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SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE
UNITED STATES SENATE

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE SENATE ARMED SERVICES COMMITTEE-
STRATEGIC FORCES SUBCOMMITTEE

SUBJECT: Department of Defense Nuclear Acquisition Programs and the Nuclear Doctrine

STATEMENT OF: General Robin Rand, Commander
Air Force Global Strike Command

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## Introduction

Chairman Fischer, Ranking Member Donnelly, and distinguished Members of the Committee, thank you for allowing me to come before the committee and represent the over 34,000 Air Force Global Strike Command (AFGSC) Total Force Airmen. It is an honor to be here today, and I look forward to updating you on what the command has accomplished and where we are going.

## Air Force Global Strike Command Mission

As you know, the command focuses on the stewardship and operation of two legs of our nation's nuclear Triad and the Air Force's nuclear command, control, and communications capabilities while simultaneously accomplishing the conventional global strike mission. As long as nuclear weapons exist, the United States must deter attacks and maintain strategic stability, and at AFGSC, we're especially focused on today's evolving world and tomorrow's emerging threats.

The command's top priority is to ensure our nuclear arsenal is safe, secure, effective and lethal. This priority underlies every nuclear-related activity in AFGSC, and we must never fail in the special trust and confidence the American people have bestowed on our nuclear warriors. To that end, our nation's leaders must continue to support and advocate for the sustainment and modernization of these weapon systems.

Our bomber and Intercontinental Ballistic Missile (ICBM) forces, and our nuclear command, control, and communications systems defend our national interests, assure our allies and partners, and deter potential adversaries; should deterrence fail, we stand ready to defeat our adversaries through the persistent application of combat power.

## Air Force Global Strike Command Forces

### *Intercontinental Ballistic Missile Forces*

Twentieth Air Force (20 AF), one of two Numbered Air Forces in AFGSC, is responsible for the Minuteman III (MMIII) ICBM, UH-1N helicopter forces, and the Kirtland Underground Munitions Maintenance and Storage Complex at Kirtland Air Force Base, New Mexico. The 450 dispersed and hardened launch facilities (LFs), controlled and maintained by AFGSC Airmen every single day, preserve strategic stability by providing the nation a credible,

responsive deterrent, which presents adversaries a nearly insurmountable obstacle of numbers should they consider a disarming attack on the United States.

***Minuteman III***

We continue to sustain and modernize the Minuteman III ICBM and its command, control, and communications systems and support equipment. We continue moving forward on the $62M FYDP Transporter Erector (TE) Replacement Program (TERP) and the $76M FYDP Payload Transporter (PT) Replacement (PTR) to modernize our existing fleet of large missile maintenance vehicles. We currently expect TERP and PTR to begin production in FY18.

We are also equipping ICBM launch control centers (LCC) with modernized communications systems that will improve and replace aging and obsolete systems. The LCC Block Upgrade, expected to begin full deployment in 2019, is a $70M modification effort that replaces multiple LCC components to include a modern data storage replacement for floppy disks and new Voice Control Panels to provide higher fidelity voice communications. We continue to push forward on improving Remote Visual Assessment at our remote launch facilities, a significant security upgrade, to improve situational awareness and security. We expect this $40M program to begin deployment in FY19.

We conducted four reliable MMIII flight tests in Fiscal Year 2016 that, along with two Simulated Electronic Launch tests in the operational environment, demonstrated the operational credibility of the nuclear deterrent force and the AF's commitment to sustaining that capability. Four operational flight tests are currently funded in FY17 ($39M), satisfying both United States Strategic Command (USSTRATCOM) and National Nuclear Security Administration (NNSA) requirements. We have already conducted three tests; the last is scheduled for August.

We are nearing completion of our efforts to remove 50 ICBM boosters from their LFs as part of our effort to meet New START Treaty limits. The LFs are spread across all three ICBM wings and will remain fully operational and capable of receiving boosters, if needed. The final booster is expected to be removed in early June 2017.

***Ground Based Strategic Deterrent***

The Minuteman weapon system was fielded nearly 60 years ago, yet has remained a cornerstone deterrence platform. ICBMs are the sole weapon system capable of rapid global response and impose a time-proven and unpalatable cost to attack by peer, near-peer and aspiring nuclear nations. The current system, the Minuteman III, suffers from age out, asset depletion,

and numerous performance shortfalls. Simply put, it will not meet critical mission performance requirements or force commitments by 2030.

To meet these requirements, we're successfully moving forward on developing the Ground Based Strategic Deterrent (GBSD). OSD/AT&L approved the GBSD Acquisition Strategy in July of last year, and Milestone A was achieved on 23 August 2016. The GBSD is fully funded, $5.6B FY18-22, and in source selection with an expected on-time contract award (up to two offerors) in 4QFY17, initiating a three year acquisition risk reduction activity. When complete, a second cost-reducing, competitive source selection will identify a single provider and initiate material development efforts beginning in the 2020 timeframe.

Additionally, we remain engaged with our Navy partners and have identified promising areas for intelligent commonality between GBSD systems and future Navy weapons, and we are collaborating with the NNSA to develop a W-78 warhead life extension program for our aging nuclear assets, starting in 2020. The replacement warhead, Interoperable Warhead 1 (IW1) is planned to deploy with GBSD; however, due to system age-out, attrition, and commitment requirements, the first priority is to modernize the necessary facilities, replace the missile, and sustain and maintain command and control (C2) systems.

***UH-1N***

AFGSC is the lead command for the Air Force's fleet of 62 UH-1N helicopters. The majority of these aircraft support two critical national missions. The UH-1N provides vital support in the security of our ICBM fields and critical Continuity of Operations and transport missions in the National Capitol Region. Additionally, they support Air Force survival training with rescue operations. Further, they participate in the Defense Support of Civil Authorities program and are frequently called upon to conduct search and rescue activities for missing or injured civilians.

***UH-1N Follow On***

In order to continue supporting these critical national missions and fully comply with DoD and USSTRATCOM requirements, the Air Force has committed $2B FY18-22 to replacing the UH-1N fleet, as the platform falls short of missile field operational needs—notably speed, range, endurance, payload, and survivability. The Air Force is pursuing a full-and-open competition to procure 84 replacement helicopters. We plan to release the final request for proposal in summer 2017, with contract award in FY18.

***Bomber Forces***

Eighth Air Force is responsible for the B-52H Stratofortress (B-52) bomber, the B-2A Spirit (B-2) bomber, and the B-1B Lancer (B-1) bomber. Bombers provide decision makers the ability to demonstrate resolve through generation, dispersal, or deployment.

***Global Assurance and Deterrence***

To assure our allies and partners, and to increase regional stability, AFGSC provides bomber forces arrayed across the globe to provide flexible, responsive options to combatant commanders. The deployments in support of the United States Central Command area of responsibility (AOR) and the Continuous Bomber Presence (CBP) in the United States Pacific Command (USPACOM) AOR send a strong signal to our allies of our commitment to their regions. Additionally, AFGSC provides bomber forces to support United States Southern Command's (USSOUTHCOM) Joint-Interagency Task Force-South (JIATF-S), United States European Command (USEUCOM), and United States Africa Command (USAFRICOM) through the Joint Staff's Global Force Management (GFM) process and Bomber Assurance and Deterrence (BAAD)-ordered deployments and missions. These opportunities enhance our support to our allies and display our resolve to our adversaries. The core of AFGSC assurance and deterrence is our unwavering commitment to United States Strategic Command (USSTRATCOM) and our nuclear deterrence operations (NDO). AFGSC must balance global force posturing with our NDO mission, while not jeopardizing readiness and fleet health. Arraying bomber forces globally, to increase strategic flexibility and respond to a changing global security environment, while doing no harm to our NDO mission, will further enhance our assurance to allies and partners and posture our forces in such a manner where our adversaries will take notice.

***B-1***

The B-1 is a highly versatile, multi-mission weapon system that carries the largest payload of both guided and unguided weapons in the Air Force inventory. It can rapidly deliver large quantities of precision and non-precision weapons in support of combatant commanders around the globe.

The B-1 will be in demand for at least two more decades and avionics and recent weapon upgrades are critical for it to remain a viable combatant commander tool. The Integrated Battle Station (IBS)/Software Block-16 (SB-16) upgrade, the largest ever B-1 modification ($210M

FY18-22), includes an upgraded Central Integrated Test System (CITS), Fully Integrated Data Link (FIDL), Vertical Situation Display Upgrade (VSDU), and a simulator upgrade. This marks a fantastic capability upgrade, and the associated cockpit upgrades provide the crew with a much more flexible, integrated cockpit.

***B-52***

The B-52 may be the most universally recognized symbol of American airpower…its contributions to our national security through the Cold War, Vietnam, Desert Storm, Allied Force, Iraqi Freedom, Enduring Freedom and now Operation Inherent Resolve are well documented. The B-52 is able to deliver the widest variety of nuclear and conventional weapons.

I anticipate the B-52 will remain a key element of our bomber force until at least 2050; it is paramount that we continue to invest resources into this aircraft now to keep it viable in both conventional and nuclear mission areas for the next 30-40 years. Our B-52s are still using 1960s radar technology with the last major radar upgrade done in the early 1980s. Currently, the mean time between failure rates on the B-52 radar is 46 flight hours. The current radar on the B-52 will be even less effective in the future threat environment, and without an improved radar system, there will be increased degradation in mission effectiveness. In order to remedy this, the $500M FYDP B-52 Radar Modernization Program is approaching the conclusion of its Capability Development Document phase and will enter the program pre-Milestone B.

Today we have 21 of the B-52s converted to the CONECT configuration. This modification moves the B-52 into the digital age for the first time. This on-board LAN will allow the crew to share a common battlespace picture. This modification is installed on every aircraft going through their regular program depot maintenance cycle.

The 1760 Internal Weapons Bay Upgrade increases B-52 smart weapons capacity by 67%. This capability reached its IOC milestone in May 2016 and will be adding Joint Air-to-Surface Standoff Missile (JASSM) and Joint Air-to-Surface Standoff Missile-Extended Range (JASSM-ER) capability in late summer 2017.

Communications remain the cornerstone of our strike capability. The ability to launch bombers and retask / retarget them while enroute to the fight is a powerful force multiplier. We will be adding a critical communications node to enhance the operational picture with Link-16 integrating the aircraft into the warfighter's efforts. Currently, the B-52 is the only Combat Air

Forces platform without Link-16. Additionally, we are exploring options to re-engine the B-52 to make it more fuel efficient and cost effective.

Finally, I want to point out that we have converted 29 operational and 12 stored B-52 aircraft to conventional-only configurations. These conversions were undertaken as a part of the U.S.'s New START obligations.

***B-2***

For nearly 25 years, our B-2s have provided the nation with an assured penetrating bomber capability. The B-2's ability to penetrate enemy defenses, holding any target at risk with a variety of nuclear and conventional weapons, has provided deterrence against our enemies and stability for our allies.

We are starting the most aggressive modernization period in the history of the B-2. This effort is addressing a Nuclear Command and Control need, bringing Very Low Frequency (VLF) and Extremely High Frequency (EHF) Satellite communications capability to the aircraft. Additionally, with the proliferation of Anti-Access Area Denial (A2/AD) threats, we are ensuring the B-2's ability to penetrate enemy defenses is maintained with the Defensive Management System Modernization program. Finally, the B-2 is upgrading to carry the B61-12 nuclear gravity weapon. This upgrade is critical to ensuring the bomber leg of the nuclear triad remains a visible deterrent to those who wish us harm.

Small fleet dynamics continue to challenge our sustainment efforts primarily due to vanishing vendors and diminishing sources of supply. We are striving to maintain the proper balance of fleet modernization and sustainment while maintaining combat readiness. Lessons learned from the difficulty sustaining and modernizing the B-2's small-fleet should be considered when determining the purchase size of future acquisitions such as the B-21.

***B-21***

Technology gaps between the US and potential adversaries are closing. The B-21 will support the nuclear Triad by providing an advanced and flexible deterrent capability, with the ability to penetrate modern and future air defenses. Further, the B-21 will provide flexibility across a wide range of joint military operations using long range, large and mixed payloads, and survivability. The B-21 program will extend American air dominance against next generation capabilities and advanced air defense environments.

The B-21 is designed to have an open architecture, which enables it to integrate new technology and respond to future threats. The B-21 is fully funded in the FY18 budget submission, and an initial capability is projected for the mid-2020s.

As the B-21 is developed and goes into production, the Air Force is also preparing for future basing and the required facilities on those bases. While the B-21 will bring new construction and facility renovation costs, we believe the current bomber bases are best suited to absorb the new mission. Simply put, the current bomber bases were custom built to support and sustain bomber operations. In many cases, they already have the environmental framework and airspace agreements in place. Additionally, the current bomber bases also have the infrastructure and missions for maintenance, munitions storage, security, simulators, base operating support network, off-base community support, and many of the other areas required for bomber operations. New bases may require more construction, infrastructure, and investment dollars. While preparing for future B-21 basing, our primary focus will be providing safe, secure, and effective bomber operations in a cost-efficient manner.

***Air Launched Cruise Missile***

The AGM-86B Air Launched Cruise Missile (ALCM) is an air-to-ground, winged, subsonic nuclear missile delivered by the B-52. Fielded in the 1980s, the ALCM is over 30 years old, well beyond its life expectancy and is involved in its third life extension program. While the ALCM remains effective today, we must replace it due to its aging subsystems, the shrinking stockpile of operational missiles (553), and advances in enemy defenses. We plan to invest $162M in FY18-22 to continue life-extension programs including critical telemetry, encryption, and flight termination components until our Long-Range Stand-Off (LRSO) weapon reaches operational capability in 2030.

***Conventional Air Launched Cruise Missile***

The AGM-86C, Conventional Air Launched Cruise Missile (CALCM) is a conventional variant to the ALCM. It's only employment platform is the B-52 and unlike the ALCM, CALCM has not received any life-extension programs to maintain reliability or viability against enemy defenses. Current NDAA language has prevented the service from removing this aging and obsolete weapon system from operational use pending the development, testing, and initial fielding of a LRSO conventional variant. The conventional long range stand-off capability currently resides in JASSM-ER and is a more survivable weapon system with low observable

characteristics. JASSM-ER is capable of employment from the B-52, B-1, or B-2. It is prudent that when our bomber force continues to make advancements in capability, that we divest ourselves of CALCM and focus our training and maintenance resources towards the use of more capable weapons which hold our adversaries at risk.

***Long Range Stand-Off Missile***

The AF dedicated $2.7B FY18-22 for the LRSO to replace the aging ALCM. The ALCM has significant capability gaps that will only worsen through the next decade. The LRSO will be a reliable, long-ranging, and survivable weapon system and an absolutely essential element of the nuclear triad. It will be flexible, and will be compatible with B-52 and B-21 platforms. The LRSO missile will ensure the bomber force continues to hold high value targets at risk in an evolving threat environment, including targets deep within an area denied environment. I cannot overemphasize this point: B-21 and B-52 without LRSO greatly reduces our ability to hold adversaries at risk, increases risk to our aircraft and aircrew, and negatively impacts our ability to execute the mission. Additionally, we are synchronizing our efforts with NNSA to fully integrate the W80-4 warhead with LRSO. This weapon will retain nuclear penetrating cruise missile capabilities through 2060. To meet operational, testing, and logistics requirements, the Air Force plans to acquire approximately 1,000 LRSO cruise missile bodies. This quantity will provide spares and supply sufficient non-nuclear missile bodies throughout ongoing flight and ground testing. The number of nuclear-armed LRSO cruise missiles (i.e., mated to a nuclear warhead) is expected to be equivalent to the current ALCM nuclear force. Milestone A for LRSO was declared in July 2016.

***B61***

The B61 family of gravity nuclear weapons support the airborne leg of the Triad and is the primary weapon supporting our NATO allies under extended deterrence. The B61-12 is currently undergoing a Life Extension Program (LEP) and will result in a smaller stockpile, reduced special nuclear material in the inventory, improved B61 surety, and reduced lifecycle costs by consolidating four weapon versions into one. The B61-12 life-extension includes the addition of a digital weapons interface and a guided tail kit assembly. AFGSC is the lead command for the $630M FY18-22 B61-12 Tail Kit Assembly program, which is needed to meet USSTRATCOM requirements on the B-2. The B61-12 Tail Kit Assembly program is in Engineering and Manufacturing Development Phase 1 and is synchronized with NNSA efforts.

The Tail Kit Assembly design and production processes are on schedule and within budget to meet the planned Fiscal Year 2020 First Production Unit date, and support the lead time required for the inclusion of the Department of Energy (DoE) warhead service-life extension completion date of March 2020. This joint DoD and DoE endeavor allows for continued attainment of our strategic requirements and regional commitments.

***GBU-57***

AFGSC assumed responsibility as the lead MAJCOM for the GBU-57 Massive Ordnance Penetrator (MOP) in the Summer of 2015. The MOP is a 30,000-pound guided conventional bomb designed to defeat hardened and deeply buried targets and is exclusively employed from the B-2. It has received several upgrades and enhancements based on warfighter requirements. AFGSC, USCENTCOM, and the Air Force Life Cycle Management Center Program Office are currently conducting two more enhancements to increase weapon effectiveness.

**Security**

Nuclear security is a key function of the command's mission, and a major AFGSC security initiative continues to be new Weapon Storage Facilities (WSF). These new facilities will consolidate nuclear maintenance, inspection, and storage into a single modern and secure facility, replacing deficient 1960s-era Weapon Storage Areas. Additionally, this initiative eliminates security, design, and safety deficiencies and improves our maintenance processes. We have put forward a $1.9 billion program to meet requirements for a safe, secure, and effective nuclear arsenal.

**Nuclear Command, Control, and Communications**

Air Force Nuclear Command, Control and Communications (NC3) systems connect the President to his senior advisors and to the nuclear forces. The ability to receive presidential orders and convert those orders into actionable directives is both critical to performing the nuclear mission and foundational to an effective and credible strategic deterrent. AFGSC is the Air Force's lead command for National Leadership Command Capabilities (NLCC)/NC3 which establishes one focal point for the weapon system.

AFGSC has taken its charge of sustaining and modernizing the NC3 weapon system seriously. In fact, through the Nuclear Enterprise Review process and a cross-MAJCOM internal

Air Force study, we identified multiple areas that have atrophied through decades of low prioritization. To remedy the deterioration, we have advocated for funds specifically for NC3, including $16 million to improve long-haul communications, $8 million in telephony upgrades, and $2 million in radio upgrades. Additionally, AFGSC stood up the USAF NC3 Center in April 2017. The NC3 Center oversees interoperability, standardization, and configuration control of the USAF's NC3 weapon system, and will plan and program for NC3 investment, sustainment, and operations. In standing up the Center, Air Force NC3 finally speaks with a singular voice.

AFGSC has continued to make gains in efforts to modernize our communications and cyberspace infrastructure by leveraging technology, making our forces more capable and effective. In our ICBM fields, some of the copper cabling that transports voice and data between the main base and the Missile Alert Facilities (MAFs) rely on 1960s technology and equipment. We have undertaken a major modernization initiative to replace old cabling with modern technology that will realize over a 15-fold increase in data capability and improve missile field command and control with unclassified and classified networking, wireless networking, and secure digital voice to the MAFs. These are important upgrades, but they still do not replace the buried copper nuclear command and control lines.

When AFGSC was named lead command for NC3, we added the E-4B to our list of aircraft. The E-4B Nightwatch serves as the National Airborne Operations Center and is a key component of the National Military Command System for the President, the Secretary of Defense, and the Joint Chiefs of Staff. In case of national emergency or destruction of ground command and control centers, the aircraft provides a highly survivable command, control and communications center to direct U.S. forces, execute emergency war orders and coordinate actions by civil authorities.

**Nuclear Enterprise Review**

In 2014, the DoD Nuclear Enterprise Review (NER), along with internal Air Force assessments, served as a catalyst for major improvements within the Air Force nuclear enterprise. Since 2014, the Air Force has applied deliberate and sustained focus towards addressing the identified shortfalls. Our ongoing efforts—spanning the full-range of personnel, management, oversight, mission performance, training, testing, and investment issues—continue to produce tangible and lasting improvements. As this committee is well aware, the Air Force

and AFGSC have undertaken monumental shifts to support our number one priority, the nuclear enterprise. Our Airmen continue to see increased emphasis on their mission requirements. They see mid-career leaders mentoring those younger than them, educating them on the importance of their missions. And they see their most senior leaders in the Administration, in the Department, and here in Congress acting on their behalf.

However, we are not done. Since the NER, we have accomplished bottom-up reviews of our bomber forces, airborne launch operations, and the headquarters itself. Most recently, we created a Human Weapon System Team. All of our major weapon systems have teams which monitor the health and sustainment of the program. We were lacking this kind of approach for the most important weapon system we have…our Airmen! We continue to cultivate a culture that embraces innovation, change, diversity, while fostering an environment of dignity and respect. In order to gauge our progress on improvement, I established an Independent Strategic Assessment Group earlier this year. This group, led by established former leaders of the DoD, is providing me with critical feedback on how we are taking care of our Airmen, how we are structured, and how we can expertly accomplish our deterrence mission. This is a resource I will continue to use in the future as the command evolves.

**Priorities**

My priorities remain the same and are relatively simple. They guide every decision I make. They are Mission, Airmen, and Families…rooted in our AF Core Values and reinforced by our rich heritage. We exist to serve the nation by providing strategic deterrence and global strike. However, without our great Airmen, we could never hope to be as successful as we are. When I visit our units, I am always humbled by the dedication of our Global Strike warriors and their unfailing drive to do their best. I truly believe that while we recruit Airmen, we retain families. We cannot forget the loved ones who stay behind while our Airmen deploy, whether it is overseas or to a missile field. We recognize that no matter the job an Airman is doing, we must never lose sight of the families who support them. This is why I have asked my leadership at all levels to focus on making tangible and lasting improvements in supporting our Airmen and families. We have always made family a top priority, but now we're deliberately focusing on initiatives to care for our Airmen and their families. We are improving the quality and capacity of dormitories across the command and strengthening involvement and engagement with local

School Liaison Officers through annual training and regular encounters. We have also looked at how we care for our families and have engaged the Defense Health Agency to enhance the reimbursement rates for Applied Behavioral Analysis Therapy and the Exceptional Family Member Program. We have recognized the sacrifices spouses make when they are required to change duty stations and realize the high rates of under and unemployment. To address this area, we are utilizing military spouse preference hiring authorities, and are also working with Headquarters Air Force on reciprocity agreements to transfer accreditations and licensures (e.g. medical, education) for spouses in these situations to assist in employment opportunities. These efforts ensure that we take special care of our great Airmen and their families.

**Conclusion**

Thank you for your continued support of Air Force Global Strike Command and our strategic deterrence and global strike missions. Fiscal constraints, while posing planning challenges, do not alter the national security landscape or the intent of competitors and potential adversaries; nor do they diminish the enduring value of long range, strategic forces to our nation. The technology and capability gaps between our nation and its adversaries are closing dangerously fast…and in some cases, have closed completely.

Although we account for less than one percent of the DoD budget, AFGSC forces represent two-thirds of the nation's nuclear Triad and oversee approximately 75% of the nation's NC3 systems. These forces play a critical role in ensuring U.S. national security, while also providing joint commanders rapid global combat airpower. AFGSC will continue to seek innovative, cost-saving measures to ensure our weapon systems are operating as efficiently and effectively as possible. Modernization, however, is mandatory. AFGSC is operating a bomber force averaging over 40 years of age; operating ICBMs with 1960s infrastructure; and utilizing 1960s era weapon storage areas. We cannot afford to delay modernization initiatives. The best way to avoid unthinkable conflict is to deter and be prepared to fight with modern and reliable forces. To do otherwise, by delaying modernization once more, invites strategic instability, potential miscalculation, and the risk of devastating escalation. We stand at a pivotal point in history where the American people and our allies are counting on congressional action to fund our nuclear enterprise modernization efforts. Thank you for your ongoing support of the nuclear enterprise.