing to ensure our continued battlefield dominance. To achieve that goal, the Department has developed a strategic approach that accelerates the development and delivery of transformational warfighting capabilities based on hypersonic systems. This approach includes air, land, and sea launched, highly-survivable, medium and intermediate-range, conventionally-armed hypersonic strike weapons that can defeat time-critical maritime, coastal, and inland targets of critical importance. SSP's CPS Program is developing a non-nuclear hypersonic weapon system to provide the longest range, prompt, conventional strike capability of those the Department is pursuing. The U.S. Navy CPS Program and the U.S. Army Rapid Capabilities and Critical Technologies Office (RCCTO) are partnered to field a hypersonic weapon system through use of a Common Hypersonic Glide Body (CHGB), common booster stack, and joint test opportunities. This Navy-designed, developed, and produced common hypersonic missile booster, paired with a Navy-designed and developed, but Army-produced CHGB, make up an All Up Round that will enable precise and timely strike capability in contested environments. The Services are leveraging an ambitious joint flight test schedule to assess and improve the weapon system design and demonstrate performance against requirements. The Navy/Army partnership will field transformational hypersonic weapon systems to deliver unmatched capability in relevant timeframes to meet critical joint warfighting needs.

Fielding

The Navy-developed common hypersonic missile will be fielded by both Services and each will develop their respective weapon system on corresponding sea- or land-based launch platforms. The missile will be delivered to the Army as the Long Range Hypersonic Weapon (LRHW). The capability will then be fielded by the Navy as a sea-based capability onboard ZUMWALT Class DDGs starting in the mid-2020's and on Block V VIRGINIA Class SSNs starting in the early 2030's. While the Army's LRHW is road mobile and air transportable, the Navy's surface and submerged platforms add the elements of stealth, responsiveness, and mobility to the Combatant Commanders' strategic and tactical options. Combining CPS capability with the mobility and stealth of the sea-based platforms adds the most survivable, intermediate-range,

time-critical conventional hypersonic strike capability that, combined with LRHW, provides our Combatant Commanders with flexible strike options.

Workforce

The common hypersonic missile design for sea and land-based applications provides economies of scale for production and relies upon a growing U.S. hypersonics industrial base. The Department of Defense is making significant investments to facilitate the rapid development and testing of related technologies in order to enable affordable production at scale and accelerate the delivery of these capabilities. CPS industry partners continue to work diligently with the government national team to transition science and technology projects to industry for production, platform integration, and delivery of capability into the hands of warfighters. For example, the production of the CHGB design has been successfully transitioned from Sandia National Laboratories to industry partners, and in April 2022 the first glide body produced by our industry partners was delivered. By moving the production of hypersonic weapons from our national labs over to industry, we transitioned to production at scale, which will drive down costs and accelerate delivery of capability into the hands of the warfighter. The Services plan to advance the Nation's hypersonic capabilities with future upgrades to the CHGB and will continue to work with Sandia National Laboratories to refine those designs and support their transition to industry.

There is no single company that can provide hypersonic capability alone, so CPS is also fostering the creation of a new hypersonic industrial base for our country, in partnership with the Office of the Secretary of Defense (OSD), and with Congress's support. Because this is a critical national priority, our industry partners are making a collaborative investment of intellectual property and resources to deliver these weapon systems. The work and investments these companies and the government national team are making, both monetarily and in terms of relationships, are laying a strong foundation for success that will positively affect the future of our country. The innovation and cooperation that is happening across industry, government, Army, and Navy during this demanding time is truly energizing and critically important to the country.

Test Infrastructure

The Department of Defense, again with critical Congressional support, is making significant investment in ground and flight test infrastructure to ensure that there is sufficient test capability and capacity for current and future program's effort. These investments include increased capability and throughput at important ground test facilities, as well as enhanced airborne test instrumentation platforms to improve flight test data collection and throughput. CPS has coordinated with the Space Launch Delta 45 at Cape Canaveral Space Force Station to generate range requirements and provide funding for infrastructure upgrades necessary to establish the first Atlantic hypersonic flight test corridor. With Congress' support, the Multi-Service Advanced Capability Hypersonics Test Bed (MACH-TB) program was initiated by the CPS program and Naval Surface Warfare Center (NSWC), Crane, Indiana in 2022 to accelerate hypersonic technology development by increasing the capacity for hypersonic flight testing. The MACH-TB program demonstrated a successful full-scale flight test just a year later, laying the groundwork for CPS and other programs across the hypersonic enterprise to leverage commercially-available launch vehicles for ride-along hypersonic testing. The program is now managed by the OUSD(R&E) Test Resource Management Center (TRMC), which will ensure that the hypersonics flight test bed is a centralized hypersonic testing capability that can be leveraged by hypersonics programs across the Department of Defense, industry, and academia stakeholders. The CPS program will continue to work in close coordination with the TRMC to address the current and future needs of the CPS program's developmental sub-scale and full-scale testing using MACH-TB.

Recent Milestones

The Navy's CPS and Army's LRHW programs have pursued an aggressive schedule to develop a common hypersonic weapon that will be the Army and Navy's first. In March 2020, the CPS/LRHW teams completed a successful flight test that demonstrated that CHGB technology is mature and can provide desired warfighting capability. The joint services have also conducted numerous static fire tests of the first and second stage Solid Rocket Motors (SRM), which make up the common missile booster stack that supports both CPS and LRHW. These successful SRM tests were critical milestones leading up to the first flight test of the integrated CHGB and missile booster stack in June 2022. That first flight test of the newly developed weapon system was successfully initiated less than four years after the initiation of the programs and demonstrated

numerous firsts, including successful first and second stage missile booster flight. Although Fiscal Year (FY) 2023/FY 2024 flight tests of the hypersonic missile were not completed as expected, flight testing of a brand-new weapon system always carries inherent risk and accelerated development requires understanding the risk and pressing forward to meet the needs of the warfighter. After each test attempt, the Navy, Army, and our contractor and government national team rapidly reacted to identify root causes, complete corrective actions, and expeditiously return to the range. Recently, the programs initiated a series of design reviews and additional testing opportunities to restore technical confidence, achieve critical knowledge points, and reduce risk on the path to return to the range. The program continues to pursue the rapid development of this capability through sub-component and sub-scale testing, before returning to end-to-end weapon system testing.

Across the nation, a broad government and industry team is conducting continued developmental testing towards a common goal of fielding to Army and then onto Navy platforms. The Navy program has been diligently planning and executing engineering and test efforts to prepare for sea-based fielding. Utilizing an In-Air Launch test facility designed to support the development of the CPS cold-gas eject launcher system, the program has validated the approach that will be used in Navy sea-based platform fielding. To prepare for the underwater use of the CPS launcher, we are also building an Underwater Test Facility at NSWC Crane, Indiana. This facility will conduct submerged tests to ensure we understand how the missile flies through the water to support fielding CPS capability from Virginia Payload Module equipped Block V VIRGINIA Class submarines.

Supporting the warfighter is at the core of the CPS mission and as such, the Navy has executed several Operational Exercise events to inform development of the weapon system by putting Sailors in front of functional consoles in an operationally representative environment to execute CPS warfighting scenarios. This effort focuses on evaluating operator interfaces for on-platform CPS mission planning and execution. In FY 2023, the program also deployed a prototype Weapon Control System and missile simulator to USS ZUMWALT (DDG 1000). This effort, called the ZUMWALT Early Integration Demonstration (ZEID), provided an opportunity for USSTRATCOM to participate in an exercise to test weapon system-to-ship interface design, evaluate kill-chain CONOPS, and prototype operator interfaces, training, and sustainment while

USS ZUMWALT was underway to Huntington Ingalls Industries – Ingalls Shipyard (HII-Ingalls) to begin preparations for a Build Yard Modernization Period (BYMP) to install the full CPS weapon system.

Finally, the Navy and Army teams, along with numerous government, industry, and academic partners, have conducted three successful High Operational Tempo for Hypersonics flight campaigns from the NASA Wallops Flight Facility that consisted of precision sounding rocket launches demonstrating advanced hypersonic technologies, capabilities, and prototype systems in a realistic operating environment. The data learned from these sounding rocket tests has already informed the future development of the common hypersonic capability.

Upcoming Milestones

The CPS and LRHW programs plan to jointly conduct numerous flight tests of the common hypersonic missile, focusing on reducing risk and increasing technical confidence, as well as demonstrating intermediate range capability, ability to withstand environmental extremes, and deployment from multiple launch platforms, in operational scenarios. These flight tests will capture performance data and continue to mature the design and development of the common hypersonic missile. Of course, the work on this weapon system is not over when the Army fields the first prototype. The Navy will continue pressing forward with developmental testing in preparation for the first flight test to utilize the Navy's cold-gas eject launch, followed by the integration of the weapon system onto the first Navy surface platform. The Navy has also implemented a program plan that includes a series of recurring Technology Insertions. This will allow the program to routinely iterate the weapon system design to enhance its capability, integrate affordability initiatives to reduce material costs, leverage additive manufacturing and other new production processes, and perform obsolescence management activities. The Technology Insertion process ensures that the Army and Navy can affordably deliver a capable hypersonic system to support the nation's continued battlefield dominance.

Conclusion

The development of hypersonic technologies will deliver additional cutting-edge capabilities and strategic options to our armed forces, supplementing our existing capabilities. This conventional

hypersonic capability will ensure the Department of Defense maintains the ability to deter potential adversaries and to defeat aggression, if necessary. I am privileged to represent this unique organization as we work to serve the best interests of our great Nation. I thank the committee for the opportunity to speak with you about the Navy's conventional hypersonic weapon system and the vital role it plays in our national and global security.