



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS TWENTIETH AIR FORCE (AFGSC)

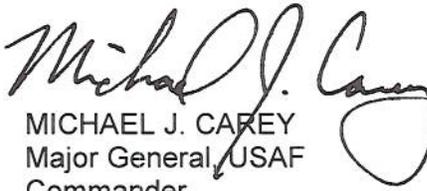
30 August 2012

MEMORANDUM FOR 20 AF WING, GROUP, AND SQUADRON COMMANDERS

FROM: 20 AF/CC
6610 Headquarters Drive, Suite 1
F. E. Warren AFB WY 82005-3943

SUBJECT: The Importance of our 20 AF Mission

1. Since taking command of Twentieth Air Force and Task Force 214, I have been encouraged by several officers to refresh the baseline awareness regarding our national leaders' perspectives on the ICBM force. What follows is not a reflection of Cold War era commentary, but rather the beliefs of contemporary leaders. The field grade officers who have supported this effort, frankly, are serious students of deterrence and are the current and future leaders of our nation's nuclear force. In 1999, the former Commander of Twentieth Air Force, Maj Gen Tom Neary, created a package to be used by Twentieth Air Force leaders to help educate and mentor our people. Like him, I believe it is an important part of our duties as senior leaders to teach the next generation about the importance of the United States nuclear deterrent mission and the role of the ICBM Alert Force. Lately, much has been said in the press about the reduction of nuclear weapons. Our force deserves to hear what our leaders are saying as well.
2. The attached package summarizes what senior leaders have recently said about our nuclear mission, our systems, and how both relate to the security of the United States. The package focuses on six themes: the historical legacy of Twentieth Air Force, the nuclear deterrence mission, the threats we face, the ICBM mission, importance of the triad, and the role of the nation's other nuclear forces.
3. Review this package and make it available to those under your command. Encourage them to read, think about, and discuss its contents. The American military has always been made up of citizens who want to understand why they are performing the mission and how nuclear deterrence safeguards our nation. We need the talents and leadership of this generation of Airmen to become experts and advocates of the ICBM force and nuclear mission for years to come.
4. It is important you give this and future packages your priority and emphasis; it is vital our Airmen understand the importance of their mission and be able to articulate it to others.


MICHAEL J. CAREY
Major General, USAF
Commander

Attachment:
The Importance of our 20 AF Mission

THE IMPORTANCE OF OUR 20 AF MISSION



August 2012

Table of Contents

Section I	OUR HISTORICAL LEGACY	1
Section II	OUR NUCLEAR DETERRENCE MISSION	2
Section III	THE POST-COLD WAR THREAT	6
Section IV	OUR ICBM MISSION	9
Section V	THE TRIAD	11
Section VI	OUR NATION'S OTHER NUCLEAR FORCES	13
Section VII	CONCLUDING COMMENTS	16

OUR HISTORICAL LEGACY

20 AF/CC Comments:

*In World War II, Twentieth Air Force—the new Strategic Air Force—was given an out-of-sequence number in order to enhance the idea that it was **a different sort of organization**. It was designated Twentieth Air Force though there was no 16th, 17th, 18th, or 19th. In other words, Twentieth Air Force was different. Its shoulder patch was and is a symbol of its world theater. In the Second World War, it alone of the Army Air Forces was truly **global in orientation** as it did not belong to a theater commander. Its unique character was determined by the **unique character of its weapon**. This holds true today.*

*Twentieth Air Force was **led by personnel specially qualified** to operate its unique weapons system and lead its strategic bombing mission. This remains true today. With one exception, Twentieth Air Force has been commanded by an ICBM officer since its reestablishment in 1991.*

***Every missile unit has ties to the strategic bombing mission in World War II** -- A VERY APPROPRIATE TRADITION – the 90th has its roots in B-24 bomber operations in the **Pacific Theater** and the 341st flew B-25s in the **China-Burma-India Theater**. The 91st Wing has a lineage in B-17 operations against Germany in the **European Theater** while its squadrons take their heritage from the 455th Bombardment Group that flew B-24s in the **Mediterranean Theater**.*

***The ICBM Alert Force** of operators, maintainers, and those who secure and support **have fought their war of deterrence every day for over 50 years**. As a member of Twentieth Air Force, you are contributing to an operation which is of the utmost importance to the survival of the United States and its allies.*

OUR NUCLEAR DETERRENCE MISSION

20 AF/CC Comments:

Nuclear deterrence is straightforward...to convince potential adversaries that the gain from a nuclear attack against the United States or our allies could never exceed the cost. Our main job is to keep him convinced.

Capability X Will = Deterrence. This is a proposition in multiplication, not in addition, for if either of the essential factors is zero, then the product—deterrence—is also zero. We must couple the will of our nation to deter conflict with the capability of our armed forces to deny an aggressor the benefits—or even the perceived benefits—of aggression. He must be denied any possible calculation of success through military aggression.

Our mission and our challenge is to keep our people and equipment in a state of peak readiness to execute without ever employing those capabilities. We must be equipped, trained and ready to fight a war we understand must never be fought.

As long as any nuclear weapons exist, the United States will sustain a safe, secure, and effective nuclear arsenal, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments.

Barack Obama, President of the United States, National Security Strategy, May 2010

As long as nuclear weapons remain in existence, the United States will maintain a safe, secure, and effective arsenal. We will field nuclear forces that can under any circumstances confront an adversary with the prospect of unacceptable damage, both to deter potential adversaries and to assure U.S. allies and other security partners that they can count on America's security commitments.

Leon Panetta, Secretary of Defense, Sustaining U.S. Global Leadership: Priorities for 21st Century Defense, January 2012

...as long as nuclear weapons exist, deterring nuclear attack on the United States, our allies, and partners will continue to be the fundamental role of U.S. nuclear weapons.

Admiral Mike Mullen, former Chairman of the Joint Chiefs of Staff National Military Strategy, 2011

...nuclear capabilities; weapons of this kind require precision and reliability with no margin for error, and our adherence to the highest nuclear mission standards builds legitimacy. That legitimacy is fragile; we can easily lose it should we fail to perform to those exacting standards.

General Norton A. Schwartz, former USAF Chief of Staff, "Policy and Purpose: The Economy of Deterrence," *Strategic Studies Quarterly*, Spring 2009

Credible strategic deterrence requires an unwavering commitment to nuclear deterrence as its cornerstone. It is basic to national security and to our allies.

Nuclear deterrence isn't a fading construct in national security; Airmen must be mindful of all we provide in this critical area.

Nuclear forces continue to represent the ultimate deterrence capability that supports U.S. national security. Because of their immense destructive power, nuclear weapons deter in a way that simply cannot be duplicated by other weapons.

General Norton A. Schwartz, former USAF Chief of Staff, "The Air Force's Legacy of Nuclear Deterrence," *Air Power History*, Spring 2009

Fundamentally, deterrence is about affecting the mind of your adversary. Nuclear deterrence is about creating fear ...it is constant pressure on rational states to avoid escalation.

Lt Gen James Kowalski, Commander Air Force Global Strike Command, Speech at Maxwell AFB, Al, 2 March 2012

The purpose of a deterrence force is to create a set of conditions that would cause an adversary to conclude that the cost of any particular act against the United States of America or her allies is far higher, far, far higher than the potential benefit of that act.

General Kevin P. Chilton, former Commander USSTRATCOM, Air & Space Conference, 13 September 2010

Preventing wars is as important as winning them...pretty basic to say but it is also far less costly. Our current Air Force nuclear deterrent capability comprises just 2.9 % of our budget's Total Obligation Authority.

Maj Gen William A. Chambers, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Remarks at the 3rd Annual Nuclear Deterrence Summit, Alexandria, Va, 18 February 2011

While the international security environment has changed dramatically since the end of the Cold War, the purpose of the nuclear deterrent force remains clear: to deter nuclear attack, to assure our allies and friends, and to respond appropriately if deterrence fails. The men and women assigned to STRATCOM perform an essential, and mostly uncelebrated, service to the Nation. It is a service that few Americans think about but all benefit from.

General C. Robert Kehler, Commander USSTRATCOM, Testimony Before House Armed Services Committee Subcommittee on Strategic Forces, 4 May 2011

...nuclear weapons remain unique in their destructive power—and thus in their physical, military, and political effects. Moreover, they are unique in that the goal of our nuclear deterrent is to persuade others not to employ weapons of mass destruction against the United States or its interests. Thus, if our nuclear deterrent is sufficiently impressive and persuasive, the weapons themselves will not have to be employed in combat.

James Schlesinger, former Secretary of Defense, Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase II: Review of the DoD Nuclear Mission, December 2008

The strategic role of nuclear capability is to deter and dissuade current and emergent enemies from attacking the United States and its vital interests. To be successful in this critical national objective, the nation's nuclear forces must be demonstrative and credible, and—to be so—survivable against a preemptive attack. This combination of capability, credibility, and survivability presents high uncertainty to a potential adversary in attempting to anticipate the success of executing one or more courses of action.

The value of our deterrent is not primarily a function of the number of our warheads, but rather of the credibility of our nuclear capabilities in the minds of those we seek to deter, dissuade, or assure. To achieve its psychological and political objectives of deterring opponents and reassuring allies, deterrence requires nuclear capabilities that are visible and credible.

James Schlesinger, former Secretary of Defense, Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase II: Review of the DoD Nuclear Mission, December 2008

First and foremost, the primary value of nuclear weapons is not in their use but in the potential of their use, the threat of their use. They are primarily national instruments of war prevention rather than war-fighting, and in my estimation have always been viewed by our civilian leadership as weapons of last resort.

Second, deterrence ultimately depends not on our capability to strike first, but on the assurance we always have of a retaliatory capability to strike second. Accordingly, we have designed our forces to be highly reliable and survivable under virtually every imaginable scenario.

The third and fourth tenets are related. Our nation's nuclear-weapons policy and force structure are intended to deter potential adversaries' use of any weapon of mass destruction, not just nuclear, as well as large-scale conventional aggression against the United States and its allies...There is a common fallacy about deterrence that holds that nuclear weapons deter only nuclear weapons. To accept that, one has to accept that nuclear weapons have played no role in the remarkable peace among the nuclear powers during the past six decades, despite periods of significant tension and East-West confrontation. I think it would be equally fallacious to assume that without some fundamental change in the political configuration of the world, nuclear weapons have no relevance for the future. Deterrence is about preventing all major wars, not just nuclear ones, since major war is the most likely road to nuclear war. As such, a policy of no-first-use, if it's believable, weakens deterrence of major conventional war and rests on a false strategic premise. A declaratory policy affirming nuclear weapons as weapons of last resort, and the least preferred option short of surrender, has always seemed to me a wiser and more believable choice.

Fifth, our strategic forces must have credible deterrent capabilities. Deterrence is a function of both capability and will. A potential adversary must believe you have a credible capability as well as the will to use it. The great paradox of nuclear weapons is that they deter conflict by the possibility of their use, and the more a potential adversary perceives the credibility of our capabilities and our will, the less likely he is to challenge their use. The converse of that proposition is also true. To allow nuclear weapons use to become incredible would increase, not lessen, the risk of war.

Sixth, positive and negative security assurances are vital in support of our nonproliferation goals and the NPT. And finally, the U.S. has a long-standing commitment to collaborate with our allies to aggressively reduce nuclear risks.

Admiral Richard Mies, former Commander USSTRATCOM, Remarks at the Carnegie International nonproliferation conference on U.S.-China Strategic Stability, 6 April 2009

Deterrence and assurance have been part of the national lexicon for well over half a century, and although different today, they remain important and highly relevant concepts. The Cold War ended 20 years ago. Today, deterrence and assurance are not solely about Cold War deterrence objectives, they are about our nation's unique security needs—in a world that still has nuclear weapons. Deterrence is fundamentally about influencing an actor's decisions. The deterrence decision calculus still revolves around familiar concepts like imposing costs and denying benefits; however, in today's world we also strive to highlight the consequences of restraint (benefits of the status quo).

General C. Robert Kehler, Commander USSTRATCOM, Statement Before Senate Armed Services Committee, 27 March 2012

THE POST-COLD WAR THREAT

20 AF/CC Comments:

As military members, we must always be mindful of the Capability and Intent of other nations. Even though the probability of nuclear attack on the United States is close to zero, the present intent of sovereign nations can change overnight while capability takes a long time. As long as there are nuclear arsenals in the world with the capability to destroy the United States, in the hands of governments that are not yet reliable or friendly, we will need the capabilities that Twentieth Air Force provides.

Russia remains America's only peer in the area of nuclear weapons capabilities. But the nature of the U.S.-Russia strategic and political relationship has changed fundamentally since the days of the Cold War. Policy differences continue to arise between the two countries, and Russia continues to modernize its still formidable nuclear forces.

...we must continue to maintain stable strategic relationships with Russia and China and counter threats posed by any emerging nuclear-armed states, thereby protecting the United States and our allies and partners against nuclear threats or intimidation, and reducing any incentives our non-nuclear allies and partners might have to seek their own nuclear deterrents.

...the United States and China's Asian neighbors remain concerned about the pace and scope of China's current military modernization efforts, including its quantitative and qualitative modernization of its nuclear capabilities...the lack of transparency surrounding its programs – their pace and scope as well as the strategy and doctrine guiding them – raises questions about China's future strategic intentions.

Department of Defense, Nuclear Posture Review, April 2010

While the international security environment has changed dramatically since the end of the Cold War, the purpose of the nuclear deterrent force remains clear: to deter attacks on the U.S. and our allies and if deterrence fails, to respond according to Presidential direction.

The NPR validated the continued importance of the Triad and the need to sustain a safe, secure, and effective nuclear arsenal for as long as nuclear weapons exist, and it supported investments to sustain and modernize necessary capabilities while providing for an effective nuclear industrial enterprise in the long term.

General C. Robert Kehler, Commander USSTRATCOM, Statement Before the House Armed Services Committee Subcommittee on Strategic Forces, 2 November 2011

Because we live in a world where nuclear weapons exist and we face enemies that seek to do us grave harm, our missileers stand constant alert. Our bombers remain prepared to generate. Our nuclear security forces continually patrol. And our maintainers and force support personnel ensure our weapons systems and operators are always at the ready. They do all this while focusing on excellence, adhering to the highest standards, and executing the precise day-to-day operations required of those responsible for our nuclear weapons systems. It is an amazing thing you do, and you serve a grateful nation.

Erin C. Conaton, Undersecretary of the Air Force, Remarks to the Air Force Global Strike Command Technology and Innovation Symposium, Barksdale AFB, La, 17 November 2010

Every other nuclear power is modernizing for the future. We've got to keep the balance, showing our national commitment to sustaining long term.

Lt Gen James Kowalski, Commander Air Force Global Strike Command, Speech at Maxwell AFB, Al, 2 March 2012

Today in dealing with multiple nations with nuclear capabilities we find ourselves faced with multiple decisionmakers that may each have very different fears and very different values. This, of course, complicates the cost/benefit calculus in each individual equation and compounds the complexity of our own decision-making. Therefore, it is just as imperative today to study these differences and to study these potential adversaries as it was to study the single adversary we faced during the Cold War. Add to that today there are cases of unequal states in the game. During the Cold War the U.S. and the Soviets had similar stakes in the game -- national survival. That and the fact that we both valued that national survival brought some balance to the deterrent equation. Today there may be some actors, and there certainly are, who are more willing to use nuclear weapons in a given circumstance given the imbalance of what is at stake when they consider conflict with the United States of America...So in the current geopolitical environment when we ask ourselves whom do we want to deter, what do we want to deter them from doing, and under what circumstances do we want to conduct deterrence, the answers can be far more complicated than those we had to address during the Cold War. So these realities challenge those of us in the deterrence business. And oh by the way, that would be all of you. Because if you're in the United States Air Force, you're in the deterrence business.

General Kevin P. Chilton, former Commander USSTRATCOM, Air & Space Conference, 13 September 2010

Deterrence planning and forces must fit today's unique global security environment, an enormously complex and uncertain world that includes nuclear weapons and nuclear-armed states and where several of those nuclear-armed states are modernizing both their arsenals and their delivery systems, the threat of proliferation of nuclear weapons and delivery systems, the growing

potential for disruption or attack through cyberspace, and the danger of weapons of mass destruction in the hands of violent extremists.

General C. Robert Kehler, Commander USSTRATCOM in “A Conversation with General C. Robert Kehler,” Council on Foreign Relations, Washington DC, 30 May 2012

Clearly the change from a "bipolar" to a "multi-nodal" world does not eliminate the need to consider near-peers. Our Triad continues to provide the required stability there. U.S. Navy nuclear submarines with Sea-Launched Ballistic Missiles provide survivable second strike capability critical to strategic deterrence and stability. While assured second-strike capability is essential, stability also requires additional capabilities.

Maj Gen William A. Chambers, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Remarks at the 3rd Annual Nuclear Deterrence Summit, Alexandria, Va, 18 February 2011

Even as these efforts [arms control] and the end of the Cold War have made our relationship with Russia more stable and transparent, we still face significant strategic threats that must be confronted and deterred. Around the world, adversaries and near-peer competitors alike are developing and refining nuclear and ballistic missile capabilities. North Korea has conducted two nuclear tests and continues work to extend the range of its ballistic missiles. Iran is widely suspected to be pursuing a nuclear weapons program, and publicly acknowledges its ballistic missile program. China is expanding its nuclear forces, and Russia is developing next-generation weapons. As a result, instead of deterring one nuclear power, we and the allies under our nuclear umbrella are now challenged with deterring the volatile threats of nuclear-armed rogue states, proliferation, and nuclear terrorism – sometimes all at once. Therefore, in order to have a truly effective deterrent, we must maintain sufficient strategic forces to deter these threats simultaneously.

Eight U.S. Senators, Letter to the Chairman and Ranking Member of the Senate Armed Services Committee Subcommittee on Strategic Forces, 28 March 2012

Nuclear weapons continue to occupy a unique place in global security affairs. No other weapons, in my opinion, anyway, match their potential for prompt and long-term damage and their strategic impact. Now, in my view, the good news is that the threat of a sudden nuclear war has receded by almost every measure, certainly at the lowest level today than it has been since I entered the United States Air Force over 37 years ago...But those of us responsible for our national defense must still be mindful that the capabilities still exist in the world to inflict enormous damage on us or, in extreme cases, to virtually destroy the United States or our allies over the course of a few hours.

General C. Robert Kehler, Commander USSTRATCOM in “A Conversation with General C. Robert Kehler,” Council on Foreign Relations, Washington DC, 30 May 2012

THE ICBM MISSION

20 AF/CC Comments:

ICBMs provide insurance against a cheap attack and also significantly raise the bar for the amount of force an adversary would have to use to disarm the United States. Knowing an adversary would most likely have to expend two or three weapons against each ICBM facility, we reduce the chance of attack because adversary weapon numbers have become too small to destroy the ICBM force. Additionally, there is no guarantee an enemy strike force could destroy all ICBMs because they are always on alert and ready to launch. Finally, destruction of the ICBM force would still leave an adversary threatened by the two other legs of the triad. In short, having several hundred single warhead ICBMs has become stabilizing in that adversaries see the cost of aggression as being too high a price to pay.

The Air Force intercontinental ballistic force continues to be highly stabilizing. Our ICBM forces deny an adversary the opportunity for a limited attack or first strike, especially when deployed with single warheads. They provide a credible and survivable force at the highest readiness (and at relatively low cost). The value of this leg increases as the overall force structure declines and is more survivable as total numbers decrease. With fewer total systems, it becomes harder for a near-peer adversary to hold our ICBM force at risk.

Maj Gen William A. Chambers, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Remarks at the 3rd Annual Nuclear Deterrence Summit, Alexandria, Va, 18 February 2011

Of the three legs of the strategic nuclear triad, the ICBMs are the most responsive to national leadership. Continuously on alert and deployed in 450 widely dispersed locations, the size and characteristics of the overall Minuteman III force presents any potential adversary with an almost insurmountable challenge should they contemplate attacking the United States. Because an adversary cannot disarm the ICBM force without nearly exhausting their own forces in the process, and at the same time, leaving themselves vulnerable to our sea-launched ballistic missiles and bombers, they have no incentive to strike in the first place. In this case, numbers do matter. The ICBM contributes immeasurably to both deterrence and stability in a crisis.

Lt Gen Frank G. Klotz, former Commander Air Force Global Strike Command, Presentation to the House Armed Services Committee Subcommittee on Strategic Forces, January 21, 2010

The 2010 NPR examined possible adjustments to the current alert posture of U.S. strategic forces and concluded that the current posture—with heavy

bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs at sea on alert at any given time—should be maintained for the present. It also stated that the United States should continue to posture U.S. forces and enhance the command and control architecture for strategic nuclear forces to minimize the possibility of nuclear launches resulting from accidents, unauthorized actions, or misperceptions, while maximizing the time available for the President to consider whether to authorize the use of nuclear weapons. The net result of the U.S. alert posture should remain that any potential adversary must conclude that the gains for initiating nuclear hostilities against the United States would be far outweighed by the costs, which is the essence of deterrence.

Dr James Miller, Undersecretary of Defense for Policy, Testimony Before House Armed Services Committee Subcommittee on Strategic Forces, 4 May 2011

Single-warhead silo-based ballistic missiles, though vulnerable, do not invite preemptive attack because the perpetrator would expend more warheads than the number he would be able to destroy. The ultimate measure to preventing damage limitation involves creating strategic forces not susceptible to preemptive attack.

William J. Perry, Brent Scowcroft, and Charles Ferguson, US Nuclear Weapons Policy Report, Council on Foreign Relations, New York, 2009

I think that's a bad characterization [hair-trigger alert]. I think -- because I just think it evokes a vision in the minds at least of my generation of Americans, who grew up with cowboy Western shows, that hair-trigger envisions a gun pulled, a finger on the trigger and better not sneeze. And our current alert posture is nothing like that at all. In fact, our current posture and our nuclear weapons are absolutely secure and safe, and not at risk from inadvertent use. And they're not at risk from not being used, when so ordered by the president of the United States, who has control over those nuclear weapons.

General Kevin Chilton, former Commander USSTRATCOM, Testimony Before House Armed Services Committee Subcommittee on Strategic Forces, 17 March 2009

...the oft-cited characterization that our strategic forces are on "hair trigger" alert is a scare tactic routinely used to justify proposals to lessen the potential responsiveness of our strategic forces. In fact, multiple stringent procedural and technical safeguards are in place to guard against accidental or unauthorized launch and to ensure the highest levels of nuclear weapon safety, security, reliability, and command and control. Robust reconstitution capabilities are in place to survive sufficient forces, command and control systems, and national leadership to enable us to "ride out" an attack and not rely upon "launch on warning"...The U.S. trigger is built so we can always wait.

Admiral Richard Mies, former Commander USSTRATCOM, "Strategic Deterrence in the 21st Century," Undersea Warfare, Spring 2012

THE TRIAD

20 AF/CC Comments:

For decades, the United States has maintained a triad of nuclear capabilities consisting of intercontinental ballistic missiles (ICBM), submarine-launched ballistic missiles (SLBM) and bombers. Each leg is flexible, survivable, and responsive bringing forth a synergistic contribution to nuclear deterrence.

Every aspect of the triad is maintained because I believe that is extremely important to our ability to protect our homeland.

**Leon Panetta, Secretary of Defense, House Armed Services Committee
Hearing on the Fiscal 2013 Defense Authorization, 15 February 2012**

The Triad—SSBNs, ICBMs, and nuclear-capable heavy bombers, with their associated tankers—continues to serve us well by providing unique and important attributes (survivability, promptness, and flexibility) that create insurmountable problems for any would-be adversary. Moving forward, and to sustain our strong nuclear deterrent force, we fully support the continued modernization and sustainment of delivery systems, weapon life extension programs, stockpile surveillance activities, nuclear complex infrastructure recapitalization, naval reactor design activities, and upgrades for nuclear command, control, and communications (NC3) capabilities.

**General C. Robert Kehler, Commander USSTRATCOM, Statement Before
Senate Armed Services Committee, 27 March 2012**

Maintaining each leg of the nuclear triad—ICBMs, SLBMs, and dual-capable heavy bombers—under New START allows us to preserve strategic stability and hedge against any unexpected technical problems or operational vulnerabilities that may arise in any one leg.

**Dr James Miller, Undersecretary of Defense for Policy, Testimony Before
House Armed Services Committee Subcommittee on Strategic Forces,
4 May 2011**

The Commission has reviewed arguments in favor of a dyad but recommends retention of the current triad. Each leg of the triad has its own value:

- The bomber force is valuable particularly for extending deterrence in time of crisis, as their deployment is visible and signals US commitment. Bombers also impose a significant cost burden on potential adversaries in terms of the need to invest in advanced air defenses.
- The Intercontinental Ballistic Missile (ICBM) force imposes on a prospective aggressor the need to contemplate attacking only with very large number of nuclear weapons, substantially depleting its forces while ensuring a

devastating response by the United States. The force is also immediately responsive in a highly controlled manner. And for the foreseeable future, there is no prospect that a significant portion of the ICBM force can be destroyed by a preemptive strike on the United States by small nuclear powers, including China.

- The Submarine Launched Ballistic Missile (SLBM) force is currently the most survivable, meaning that no attacker could contemplate a nuclear attack on the United States without expecting US retaliation.

Resilience and flexibility of the triad have proven valuable as the number of operationally deployed strategic nuclear weapons has declined. They promise to become even more important as systems age and if back-up systems within each leg of the triad are reduced. If one leg of the triad were to go out of service as a result of a technical problem in the delivery system or warhead, the other two legs could still provide credible deterrence.

The triad of strategic delivery systems continues to have value. Each leg of the nuclear triad provides unique contributions to stability. As the overall force shrinks, their unique values become more prominent.

William J. Perry and James R. Schlesinger, America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States, United States Institute for Peace, Washington DC, 2009

The fundamental basis of our nuclear posture for decades has been the nuclear triad. The US nuclear triad is composed of bombers, sea-based missiles, and land-based missiles. The triad interlocks the three capabilities so each leg balances a shortcoming of one or both of the other legs. Each leg of the triad offers its own advantages. Bombers project their power and presence forward. In times of crisis, they offer an intermediate step as our policymakers order them forward to demonstrate our resolve. Yet they can be recalled up to moments before an actual strike.

Our bombers are inherently flexible and responsive, and our sea-based missiles deployed in submarines hidden in the ocean's depths offer the greatest survivability. Finally, land-based missiles complement the characteristics of the other two legs by their permanence and responsiveness. Our ICBMs sit in their silos constantly ready, known but dispersed to ineluctably complicate targeting.

Combined, the triad presents a powerful stabilizing force. No single technological change could undermine all three legs. No targeting scheme can find and neutralize all three legs simultaneously. And each leg offers a different capability, giving our policymakers options in a crisis rather than the single unacceptable choice of yes or no.

Senate ICBM Coalition, "The Long Pole of the Nuclear Umbrella: A White Paper on the Criticality of the Intercontinental Ballistic Missile to United States Security," November 2009

OUR NATION'S OTHER NUCLEAR FORCES

20 AF/CC Comments:

Since leaving wing command in 2007, I've worked with nuclear professionals from the Army, Navy and Air Force at USSTRATCOM, The Joint Staff and in numerous other areas of our government. These professionals have the sole purpose of making sure men and women like you are able to carry out the Nation's nuclear deterrent mission daily.

*The so-called "Nuclear Enterprise" is bigger than most folks realize. Certainly USSTRATCOM and The Joint Staff are key players but so are other elements in the Department of Defense and other government agencies. In short, this nation's ability to **use the nuclear force daily** is the result of the tireless efforts of thousands of folks.*

The B-52 and B-2 are also critically important components of the strategic nuclear triad because of their great flexibility and versatility. They can avoid flying over sensitive areas in ways ballistic missiles may not be able to do. They can be used to signal resolve and intent through very visible steps to increase their readiness or to deploy them to different locations. Just as the various components of the triad provide mutually reinforcing, complementary capabilities, so too do the two different bombers, with the B-52 providing unique, unmatched stand-off capabilities and the B-2 providing the capability to attack heavily defended targets.

Lt Gen Frank G. Klotz, former Commander Air Force Global Strike Command, Presentation to the House Armed Services Committee Subcommittee on Strategic Forces, 21 January 2010

Air delivered weapons are inherently tailorable and adaptable forces, well suited for the hybrid environment that we face. Bombers may be placed on alert or deployed, providing visible indication of U.S. capability and intent to both adversaries and allies. They also provide a rapid and effective hedge against technical challenges which may arise.

Dual-Capable Aircraft fighters and bombers expand our flexibility, strengthen the credibility of US extended deterrence, and signal US and allied resolve. Our allies appropriate these capabilities and their deterrent effects and they become part of their own policy and force structure decisions.

Maj Gen William A. Chambers, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Remarks at the 3rd Annual Nuclear Deterrence Summit, Alexandria, Va, 18 February 2011

...I have a lot of concerns if we don't modernize. I think you have to look at this in terms of there are four pieces to this, from my vantage point anyway. Piece number one is the delivery systems. And I just mentioned that there are modernization plans in place for the delivery systems or there's a study under way to take a look at the ICBM leg and what we might need as we go to the future.

There's command and control, and commitment to both of those.

The real issue for me is the weapons end of this and the weapons complex that supports those. In an era that we are in today without nuclear explosive package testing, where we don't do any yield testing, that puts a strain on the industrial base in a way that I believe hasn't been strained in the past.

It strains the science and engineering skills that we have to make sure that as we do life extensions, that we have the appropriate science basis and understanding to be able to do those extensions without nuclear testing.

We have issues with aging. Most of the problems with the weapons that we have today is that they're reaching the end of their lifetimes in various stages. And so being able to have life extension for those weapons is also very important.

At the end of the day, if you have a more modern complex, we think that we probably can have a smaller stockpile, because the way we would hedge against failure would be different as we go to the future.

General C. Robert Kehler, Commander USSTRATCOM, Testimony Before Senate Armed Services Committee, 27 March 2012

...each of the elements of our nuclear deterrent force brings something unique to the mixture. And the strength of the overall deterrent has always been in the sum of its parts. So as we look at this today and as we go to the future, the -- the inherent survivability of the submarine-based deterrent has -- has been of great value to us.

It continues to be of great value as we go forward at -- at many levels. Strategic stability is really built on survivability. The -- the understanding that neither side possesses an overwhelming advantage to strike first; that -- that even in the event of that kind of highly unlikely -- I mean, the world is different today, and we understand that.

But -- but stability, particularly in an unforeseen crisis as we look to the future, something that would arise that would -- that would put us in crisis with -- with any of the nuclear contenders, having a survivable element of our strategic deterrent is extraordinarily valuable. And we believe that that remains valuable as we look to the future.

Now, you can get survivability a lot of ways. An airborne aircraft, pretty survivable platform. And if it stands off or it can penetrate or it has stealth -- I mean, there are lots of attributes there that get to survivability.

But we have -- we have looked at our submarine force as providing the bulk of our survivable deterrent, in particular the day-to-day survivable deterrent. Submarines that are at sea are inherently survivable. The issue will be with Ohio replacement is making sure it stays that way and making sure that we can deploy a platform that has those attributes, that is perhaps lowering costs to operate when it's fielded.

And we can guarantee as we look to the future that it can stay a step ahead of any developing technologies that might threaten it.

General C. Robert Kehler, Commander USSTRATCOM, Testimony Before Senate Armed Services Committee, 27 March 2012

...we have weapons that are beginning to reach their end of life. The submarine weapon -- it's not classified information that the W76 submarine weapons life extension program is underway as we sit here today... The aircraft-delivered weapons are also reaching a critical point in terms of their age. The B61, in particular, needs to go through life extension.

General C. Robert Kehler, Commander USSTRATCOM, Testimony Before Senate Armed Services Committee, 27 March 2012

The life extension programs are the key to sustaining confidence in reliable and safe nuclear weapons. The issue is not whether we do this but rather, how — how do we do it smart? Doing it smart means choosing a life extension program that at the end of the process leaves us with a nuclear stockpile that is safer, more secure, and more reliable. Smart means doing it in a way that ensures we have an alternative somewhere in the stockpile for a possible technical failure of any single weapon. Smart life extension means having enough stockpiled weapons of the right kind to ensure that we have a geopolitical hedge to sustain an adequate deterrent in the face of an effort by any nation to suddenly embark on a rapid buildup of nuclear weapons.

General Larry Welch, former CSAF, "Taking an uncharacteristic approach with nuclear issues," 25 May 2012

20 AF/CC CONCLUDING COMMENTS

The ICBM Alert Force—operators, maintainers, and those who secure and support—continues to play a vital role in the security of the United States. This package highlighted this fact very plainly as our most senior civilian and military leaders clearly recognize the importance of our Twentieth Air Force mission and indeed the importance of the nation’s other nuclear forces as well. In closing, I’d like to identify two challenges to our force—one is fiscal and one is myth.

Some view the ICBM force as a potential source of cost savings. However, the nation must understand the monetary bargain the ICBM force represents to secure the American way of life and assure our allies. In other words, the ICBM force provides the best insurance policy the United States has to secure the survival of the nation. The cost to operate the ICBM mission was 1% of the overall Air Force budget in FY11 and merely 3% of our active duty Airmen. If cuts to the nuclear enterprise in general and the ICBM force in particular are to be considered, we must assess the value of deterrence against its cost. What additional expense would be required to replace it? In addition to the cost savings challenge, some perpetuate the myth the ICBM force is in a dangerous “hair-trigger” configuration. This perception is fundamentally flawed. However, this perception problem is understandable because the ICBM can respond promptly. Let me set the record straight on this issue.

The ICBM force can indeed respond promptly when the President of the United States authorizes it. To repeat, the only one who can make the decision to launch the ICBM force (or any other nuclear force) is the president. To provide the president with the best military advice in such a scenario, the United States maintains a robust command and control system to maintain positive control of the force until the president is prepared to make a decision. The U.S. nuclear command and control system consists of redundant command centers and communications capabilities. This system serves as part of the deterrence equation alongside weapons systems ensuring that regardless of the scope of an enemy attack, Presidential direction can still be transmitted and received. Additionally, another key element of the U.S. nuclear posture is air and missile warning. Warning is a vital component of our posture as it allows the President decision time before reacting. This is particularly important when nuclear weapons are involved. A concern exists that the U.S. could launch by accident due to the erroneous belief we are under attack. To guard against this scenario, warning operations have long required the use of two different sensors as well as a version of the two-person concept to validate attack indications are real. In conclusion, the current ICBM posture is absolutely secure, safe, and not at risk of inadvertent use. The ICBM Alert Force in concert with all other government entities involved in the nuclear enterprise consists of professionals dedicated to providing a resilient capability to the president in order to increase the decision time needed to deliberate execution of the force.

