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THE SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT

OF

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BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

SENATE ARMED SERVICES COMMITTEE

ON

AIR FORCE AND NAVY NUCLEAR PROGRAMS, IMPLEMENTATION OF

NUCLEAR ENTERPRISE REVIEW RECOMMENDATIONS

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Introduction

Chairman Sessions, Ranking Member Donnelly, distinguished Members of the subcommittee, thank you for this opportunity to discuss the Navy's strategic programs. It is an honor to testify before you this afternoon representing the Navy's Strategic Systems Programs (SSP).

SSP's mission is to design, develop, produce, support, and ensure the safety of our Navy's sea-based strategic deterrent, the Trident II (D5) Strategic Weapons System (SWS). The men and women of SSP and our industry partners remain dedicated to supporting the mission of our Sailors on strategic deterrent patrol and our Marines, Sailors, and Coast Guardsmen who are standing the watch, ensuring the security of the weapons we are entrusted with by this nation.

The Navy provides the most survivable leg of the U.S. nuclear triad with our ballistic missile submarines (SSBNs) and the Trident II (D5) SWS. A number of factors have contributed to an increased reliance on the sea-based leg of the triad. The 2010 Nuclear Posture Review reinforced the importance of SSBNs and the Submarine Launched Ballistic Missiles (SLBMs) they carry. SLBMs will comprise a significant majority of the nation's operationally deployed nuclear warheads, thus increasing the nation's reliance on the sea-based leg of the nuclear triad. The Chief of Naval Operations (CNO) and Vice Chief of Naval Operations have recently testified that the Navy's number one priority is to maintain a credible, modern, and survivable sea-based strategic deterrent. Maintaining our Nation's capability in this key mission area includes the proper funding of the OHIO Replacement Program – along with the propulsion and the SWS – it is "The Navy's #1 acquisition program."

Ensuring sustainment of the sea-based strategic deterrent capability is a vital national requirement today and into the foreseeable future. Our PB-16 budget request provides required funding to support the program of record in fiscal year (FY) 2016 for the Trident II (D5) SWS. To sustain this capability, I am focusing on my top priorities: Nuclear Weapons Safety and Security; the Trident II (D5) SWS Life Extension Program;

the OHIO Replacement Program; the Solid Rocket Motor (SRM) Industrial Base; the implementation of the Nuclear Enterprise Review recommendations; the newly codified Navy Nuclear Regulatory responsibility; and Collaboration with the Air Force.

Nuclear Weapons Safety and Security

The first priority, and the most important, is the safety and security of the Navy's nuclear weapons. Accordingly, Navy leadership clearly delegated and defined SSP's role as the program manager and technical authority for the Navy's nuclear weapons and nuclear weapons security.

At its most basic level, this priority is the physical security of one of our nation's most valuable assets. Our Marines and Navy Masters at Arms provide an effective and integrated elite security force at our two Strategic Weapons Facilities and Waterfront Restricted Areas in Kings Bay, Georgia and Bangor, Washington. U.S. Coast Guard Maritime Force Protection Units have been commissioned at both facilities to protect our submarines as they transit to and from their dive points. These Coast Guardsmen and the vessels they man provide a security umbrella for our OHIO Class submarines. Together, the Navy, Marine Corps, and Coast Guard team form the foundation of our Nuclear Weapons Security Program, and my headquarters staff ensures that our nuclear weapons capable activities continuously meet or exceed security, safety, and compliance criteria.

SSP's efforts to sustain the safety and improve the security of these national assets continue at all levels of the organization. The Navy's nuclear weapons enterprise maintains a culture of self-assessment in order to sustain safety and security. This is accomplished through biannual assessments by SSP headquarters staff, periodic technical evaluations, formal inspections, and continuous on-site monitoring and reporting at the Strategic Weapons Facilities. Technical evaluations, formal inspections, and on-site monitoring at the Strategic Weapons Facilities provide periodic and day-to-day assessment and oversight. Biannual assessments evaluate the ability of the organization to self-assess the execution of the assigned strategic weapons mission and compliance with requirements. The assessments leverage information gained from these oversight activities. The results of these biannual assessments are critically and independently reviewed through the Navy Nuclear Weapons Assessment and provided to the Secretary of the Navy and the CNO.

We also strive to maintain a culture of excellence to achieve the highest standards of performance and integrity for personnel supporting the strategic deterrent mission. We continue to focus on the custody and accountability of the nuclear assets that have been entrusted to the Navy. SSP's number one priority is to maintain a safe, secure, and effective strategic deterrent.

D5 Life Extension Program

The next priority is SSP's life extension efforts to ensure the Trident II (D5) SWS remains an effective and reliable sea-based deterrent. The Trident II (D5) SWS continues to demonstrate itself as a credible deterrent and exceeds the operational requirements established for the system over 30 years ago. The submarine leg of the U.S. strategic deterrent is ready, credible, and effective, thereby assuring our allies and partners and deterring potential adversaries. However, we must remain vigilant about age-related issues to ensure a continued high level of reliability.

The Trident II (D5) SWS has been deployed on our OHIO Class ballistic missile submarines for 25 years and is planned for a service life of 50 years. This is well beyond its original design life of 25 years and more than double the historical service life of any previous sea-based strategic deterrent system. As a result, effort will be required to sustain credible SWS from now until the end of the current OHIO Class SSBN in the 2040s, as well as the end of the service life of the OHIO Replacement SSBN in the 2080s.

The Navy is proactively taking steps to address aging and technology obsolescence. SSP is extending the life of the Trident II (D5) SWS to match the OHIO Class submarine service life and to serve as the initial baseline mission payload for the OHIO Replacement submarine platform. This is being accomplished through an update to all the Trident II (D5) SWS subsystems: launcher, navigation, fire control, guidance, missile, and reentry. Our flight hardware - missile and guidance - life extension efforts are designed to meet the same form, fit, and function of the original system to keep the deployed system as one homogeneous population, control costs, and sustain the

demonstrated performance of the system. We will remain in continuous production of large energetic components such as solid rocket motors and Post Boost Control System Gas Generators, and are starting an age management replacement effort for missile small ordnance and control components. We have also started initial planning on the timing of when a follow-on to Trident II (D5) will be needed. These efforts will provide the Navy with the missiles and guidance systems we need to meet operational requirements through the introduction and deployment of the OHIO Replacement SSBNs through the 2080s.

While budgetary pressures and impacts of sequestration have resulted in some deferred or delayed efforts, strategic deterrence remains the Navy's highest priority. As such, the Navy is committed to minimizing, to the maximum extent possible, impacts to this program in order to meet strategic requirements.

One impacted effort is the change to our flight test program. In accordance with Strategic Command (STRATCOM) requirements, the Navy is required to flight test a minimum of four Trident II (D5) missiles per year in a tactically-representative environment. The purpose of flight testing is to detect any change in reliability or accuracy. The FY 2016 budget request reflects a reduction of one planned flight test for affordability. The Navy has coordinated with STRATCOM to determine that this temporary reduction is manageable in the short-term, contingent upon our plan to ramp back up to four flight tests per year later in the Future Years Defense Program (FYDP). A prolonged reduction beyond what is planned in FY 2016 would impact our ability to detect changes in reliability and accuracy of an aging system with the required degree of statistical confidence to meet STRATCOM requirements. I am strongly committed to ensure our flight testing returns to four flight tests per year.

Despite budgetary pressures, the Navy's D5 life extension program remains on track. In June 2014, the USS WEST VIRGINIA (SSBN 736) successfully conducted her Demonstration and Shakedown Operation (DASO 25) by launching two missiles. One missile marked the third flight test of the D5 life-extended (LE) guidance system and the second flight test of the D5 LE Command Sequencer. The second missile was the first

flight of the D5 LE Flight Controls Electronics Assembly and Interlocks packages. Additionally, the first flight test of the D5 LE guidance system with the D5 LE Flight Controls Electronics Assembly and Interlocks packages is scheduled for DASO 26 in FY 2016. The D5 LE Command Sequencer met its initial fleet introduction earlier this year. The life extension efforts for the remaining electronics packages are on budget and on schedule. The life-extended missiles will be available for initial fleet introduction in FY 2017.

Another major step to ensure the continued sustainment of our SWS is the SSP Shipboard Integration (SSI) Programs, which address obsolescence management and modernization of SWS shipboard systems through the use of open architecture design and commercial off-the-shelf hardware and software. The first increment of this update was installed on the final U.S. SSBN in April of last year. This completed installation on all fourteen U.S. SSBNs, all four UK SSBNs and all U.S. and UK land-based facilities. Subsequent increments of this program begin installation this summer. The SSI Program includes refreshes of shipboard electronics hardware and software upgrades, which will extend service life, enable more efficient and affordable future maintenance of the SWS and ensure we continue to provide the highest level of nuclear weapons safety and security for our deployed SSBNs while meeting STRATCOM requirements.

To sustain the Trident II (D5) SWS, SSP is extending the life of the W76 reentry system through a refurbishment program known as the W76-1. The W76-1 refurbishment maintains the military capability of the original W76 for an additional 30 years. This program, which is being executed in partnership with the Department of Energy, National Nuclear Security Administration (NNSA), has completed over 50 percent of the planned warhead production. The Navy will continue to work with NNSA to closely monitor production and deliveries to ensure there are no operational impacts.

In addition, the Navy continues the design work to refurbish the aging electronics in the W88 reentry system. The Navy is collaborating with the Air Force to reduce costs through shared subsystems suitable for the W88/Mk5 and the W87/Mk21. Additionally, the Nuclear Weapons Council (NWC) has approved the inclusion of conventional high

explosive refurbishment as part of this effort which will support deployment of the W88/Mk5 into the early 2040s. As directed by the NWC, we have submitted funding requests to support the initial concept studies (6.2/6.2A) for an Interoperable Warhead (IW) to begin in 2020. The Navy believes that the NWC is effective at managing and identifying priorities for the nuclear weapons stockpile. Moreover, the Navy is fully represented at the NWC and has every opportunity to raise any issues directly with the NWC when necessary. Therefore, I do not recommend a separate Service vote at the NWC.

OHIO Replacement Program

The Navy's highest priority acquisition program is the OHIO Replacement Program, which replaces the existing OHIO Class submarines. The continued assurance of our sea-based strategic deterrent requires a credible SWS, as well as the development of the next class of ballistic missile submarines. The Navy is taking the necessary steps to ensure the OHIO Replacement SSBN is designed, built, delivered, and tested on time with the right capabilities at an affordable cost.

To lower development costs and leverage the proven reliability of the Trident II (D5) SWS, the OHIO Replacement SSBN will enter service with the Trident II (D5) SWS and D5 LE missiles onboard. These D5 LE missiles will be shared with the existing OHIO Class submarine until the current OHIO Class retires. Maintaining one SWS during the transition to the OHIO Class Replacement is beneficial from a cost, performance, and risk reduction standpoint. A program to support long-term SWS requirements will have to be developed in the future to support the OHIO Class Replacement SSBN through its entire service life.

The Navy continues to leverage from the VIRGINIA Class program to implement lessons-learned and ensure the OHIO Replacement Program pursues affordability initiatives across design, construction, and life cycle operations and support. Several critical milestones and decisions were achieved by the SSBN design team as they progress the design of the OHIO Replacement. Maintaining the pace of design and

submarine industrial capability is critical to the continued success of our sea-based strategic deterrent now and well into the 2080s.

A critical component of the OHIO Replacement Program is the development of a Common Missile Compartment (CMC) that will support Trident II (D5) deployment on both the OHIO Class Replacement and the successor to the UK VANGUARD Class. As the UK will be the first to test, launch, and deploy the Trident II (D5) system in a CMC, the U.S.-led design team is progressing at pace to support the UK Successor lead ship construction timeline. In 2014 the U.S. contracted for the first joint procurement of missile tubes to support building the U.S. prototype Quad-pack module, the Strategic Weapons System – Ashore (SWS Ashore) test site, and the UK's first SSBN. The joint CMC effort is shifting from design to construction that will support production in both U.S. and UK build yards. Any delay to the common missile compartment effort has the potential to impact the UK's ability to maintain a continuous at sea deterrent posture.

To manage and mitigate technical risk to both the U.S. and UK programs, SSP is leading the development of SWS Ashore integration test site at Cape Canaveral, Florida. This is a joint effort with the Navy and the State of Florida investing in the re-development of a POLARIS site to conduct integration testing and verification for OHIO Replacement and UK Successor programs. Refurbishment of the POLARIS site and construction of the infrastructure and building is proceeding at a rapid pace. Trident II (D5), OHIO Class, and OHIO Replacement new design hardware will be co-located and integrated to prove the successful re-host and redeployment of the Trident II (D5) SWS on the new submarines. To mitigate the restart of launch system production, SSP recently broke ground on a surface launch facility at the Naval Air Station, China Lake, California. This facility will prove that the launcher industrial base can replicate the performance of the OHIO Class Trident II (D5) launch system. We will be launching the refurbished Trident II (D5) test shapes we used in the 1980s starting in FY 2017. Launch performance is a critical factor we must understand at the systems level to ensure we maintain high reliability as we transition the weapon system to the next class of SSBNs.

The U.S. and the UK have maintained a shared commitment to nuclear deterrence through the Polaris Sales Agreement since April 1963. As the Director of SSP, I am the U.S. Project Officer for the Polaris Sales Agreement. Our programs are tightly coupled both programmatically and technically to ensure we are providing the most cost effective, technically capable nuclear strategic deterrent for both nations. Last year, marked the 51st anniversary of this agreement, and I am pleased to report that our longstanding partnership with the UK remains strong. The U.S. will continue to maintain its strong strategic relationship with the UK as we execute our Trident II (D5) LE Program and develop the common missile compartment. Our continued stewardship of the Trident II (D5) SWS is necessary to ensure a credible and reliable SWS is deployed today on our OHIO Class submarines, the UK VANGUARD Class, as well as in the future on our respective follow-on platforms. This is of particular importance as the New START Treaty reductions are implemented, increasing the reliance on the sea-based leg of the Triad. The OHIO Replacement will be a strategic, national asset whose endurance and stealth will enable the Navy to provide continuous, uninterrupted strategic deterrence well into the 2080s.

Solid Rocket Motor (SRM) Industrial Base

A priority is the importance of the defense and aerospace industrial base, in particular, the solid rocket motor industry. I remain concerned with the decline in demand for solid rocket motors. While the Navy is maintaining a continuous production capability at a minimum sustaining rate of twelve rocket motor sets per year, the demand from both NASA and Air Force has precipitously declined. Not only did this decline result in higher costs for the Navy, as practically a sole customer, but it also put an entire specialized industry at risk for extinction – or at least on the "endangered species list." To allow this puts our national security at risk. The Navy cannot afford to singularly carry this cost, nor can our nation afford to lose this capability. While the efforts of our industry partners and others have created short-term cost relief, the long-term support of the solid rocket motor industry remains an issue that must be addressed at the National level. To date, this has not happened. At SSP, we will continue to work with our

industry partners, DoD, senior NASA leadership, Air Force and Congress to do everything we can to ensure this vital national security industry asset is preserved.

Nuclear Enterprise Review

The recent Secretary of Defense–directed Nuclear Enterprise Review (NER) and the Program and Budget Review for the FY 2016 budget formulation focused significant attention on the recapitalization, sustainment, and modernization of our nuclear deterrence systems and infrastructure. The NER provided the Navy a thorough and unbiased look at our nuclear forces. Overall, the report found that the nuclear enterprise is safe, secure, and effective today but it also found evidence of systemic problems that, if not addressed, could undermine the safety, security, and effectiveness of elements of the force in the future. Fortunately the Navy's internal Nuclear Weapons Assessment and the SSP Comprehensive Self-Assessment identified most of the issues underscored during the NER. In fact, the report validated numerous efforts already underway.

The Navy has taken active steps to address the more than 68 recommendations with Navy equity contained in the report. Significant action has been taken to implement each recommendation, generally focused on a few key areas, including: oversight, investment, and personnel and training improvements. These implementation actions have been funded with an additional budget request of $407M in FY 2016 and $2.2B across the FYDP. With respect to oversight, the Navy is clarifying the nuclear deterrent enterprise leadership structure and reducing administrative burdens imposed on the forces. The Nuclear Deterrent Enterprise Group (NDERG), formed and led by the Secretary of Defense will provide regular oversight of the nuclear enterprise. The Navy Nuclear Weapons Oversight Council has become the Navy's mechanism to ensure NDERG recommendations and guidance are properly implemented and that investments achieve the intended effect.

Regarding training and personnel the Navy is planning a significant investment to build a margin in the deterrence force and clear the SSBN maintenance backlog. Some of the recommendations involve long-term cultural or organizational changes, and the Navy

has matched the right responsibilities with the right leaders. There will be an emphasis on the importance of the deterrence mission through updated vision statements, revised campaign plans, and methods to eliminate obstacles to enhance moral conduct and relieve the pressures on Sailors, training, and work-life balance. More specifically the Navy will apply additional resources to Strategic Mission personnel with a planned $28M and an increase of 44 Full Time Equivalents (FTE) in FY 2016. In addition 160 FTEs were added for the Strategic Weapons Facilities and TRIDENT Training Facility to improve sustainment and training of the ballistic missile submarine force.

The Navy has also planned a substantial increase in FTEs for the four Naval Public Shipyards. With an eventual target of 33,500 direct and reimbursable FTEs, the goal is to better match capacity with workload. In addition, some submarine maintenance will be outsourced to the private sector to ensure over capacity work does not result in deferred maintenance into the FYDP. Both of these actions result in an investment of $338M with an overall planned FYDP investment of $1.1B. There will be accelerated infrastructure improvements and recapitalization plans to ensure long-term sustainment at Shipyards and Strategic Weapons Facilities. The Navy accelerated investment in the budget request for FY 2016 from a 17 year plan to a 15 year plan to improve the condition of the Shipyards by adding $350M across the FYDP. The Navy has also funded $324M across the FYDP to address infrastructure issues at the Strategic Weapons Facilities. Navy is developing a 20 year investment plan to ensure the continued reliability of critical infrastructure at these facilities to support nuclear weapons movement and operations. While the Navy has made significant progress through actions taken to date, we recognize much work remains to be accomplished. The Navy is confident we have the right emphasis, oversight and processes in place to maintain a credible, modern, and safe sea-based deterrent.

Navy Nuclear Regulatory Responsibility

As a result of the Nuclear Enterprise Review the Navy implemented a centralized regulatory authority for nuclear force readiness. As the Director, Strategic Systems Programs (DIRSSP), I now have accountability, responsibility and authority to serve as

the single Flag Officer to monitor performance and conduct end-to-end assessment of the Navy Nuclear Deterrence Mission (NNDM) elements. These responsibilities are defined in SECNAVINST 8120.1B and OPNAVINST 8120.1. Nine Echelon 2 level commands directly contribute to the NNDM: US Fleet Forces Command (USFLTFORCOM), US Pacific Fleet (PACFLT), Fleet Cyber Command (USFLTCYBERCOM), Navy Supply Systems Command (NAVSUPSYSCOM), Naval Sea Systems Command (NAVSEASYSCOM), Chief of Naval Personnel (CNP), Bureau of Medicine and Surgery (BUMED), Commander, Navy Installations Command (CNIC), and SSP.

DIRSSP will be the NNDM regulatory authority responsible for assessing and reporting issues to the Navy Nuclear Weapons Council and the CNO. SSP is tasked with developing, coordinating, and implementing policies approved by the CNO, and conducting end-to-end assessments of the Department of the Navy nuclear weapons and nuclear weapons systems and personnel for safe, reliable, and effective execution of the NNDM.

SSP is engaged with the Echelon 2 commands defined above to understand their current reporting and assessment processes and to define the NNDM regulatory assessment policy. My next in-progress review for the CNO, April 2015, will define the existing reporting and engagement strategies, the status of our interaction with the commands, and present the initial component assessment and reporting.

Collaboration with the Air Force

The final priority is strategic collaboration between the Services. The Navy and the Air Force are both addressing the challenges of sustaining aging strategic weapon systems and have begun to work collaboratively to ensure these capabilities are retained in the long-term to meet our requirements. To do so, we are seeking opportunities to leverage technologies and make the best use of scarce resources.

As I testified last year, the Navy and the Air Force established an Executive Steering Group to identify and investigate potential collaboration opportunities and oversee collaborative investments for sustainment of our strategic systems. As a part of

this effort, technology area working groups are studying collaboration opportunities in the areas of Reentry Systems, Guidance, Strategic Propulsion, Command and Control, Radiation Hardened Electronics, Testing and Surveillance, and Nuclear Weapons Surety.

The Navy was an active participant in the Air Force's Ground Based Strategic Deterrent (GBSD) effort. Members of my staff were involved with this effort, which began during the GBSD Analysis of Alternatives (AoA). Navy subject matter experts supported each of the GBSD AoA working groups and participated in an effort to evaluate the benefits and potential risks of commonality and collaboration for each of the GBSD AoA options. Since the completion of the AoA, the Navy has continued to support the Air Force technical and programmatic efforts on GBSD including technology identification and requirements development.

The benefits of increased collaboration between the services are many. However, commonality is required to actually save costs. Commonality will help improve the affordability of the Nation's strategic services by eliminating redundant efforts and by improving economic order quantities of key constituents and components. In addition to the benefits gained by improved economic order quantities, the use of common constituents and components will make it easier for the Navy and Air Force to sustain the critical skills and capabilities needed by stabilizing demand signals to suppliers. Finally these efforts allow the Navy and Air Force to leverage work already being done by the other service to avoid unnecessary duplication and costs.

Each leg of the Triad has unique attributes. Furthermore, a sustained and ready Triad provides an effective hedge, allowing the nation to shift to another leg, if necessary due to unforeseen technical problems or vulnerabilities. For this reason, the Department is focused on cooperative efforts that maintain affordability and reduces risk to both services while retaining essential diversity where needed to ensure a credible and reliable deterrent. Many of the industries and required engineering skills sets are unique to strategic systems. Key to SSP's historical success has been our technical applications programs, which in the past have provided a research and development foundation. As

we evaluate maintaining this strategic capability until the 2080s to match the full service life of the OHIO Replacement submarine, we will need to resume these critical efforts.

Conclusion

SSP continues to maintain a safe, secure, and effective strategic deterrent and focus on the custody and accountability of the nuclear assets entrusted to the Navy. Our PB-16 budget request ensures that we will sustain this capability in FY 2016. However, we must remain vigilant about unforeseen age-related issues to ensure the high reliability required of our SWS. SSP must maintain the engineering support and critical skills of our industry and government team to address any future challenges with the current system as well as prepare for the future of the program. Our nation's sea-based deterrent has been a critical component of our national security since the 1950s and must continue to assure our allies and deter potential adversaries well into the future. I am privileged to represent this unique organization as we work to serve the best interests of our great Nation.