

NOT FOR PUBLICATION UNTIL RELEASED BY  
SENATE ARMED SERVICES COMMITTEE  
SUBCOMMITTEE ON STRATEGIC FORCES  
UNITED STATES SENATE

**DEPARTMENT OF THE AIR FORCE**

**PRESENTATION TO THE  
SENATE ARMED SERVICES COMMITTEE  
SUBCOMMITTEE ON STRATEGIC FORCES  
UNITED STATES SENATE**

**SUBJECT: Strategic Systems**

**STATEMENT OF: Brigadier General Garrett Harencak  
Commander, Air Force Nuclear Weapons Center**

**April 6, 2011**

NOT FOR PUBLICATION UNTIL RELEASED BY  
SENATE ARMED SERVICES COMMITTEE  
SUBCOMMITTEE ON STRATEGIC FORCES  
UNITED STATES SENATE

Chairman Nelson, Senator Sessions and distinguished members of the Strategic Forces Subcommittee thank you for this opportunity to discuss our continuing improvements to the Air Force's nuclear sustainment efforts. As a result of the dedication of our talented team of military personnel, civilians and industry professionals, I can attest that the Air Force nuclear enterprise is considerably stronger today than at any point prior to the Nuclear Weapon Center's establishment in 2006. The vitality that we see today represents a reversal in a decades-long de-emphasis of America's strategic forces that was first documented in studies ranging back to 1998. In the years that followed, a series of reports called for a single manager for nuclear weapons sustainment, a consolidation of management sustainment activity and a unified funding strategy. In response to these reports, Air Force Materiel Command (AFMC) developed a two-phase strategy to establish a new center responsible for nuclear sustainment activities. The first phase was completed in March 2006 when the Nuclear Weapons Center was activated. AFMC and the Center then began the lengthy task of pulling together the fragmented pieces of the Air Force nuclear enterprise. Phase II was accomplished in April and May 2008 with the assignment of the first flag-level officer as Center commander and the assignment of the Intercontinental Ballistic Missile (ICBM) Systems Program Office to the Center. Phase III began in February 2009 with the signing of Program Action Directive (PAD) 08-05 which directed further integration of the enterprise.

I am pleased to tell you that on January 20, 2011, General Hoffman, the AFMC Commander declared that the Air Force Nuclear Weapons Center had achieved Full Operational Capability (FOC). This is a measure of General Hoffman's confidence that AFNWC has successfully created and codified staff best practices and standards, that we are sufficiently capable of advocating for the resources necessary to execute our plans, that our staff is sufficiently manned and capable and that we have put in places processes and procedures that are measurable, repeatable and auditable, all contributing to our primary mission: support for the warfighter.

Most assuredly, this does not represent any sort of watershed moment in the strengthening of the nuclear enterprise... the pursuit of the nuclear zero defect culture requires continuous improvement and oversight and we still have a long way to go to get to where we want to be. The declaration of FOC does, rather, show how far we have come in applying

common-sense leadership and organizational principles to a difficult problem. There can be no letting up, however, on tracking down and eliminating remaining problems that confront the enterprise. We will continue to perform self-assessments, independent inspections and progress reviews to ensure that focus is maintained on critical factors that define the health of our strategic deterrent. The Nation will not tolerate any less of the stewards of the Air Force's most potent weapons.

In addition to the completion of Phase III of AFNWC's standup and declaration of FOC, AFMC and the Air Force as a whole have made significant strides in reorganization that have reinvigorated and strengthened the nuclear sustainment enterprise. The Air Force vested the AFMC Commander as the single four-star officer responsible for nuclear sustainment. It is important to note that since the inactivation of Strategic Air Command in 1992, no single four-star officer had been charged with understanding and articulating the needs of the Air Force with regard to nuclear sustainment below the Chief of Staff. In contrast, today the Air Force has a one-star officer overseeing the day-to-day sustainment issues of the enterprise, while a four-star officer keeps the Secretary of the Air Force, the Chief of Staff and the Commander of Air Force Global Strike Command informed and engaged in issues involving the sustainment of nuclear weapons and the health of the various delivery vehicles and pieces of support equipment which comprise the Air Force strategic deterrent. A series of recurring reviews, culminating in the Nuclear Oversight Board, chaired by the Secretary and Chief of Staff and comprising all Major Command (MAJCOM) commanders ensure high-level oversight of trends, developments and attention to emergent issues. Additionally, AFMC created a new directorate specifically focused on nuclear matters and tasked with representing the Command to other MAJCOMs, the Air Staff and the Joint warfighter.

As members of the Subcommittee are well aware, a number of studies were conducted in the wake of the 2007 and 2008 incidents that brought the shortcomings of the Air Force nuclear enterprise into the public eye. While the studies revealed a large number of discrete process failings, organizational issues, and leadership problems, in the macro sense, they all bore out the same root cause: that the focus on standards had atrophied over the years and that this root cause ended up manifesting itself in three serious "seams" that had to be addressed immediately. These seams are: 1) a lack of nuclear expertise, 2) a lack of nuclear focus and 3) a lack of

authority. These seams “opened” under the weight of competing priorities and the stress of continuous combat operations since 1991. AFNWC has been working with its numerous mission partners to close these seams by making thoughtful and deliberate changes to the way in which things get done in the nuclear enterprise.

There are three overarching ways in which we as a center are working these problems. The first is by enabling collaborative partnerships. We realized from the very beginning that, given the large number of players in the nuclear arena, we simply cannot have a stovepiped view of the enterprise. From other Air Force agencies, such as the Air Staff’s nuclear directorate, AFMC’s nuclear directorate, Air Force Global Strike Command, other centers and commands, and the joint warfighter, to other government organizations such as the National Nuclear Security Administration and beyond to colleges, universities, and national laboratories, AFNWC has been working hard cultivating contacts and associates. By doing this, we’re ensuring that we can meet requirements more rapidly, find answers and recruit the right people to get the job done for the warfighter and the nation. One of our most vital collaborations is with the newly created office of the Program Executive Officer (PEO) for Strategic Systems. The PEO position was created in response to specific recommendations made by the Schlesinger Report, and has assumed responsibility for the development and acquisition of future systems and for modernization efforts while AFNWC focuses on day-to-day operations and sustainment. The PEO, Brigadier General John Thompson, who reports to the Air Force Service Acquisition Executive, Mr. David Van Buren, is co-located with AFNWC at Kirtland Air Force Base, New Mexico.

The second way we’re sealing the seams is by improving our ability to spot problems and come up with solutions before they become crises. As our nuclear stockpile ages, it is becoming apparent that any number of serious problems may be waiting around the corner. By using sound engineering principles, we are becoming increasingly able to spot trends with weapons, delivery systems and their associated support equipment and determine practical, effective and timely solutions before the problem reaches a critical stage, at which point they become difficult and expensive to address. Like other complex systems, our nuclear arsenal is dependent upon a vast number of components and processes, the failure of any one of which can be very serious for a given weapon system. Many of these components have not been updated in decades and, while expertly maintained, are not immune to deterioration. As former USSTRATCOM

Commander, General Kevin Chilton stated in 2008, nuclear weapons, even when sitting on the shelf, are chemistry experiments. They are constantly changing from chemical reactions inside of them. This extends as well to other equipment as well, some of which is affected by wear and tear on top of everything else. Metal fatigue, corrosion and chemical changes all take their toll. If a weapon, delivery system or a piece of support equipment only had to last to the end of its 10-year design life before replacement, like much of our equipment was intended to have, it wouldn't be as crucial that all these very long term issues be taken into account. However, if we extend this to the 30, 40 or 50 year lives we now expecting from our current weapons, it becomes vitally important that we understand the relationship between the various components and use sound engineering practices to determine the correct course of action to maintain reliability and availability for the warfighter.

The third way we're closing the seams is by deliberately maintaining a forward-looking view, both in order to be proactive to possible problems on the horizon and to ensure that nuclear sustainment equities are thoroughly considered in the planning and development of future systems. AFNWC is heavily involved in the Long Range Standoff Analysis of Alternatives (AoA) process and is helping lay the groundwork for the forthcoming Ground Based Strategic Deterrence AoA. We are also working with the PEO for Strategic Systems on acquisition and modernization programs for the various systems which make up our strategic deterrence force. We are looking to the future in other ways as well, reaching out to universities and national laboratories to recruit new talent, helping to rebuild the nuclear expertise that has been lost in the years of atrophy. Finally, AFNWC is involved in ensuring that adequate qualified military personnel are available to perform the difficult task of maintaining the arsenal and that they have available the necessary equipment and tools to do their job.

I am a strong advocate of keeping a big picture, strategic view. With so many discrete tasks requiring attention, this is sometimes difficult. However, it is vital that our perspective be kept broad and that we always question what effect changes will have on the health of the force. As we have found in the past, there are often second- and third-order effects that can result from decisions we make now. Decisions such as how reductions for the New START treaty are executed, for instance, will have long-term repercussions, for good or ill that will continue for decades. We are committed to providing thoughtful solutions and advice based on sound

engineering and logistical principles and always moving no faster what we have termed “the speed of nuclear surety.”

AFNWC’s most important mission is to provide direct support for the warfighter, in this case, USSTRATCOM. To that end, as part of Phase III of AFNWC’s stand-up, we assumed command of the Air Force’s remaining five CONUS Weapons Storage Areas (WSAs) – which had previously been split between three commands, AFMC, AFSPC and ACC. This was done with the goal of standardizing publications, procedures and leadership in mind. In addition to this, we created a Directorate of Nuclear Surety within AFNWC to work with the WSAs as a coherent and integral weapon system. This Directorate recently published a detailed study of the Air Force WSAs, further pointing out their need for standardization across civil engineering, communications, security and safety disciplines. The Nuclear Surety Directorate has also brought together WSA stakeholders from across the Air Force and Navy in recurring council sessions to deliberately work through requirements and to better advocate for needed modernization and upgrades.

In addition to WSAs at CONUS bases, the Air Force Nuclear Weapon Center responsibilities include direct support to force providers in Europe – the United States Air Forces, Europe (USAFE). We manage programs for support equipment sustainment in the European Theater, including weapons storage vaults and the weapons maintenance truck, both of which are vital to the safety, security and sustainment of the B61. Additionally, we are working closely with the AFPEO for Strategic Systems on life extension modifications to the B61 to ensure that it continues to meet the requirements of USAFE and our NATO allies.

Furthermore, to ensure that the Air Force’s ICBM force remains robust and capable through 2030, as required in the National Defense Authorization Act for Fiscal Year 2007, we are currently undertaking a number of critical actions to sustain today’s aging forces. First among these is a two-pronged approach to providing sufficient Mk21 fuzes to support the warfighter. We have instituted an aggressive screening program to identify fuzes requiring few or no repairs. Those which pass the screening are returned to the field for installation into the Safety Enhanced Reentry Vehicle (SERV) modified Minuteman III ICBMs. Those failing the screening tests become candidates for refurbishment. Initial attempts in 2008 to refurbish Mk21 fuzes were unsuccessful, in large part due to their level of sophistication and complexity. Our

two-pronged approach to refurbishment has enlisted the assistance of the original manufacturer, which has been successful in demonstrating its ability to refurbish the fuze. Additionally, an organic production line at Hill Air Force Base is in the process of performing its proof-of-concept trials and will begin fielding refurbished fuzes in FY12. Along with the screening process, these two production lines, operating simultaneously, will be able to provide enough operational Mk21 fuzes to meet initial warfighter requirements in the mid-term. We are also working closely with our mission partners at Ogden Air Logistics Center which is currently completing their first refurbishment cycle for the Mk12A fuze. This refurbishment effort is on schedule and meeting production goals. AFNWC is also working with AFGSC and the NNSA to ensure that they have our full support in the field of testing. By bringing on board a dedicated Center Test Authority (CTA), we are not only ensuring that there will be no surprises related to ICBM test supportability, but we are also looking to the future to ensure that testing requirements are included in AoAs and studies for follow-on systems. The value of the CTA had been validated by recent cooperative work between the ICBM Systems Division, AFGSC and the ICBM Prime Contractor on emergent issues with the Minuteman III Command Destruct system. Finally, we are working closely with the PEO/SS on requirements and considerations for a joint fuze, which is envisioned as a replacement for both the Navy Mk5 fuze and the Air Force Mk12A fuze, with the goal of realizing benefits in standardization, functionality and cost.

As I mentioned previously, possibly our greatest challenge is with our most important asset – our people. From where we are right now, we can see that we are far from healthy with regard to our pool of available talent. Years of atrophy have reduced the overall number of nuclear-experienced personnel available, and the recent reinvigoration of the nuclear enterprise has made competition for the scarce talent severe. Additionally, the available personnel are tending to be toward the top and bottom of the demographics. We have a number of experienced senior level personnel and the Air Force is doing a good job bringing in inexperienced but enthusiastic junior people, but we currently lack the strong mid-career professionals, both military and civilian, who are the backbone of a successful organization. While time and experience will resolve this problem eventually, the Air Force has embarked on an aggressive program to identify its nuclear experienced personnel and to ensure that they are tracked and placed appropriately to make the best use of their experience. Furthermore, AFNWC has created the Air Force Nuclear Fundamentals Course, which encompasses nuclear weapons fundamentals,

force structure, nuclear stockpile guidance and planning, nuclear surety and the nuclear enterprise. We are also working with the Air Staff and Air Force Personnel Center to rebuild a strong, well-managed nuclear science and engineering workforce. We're trying to ensure that our people receive everything they need in order to thrive in the difficult nuclear environment, including a solid organization with strong, repeatable processes, training, education and meaningful experience as well as the necessary support equipment and processes to do the job.

In closing, I would like to emphasize the hard work and dedication of AFNWC's professionals and their efforts to address the most pressing concerns in the nuclear enterprise. The American public rightly holds its nuclear stewards to the very highest standards, and we will not let them down. I would like to thank the Committee for the opportunity to address these issues and look forward to your questions.