



United States Strategic Command



United States Strategic Command

Headquarters at Offutt AFB,
Nebraska

Activated 1 January 1992
When Strategic Air Command
inactivated

On 1 October 2002,
USSTRATCOM and US Space
Command disestablished and new
US Strategic Command stood up at
Offutt responsible for missions of
both previous commands



New USSTRATCOM Tackles Global Challenges - *By Admiral J.O. Ellis, Jr.*

Commander, United States Strategic Command

The United States Strategic Command and its predecessors have been headquartered just outside Omaha, Nebraska, for more than a half-century, but today's command is barely a year old. A retired missileer might not immediately recognize the new USSTRATCOM and its expanded set of missions. However, one element that has not changed is the essential role of today's missileers and the ICBMs at the vital center of America's armory.

The President and Secretary of Defense merged the operations of USSPACECOM and the old USSTRATCOM 1 October 2002, capitalizing on the synergy generated by combining our nuclear forces and our space-based operations under one roof. Three months later, the President challenged the new command by adding four previously unassigned missions – Global Strike, Information Operations, Missile Defense, and C4ISR.

When we achieve full operational capability for each of these missions, USSTRATCOM will give the President and Secretary of Defense a single source for situational awareness and the capability to rapidly respond to any threat around the world. Secretary Rumsfeld has said many times that America can no longer predict who its adversaries are going to be. As such, the new USSTRATCOM will anticipate and prepare for the unexpected. The four previously unassigned missions I'll describe in this article complement the command's legacy missions and nuclear and space roles.

Global Strike

USSTRATCOM's Global Strike Mission requires the rapid projection of America's military power against

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The Mission of the Association of Air Force Missileers -

- Preserving the Heritage of Air Force Missiles and the people involved with them
- Recognizing Outstanding Missileers
- Encouraging Meetings and Reunions
- Keeping Missileers Informed
- Providing a Central Point of Contact for Missileers

AAFM Newsletter ²

Volume 11, Number 4

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A Word from the Association

Board Elections - Every two years, we elect four directors for AAFM. However, due to a change in the way the AFSPC judge advocate interprets AF guidelines, in early 2004, we will have seven positions up for election/reelection. The JA has determined that active duty members should not serve as voting board members of organizations like ours - we currently have four active duty members, Gen Lord, MGen Kehler, Col Lehnertz and Maj Wittkoff. The AAFM Board of Directors has changed our bylaws to reflect twelve nonactive duty board members and a new Missile and Space Advisory Council, made up of active duty missileers and appointed by the AAFM President and approved by the board. The March newsletter will include a ballot post card for the upcoming election.

Guardian Challenge 2004 - Scheduled for 2-7 May at Vandenberg, the 2004 Space and Missile Competition promises to be a great event. The 2003 competition was not held because of the Iraq war. As in the past, AAFM will be there with our display and sponsorship of awards and mementos.

AAFM Coin - We are in the process of producing a new AAFM coin that will be available to all members early in 2004. The coin will feature the AAFM logo and patches for the major commands involved with missiles on the front, with profiles of Mace, GLCM, air-launched,

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Association of Air Force Missileers

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Thor, Titan I, II and III, Atlas, Minuteman I and III, Peacekeeper and satellites on the back. Watch for an announcement on availability in the March newsletter or in e-mail updates.

E-Mail Addresses - is your address still current with AAFM? We send out a monthly update - ensure you keep a current address with us so you get each one.

Letters to the Association

Address your letters to AAFM, Box 5693, Breckenridge, CO 80424, or send by e-mail to aafm@afmissileers.org. Letters may be edited to fit - content/meaning will not be changed.

More From Crew R-01 - Thanks for the copy of the newsletter with the article on Crew R-01. It's much appreciated. Thanks also for printing my email with the info on CMSgt Struxness passing. He was an incredibly brilliant young man, and at the end of his life still inspired us with his bravery and determination. Crew R-01 was at his burial service in Riverside CA, with a 10 man Honor Guard, a fitting tribute to a man who truly loved his AF career. The circle has been closed - Crew R-01, the first to launch an Atlas ICBM from Vandenberg, was present at the last launch of an Atlas IIAS from Vandenberg 43 years later, at least in part. The Crew Commander Col Russell W. Thresher Jr, MSgt (Ret) Paul H. Rodrigues and former SSgt Jerry D. Trent were on hand. The 576FLTS assigned two captains and a lieutenant to escort us, three very impressive young officers. We were invited as Distinguished Visitors, briefed on all aspects of the launch at the LOCC during initial stages of the countdown, at our request an hour prior to liftoff, we were transported to our viewing location at the base Rod & Gun Club overlooking the SLC3 launch facility. The location was set up with an audio system to allow us to listen to the countdown. At exactly the time predicted the Atlas lifted off and 74 minutes later placed its NRO payload in orbit. We were ecstatic!! Three old men standing on a hill in the middle of the night, with tears glistening in their eyes, had for a few fleeting moments regained their youth. As the Atlas roared into the night sky, thoughts of missing crew members flashed through our minds and their names were spoken. We owe the 30SW (who dubbed us a national treasure) and the 576FLTS a great debt of gratitude for the respect, courtesy and kindness shown to us and for making three old airmen very very proud to be remembered 43 years after the fact. When its our turn to fly off into the Wild Blue Yonder we will be proud to tell those that went before us that the Air Force did not forget! *Paul H. Rodrigues Msgt (ret), San Jose, CA.*

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Letters (Cont) - More R-01 - I enjoyed the article on the reunion of crew R-01 in the September newsletter, since I was also a member during those early years. However, I think someone was "snowing" Capt Snow when it came to the part about the launch for President Kennedy. That launch was from a horizontal emplacement at 576 B Site. It was not an A Site launch. We, the crews and maintenance personnel of B Site worked around the clock that week preparing for that launch. When everything was ready to go shortly before Kennedy's arrival, we were given the choice to go downstairs to the lunch/rec room or take off to the base. A number of us wound up at the NCO Club. The President's plane landed at 1608, Friday, 23 Mar 62. The President and Secretary of Defense McNamara were greeted by the 1STRAD Commander, MGen Preston, and Gen Power, CinCSAC. They were whisked away in the presidential "bubbletop" limo to a position on a ridge at A Site overlooking the launch. At 1630, crew commander C. W. Simonson of the 389SMW at Warren pushed the button to launch the Atlas on a successful flight downrange. The President was then taken on a tour of Minuteman and Titan facilities and then to the 576 B Site LCC to meet and talk with the Warren crew. Maj Simonson gave the president a missile badge. Air Force One left Vandenberg a little after 1900 for Palm Springs, where the president spent a weekend with Bing Crosby - and as the saying goes, that is the rest of the story. *Donald Glantz, MbrNo A2036, New Palestine, IN*

Your executive director, then a 1Lt at Mt Home, was at Vandenberg the week of the "Presidential" launch for my Titan I maintenance officer training. The base leadership decided that all of us "straphangers" needed to be somewhere else, so we were sent home a day early - I ended up hearing about the launch as I drove up the California coast, on my way to the just opened Seattle World's Fair.

A Final Note on "The First Atlas Launch"

Every time we publish an article about a crew who launched the first Atlas, we get friendly reminders from folks involved with early Atlas launches about what "first" really means. AAFM member MSgt (Ret) Ray King, who lives in Templeton, CA, reminded me that on 9 September 1959, "Launch Crew Number 1" performed the "First Atlas Blue Suit Launch" That group had a reunion in September 1994 at Vandenberg. Some of the members of that crew also took part in the 26 January 1960 launch by Crew R-01, billed as the "first all Air Force

crew to launch." Another launch a little later by a Warren crew has been called the "first launch by an operational crew." They were all important events, and each one was unique in some way - and are all part of our proud history. - *Your Executive Director*

Atlas and Titan I - I recently joined AAFM and would like to report on two site visits I recently made. The first was a very well kept Atlas E site outside of Fairchild (Site 567-4 near Sprague). I was driving through the area using my book "From Snark to Peacekeeper" by the SAC Historian. It has some maps of the locations that can get you pretty close to the old sites. If you work for FedEx like I do, our couriers in the local stations pretty much can direct you to anything! At the Atlas site, I met the owner and he was nice enough to give me a tour. He said that some of the retirees meet occasionally at Fairchild and have been out to his site for reunions. You may also be interested in some Titan I information that I obtained while at the Lowry AFB Museum. I have a Titan 1 Site Manufacturing Plan that has some pretty cool diagrams and cutaway views of a typical site along, with some photos of the Launch Control Center manned by missileers. While there on a TDY, I visited 3 of the 6 sites and found one that I could have entered, but never got the chance. The Historian personally had been inside several of the sites and was able to provide me with some good information. I met the owner of the Deertrail site and he allowed me to visit topside. Most sites have been secured so that trespassers don't get inside and get hurt. It was awesome just walking around where former missileers had trod. *David Buck, MbrNo A2281, South Jordan, UT*

Reunions

390SMW (Titan II), Tucson, AZ, 29 Sept-3 Oct 2004, Tucson, contact the Lashers at elainelasher@aol.com.

Association of Air Force Missileers, 19-23 May 2004, Marriott Regency, Omaha, NE, see back page for registration form

556SMS, 18-22 April 2004, San Antonio, TX Sheraton Four Points, contact Fred Crytzer, wfc@stic.net or 210-679-6542

Airborne Launch Control System, ALCS, OPS, COMM, FLIGHT CREW, RO, RM, APT, PLANS, and others, 19-23 May 2004 with the AAFM National Meeting in Omaha, NE. Contact Hank Carriger at 3306 Birchwood Dr, Bellevue, NE 68123 or (402) 292-7757. Email alcs@cox.net



The LeMay Building, USStratCom Headquarters

Adm Ellis (Cont) - terrorists, hostile states and or any other potential threat. For missileers, this is familiar territory as ICBMs retain a central role because of their high alert rate and responsiveness. The President has committed our nation to drawing down to between 1,700 and 2,200 operationally deployed warheads within a decade. To ensure our reductions remain consistent with national security, we will conduct periodic assessments of the strategic environment and drawdown.

As we reduce the number of Peacekeeper missiles, we will be using their newer warheads to replace the older Minuteman III warheads beginning in fiscal year 2006. We are extending the life of the Minuteman III by upgrading propulsion and guidance systems, which will keep this valuable system operating through the year 2020. We are looking at future ICBM concepts for capabilities beyond that time frame.

USSTRATCOM continues six decades of nuclear weapon stewardship and we will never lose focus on the vitality of land and sea-based missiles and our bomber fleet. However, we've reclaimed the original definition of the word "strategic" as more than a synonym for "nuclear." Our arsenal must also include modern conventional weapons and a host of kinetic and non-kinetic alternatives that can be employed to meet an ever-changing variety of threats in time-critical situations.

Global Strike is an important capability as the Department of Defense realigns military forces, best positioning them to protect America and its allies. America is fundamentally changing the way its armed forces are structured and employed. Many are stationed in small units that can be deployed much more rapidly. USSTRATCOM will support combatant commanders in all theaters with an emergency capability that can reach globally in a matter of hours.

Information Operations

When some people hear the words, "information operations," (IO) they think first of computer network

operations. That phrase does not come close to reflecting the IO mission we're tackling today. Today's combatant commanders must operate in a multidimensional battlefield. Their responsibilities go well beyond day-to-day military requirements.

This is where IO has incredible impact. It exceeds computer network operations to include electronic warfare, psychological operations, operations security and military deception. We want to make sure we can use and trust our information systems at the same time we deny some or all of that use and trust to information systems of an adversary. When you consider how important information systems are to every segment of society, you begin to understand the importance and scope of this mission.

No matter how broadly you define "IO," it isn't broad enough. It takes in every tool of national power and every interagency process. I emphasize the word interagency, because IO simply won't work unless it's integrated across the global information grid, throughout every agency – across the full military and national security spectrum.

Information Operations, as a concept, is not new. Almost every agency, service, and command has its own IO program. The difficulty comes when a warfighting commander is in the middle of a crisis and has to put an IO team together from disparate sources. USSTRATCOM's vision for IO solves this as it becomes the single, integrated source of IO assets. Our goal is to give every combatant commander the equivalent of a big red button that says, "Push Here For IO." When that button is pushed, it will open an armory of IO resources oiled, polished, bore-sighted and ready for use by the warfighter.

We will accomplish this through discipline and deliberate planning – the decades-old strengths of our strategic forces. IO capabilities are also strategic and have far-ranging impacts. We are working right now with the Defense Information Systems Agency, the Joint Information Operations Center, the Joint Task Force-Computer Network Operations and others to make sure we have that interagency focus vital to success. Fully integrating IO will allow us to provide comprehensive and deliberate planning that includes assessment of battle damage and specific consequences of execution.

Missile Defense

Missile Defense is the USSTRATCOM mission drawing the most national attention today. The Missile Defense Agency (MDA) has the specific assignment to

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Adm Ellis (*Cont*)- develop missile defenses to protect our homeland and our allies. The fabric of the world environment has changed significantly in the past two years. There are a much wider variety of threats today than there were during the Cold War. Our national security stands at a pivotal point in history. Some would argue that a thousand snakes have replaced the dragon that was our Cold War rival, making the world a more unpredictable, and dangerous, place.

While MDA is charged with acquisition, it is USSTRATCOM's mission to bring warfighter focus to missile defense and actually make the system operational. Initially, we'll function like a football team's defensive coordinator – tying all the elements of DoD's missile defense systems into one smart, integrated plan and linking it to our growing offensive capabilities. President Bush signed the National Security Presidential Directive that specifies missile defense will be designed and organized with a global perspective in mind. There is no longer separation between "National Missile Defense" and "Theater Missile Defense."

We are now examining as never before the technological, organizational and operational capabilities we require. In our role as integrator of global missile defense we are pursuing development of a multilayered system to protect our homeland as well as that of our allies.

A multilayered system acknowledges that there will be more to this mission than ballistic missile defense. Our modern defense network will include ground-based, sea-based, and space-based radars and other sensors that feed information on the air and space environment to battle management centers that can direct interceptors to their targets.

There is no single system capable of stopping every possible threat. The solution has been called a "Multi-Dimensional Defense." It is not unique to American requirements. It has become popular with other nations as well. Israel deployed a form of this defense during Operation IRAQI FREEDOM. India wants a defense system like Israel's as protection from the potential threat from Pakistan. And with North Korea as a neighbor, even Japan is studying multidimensional missile defense. The methods to achieve multidimensional excellence will be as infinite as our imagination and as vast as our opportunities.

Global C4ISR

The final previously unassigned mission is Global C4ISR. It is very difficult to describe this acronym

without breaking it down to each letter's definition. The first two "C's" (command and control), the second two "C's" (communications and computers), and the "ISR" (intelligence-surveillance-reconnaissance) are distinct, each coming with its own issues and requirements.

USSTRATCOM's first goal is to develop a command and control structure that provides commanders with knowledge superiority, information assurance, and timely decision-making capabilities and taskings on a true global scale. This will allow us to focus not only on one level, but on every level of command, from the President down to the warfighter. In addition to the obvious technical challenges, the establishment of governance, standards, and policy to ensure a transition to a multilevel, secure, network-centric enterprise remains a primary objective.

In working towards our C4 objectives, we have initiated integration of C2 systems across our mission areas. We have reached out and engaged multiple services, commands, agencies and others in the DoD to identify the commonalities and requirements of each organization in an attempt to build a consolidated way ahead in support of the warfighter. One example is our engagement with JFCOM and Assistant Secretary of Defense for Network Information and Integration (NII) to develop and implement a memorandum of agreement delineating the roles and responsibilities of each organization for warfighter C2. In a parallel effort we are working with OSD to develop and implement the Unified Command System (UCS) that will consolidate and centralize C2 governance capability, an essential key to attaining a true Global DoD enterprise.

Recent lessons learned from Operations ENDURING FREEDOM and IRAQI FREEDOM helped us to identify and address our growing requirements in the areas of commercial satellite communications, network security and bandwidth expansion. Here again, we are working with other agencies, both government and commercial, to improve our use and protection of these valuable assets. USSTRATCOM will remain focused, apply its lessons learned and address future challenges while ensuring we do not create stove-piped systems that do not talk to each other.

Changing to Meet Global Challenges

USSTRATCOM's package of legacy and previously unassigned missions is necessary to achieve the goals I mentioned at the beginning of this article. At any given moment, and under any conceivable threat, all relevant information must be available to everyone from decision-makers to trigger-pullers. We must be able to effectively

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Adm Ellis (*Cont*) - respond to any global challenge. While USSTRATCOM's role has expanded during the past year, all of us within the command understand the crucial role of missileers. Our land- and sea-based ballistic missiles continue to be our most effective deterrent to war and missileers continue their vital role as stewards of America's ultimate insurance policy. They breathe life into the phrase, "Peace is Our Profession."

The United States Strategic Command is integrating the analytical rigor from our long-standing nuclear stewardship to all our missions. At the same time, we must continuously reinvent ourselves to meet ever-changing global challenges. In the words of Abraham Lincoln, "The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew, and act anew."

Admiral Ellis is currently scheduled to address the National Meeting of the Association of Air Force Missileers in Omaha, Nebraska, 22 May 2004. He is a 1969 graduate of the U.S. Naval Academy. He was designated a Naval Aviator in 1971 and has held a variety of sea and shore assignments since 1972. His sea duty billets as a Navy fighter pilot included tours with Fighter Squadron 92 aboard USS Constellation (CV 64) and Fighter Squadron 1 aboard USS Ranger (CV 61). Admiral Ellis was the first Commanding Officer of Strike/Fighter Squadron 131, deploying in 1985 with new F/A-18 Hornets aboard USS Coral Sea (CV 43). He served as Executive Officer of the nuclear-powered aircraft carrier USS Carl Vinson (CVN 70) and as Commanding Officer of USS LaSalle (AGF 3), the Arabian Gulf flagship of the Commander, Joint Task Force, Middle East. In 1991 he assumed command of USS Abraham Lincoln (CVN 72) and participated in Operation DESERT STORM while deployed during her maiden voyage in the western Pacific and Arabian Gulf. In June 1995, Admiral Ellis assumed command of Carrier Group FIVE/Battle Force SEVENTH Fleet, breaking his flag aboard USS Independence (CV 62), forward deployed to the Western Pacific and homeported in Yokosuka, Japan. As Carrier Battle Group Commander he led contingency response operations to both the Arabian Gulf and Taiwan Straits. Admiral Ellis' shore and staff assignments include a tour as Deputy Chief of Naval Operations (Plans, Policy and Operations) in November 1996. Admiral Ellis became Commander in Chief, U.S. Naval Forces, Europe headquartered in London, England, and Commander in Chief, Allied Forces, Southern Europe headquartered in Naples, Italy, in October 1998. He holds Master of Science degrees in Aerospace Engineering from the Georgia Institute of Technology, and in Aeronautical Systems from the University of West Florida. He is also a 1975 graduate of U.S. Naval Test Pilot School. He completed U.S. Navy nuclear power training in 1987 and is a graduate of the Senior Officer Program in National Security Strategy at Harvard University. Admiral Ellis is a native of Spartanburg, South Carolina.

Join Admiral Ellis, featured speaker at our National Meeting on 22 May 2004 See the back cover for details



AAFM President Kelley with Gen Lord

Pointy Ended Warriors - an address by AAFM President LtGen (Ret) Jay Kelley at the ICBM Heritage Dinner, 9 October 2003 at the USAFA Academy Club

If there is one thing that characterizes tonight's dinner and the event which surrounds us, it's change!! Lots of it!! Now change can be threatening.....there's a lot of folks around that really don't like change. They like things just the way they are, thank you very much, so leave me and my people out of this!! For them, change is a white knuckle, E Ticket ride, and their way of dealing with it is by closing their eyes, and holding on real tight hoping that when they finally open 'em up everything will be back to normal, which means just like it was before. It's not going to happen! Not any more, if ever!

Now, looking around this room, I see a lot of change, 'cause many of us here tonight come from a different time. A time when hardware was a store. Software wasn't a word. Frank Sinatra was music and Hootie and the Blowfish wouldn't have made any sense at all !! And we didn't have any Blue M&Ms or cell phones!! But we did have foil packs and the SAC Primary Alerting System!!

A time of Drop Kick, SkyBird, and Sky King; 55-18 and 55-28; Rev change and SIOP 4C; Salvo and Ripple and Wave Block Launch times, FL/FIS; Deuce and Mod and CDB. MM III, Mk 12 and remember Spin thru Zero?? EMP and Pin Down; the JSTPS/NORAD Safeguard Offense Defense coordination cell; ABMs and chaff and defense suppression; dust and fratricide. SAMSO and the Yellow Book; Glory Trips, Underground tests, and the Almighty MM Working Group. But that was then and this is now, and since then we have beenRe-named, Re-uniformed, Re-aligned, Re-organized, Re-trained, Re-labeled, Re-acted, Re-connected, Re-competed, Re-careered, Retargeted, and Re-warrioried!

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Pointy Ended (Cont) - Is this "De ja vu" (been there, done that, got the tee shirt) ? Don't think so. Don't think so!! This is "Vu ja de" (we've never been here or done this before)!!

In my last assignment, I led a couple future studies for our AF, Spacecast 2020 and AF 2025. Neither one saw or identified a next generation ICBM.....or anything new regarding ICBMs at all ! And there have been others.....but no new ICBMs. The Nuclear Posture Review saw a need but not sure it was all that visionary vs stating the obvious....better take care of what we got!!

We Are at a Cross Roads

It isn't yesterday anymore.....the Cold War.....but it isn't tomorrow yet either.....we are at a cross roads of transition.....an intersection in time and capability. And we're going be here awhile. It isn't lightspeed and hyperspace yet! We are still fighting in largely the same old ways, a few changes I suppose, but despite the arm waving, hopes and dreams, we're not yet in the business of space based strike forces. So we're going to have to do it from "down here" for awhile longer, the foreseeable future for sure.

Step Back and Loosen Up

But doing it from "down here" doesn't necessarily mean doing it the same way or with the same things.

We need to loosen up, step back, and think a bit bigger. Not be too quick to dismiss new ideas or even the old ones second or third time around... 'cause the world situation has changed. And by the way, we long ago flew maneuvering RVs, used an ICBM to simulate intercepting a satellite, and developed wildly diverse basing modes to include trains, planes, and.....trucks!

But let's take the simple things.....the easy ones.

We have a tremendous national asset in our current ICBM forces, America's Land Based Strategic Nuclear Deterrent (LBSND).

By and large that set of forces is maintained, operates, and is secured in just about the same way today as it was when some of us older folks here this evening were taking care of it 30 years ago. I suppose, in a way, that could be considered praise for those who designed and developed and deployed MM. But it can also be condemnation for foot dragging for the rest of us.

These are different times than those some of us faced.

We had seconds, maybe a few minutes to react and get the birds off.....for time on targetand for survival. Time was critical.....the assurance of launch.....so we had an extraordinarily robust and de-

centralized execution / launch system and process. Sure, it was backed up through Sole Survivor and the Airborne Launch Control System (ALCS). But we knew we were going to get them off.....there were a lot of us on alert.

Can We Take Out Some Cost?

Wonder if we still need all that robustness in capsules, LCFs, LCCs? Is the threat still there that drives that aspect of LBSND? To that extent?

Wonder if we could be as effective with 2 or 3 LCCs per Sq vs 5? Could we do it with 1?

Could we, say, have 1 LCC manned by an active duty crew and another to be generated or manned periodically by an ANG or AFRES crew?

Would this be possible if the payload was non-nuke?

Could we even run the command / control monitoring system all the way back to home base? How about to Francis E Warren AFB? How about all the way to Peterson AFB?

Could we have an all-contractor maintenance force? What are the lessons learned from Peace Keeper?

Can you think of folks who spent a lifetime, a career in MM maintenance.....all at the same base? (Some sure came close!)

Is that good or bad? Ever talk about taking your BMW or Mercedes, better yet, your truck, to the guy who has been repairing them in town for the last 20-30 years!! Is that a good thing or a bad thing?? You know the answer!!

Now those two things right there in themselves (fewer capsules / smaller crew force, and contractor maintenance) would have a huge impact on what we know as a Wing today!!

And there are civilians that work for the Department Of Energy and the Navy on Nukes and they secure 'em too!!

But it's More About Capability

Reckon these type changes would certainly take out cost! But I don't think they do much for effects or capability on the other end! So, how do we address that piece of the puzzle?

Let's think about how we fight. We still fight in largely the same way....a bunch of people over here open a can of "whup-ass" on a bunch of people over there, or so my friend Tom Dempsey might say.

Some go by boat, some by air. Over there, the ground troops wait while air does its thing. Then the ground troops try to close the deal. About all that's changed much

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Pointy Ended (Cont) - over the last many years, is how much air can do before the ground troops have to close.

So, we still need fuel, parts, bombs, bullets, tents, chow halls, runways. Troops pump fuel, load bombs and bullets, and the airplanes burn the fuel, drop the bombs/bullets and come back for more.

Sure, I am being a bit light with the specifics, and I am not trying to trivialize the importance of what our dedicated troopers do for America, but you get the point. We have changed parts of the scenario, but we haven't thought much about the whole scenario.

We have made some small steps though. Look at Predator and Global Hawk :

-Small airplane.....shorter runway, less fuel
-Higher endurance.....fewer parts
-Better accuracy.....smaller, fewer bombs
-No pilots.....fewer dorms/tents

But it's not till you step back from the individual, stovepipe changes, that you can begin to really appreciate how, collectively, these changes can indeed begin to cause us to think differently about how we fight.

We have begun to re-define what constitutes a forward deployed air base!

So let's fast forward back to our challenge. What kind of capability are we talking about from a global and strategic sense? How about this, "To hit a specific target anywhere on the surface of the earth less than one hour from "Go!" I made that up, but it sounds good. So consider this :

An ICBM is certainly regarded today as a nuke weapon system. But it can be much more.....with remarkable characteristics.

-Ready when you are, and with rapid response
-Reliable in performance
-Fast, accurate, and effective
-High probability of penetration
- Stealthy, low probability of detection
-Assured connectivity with command
-Can get anywhere in the world in less than one hour
-No Blue body bags

The only way air can do this, is if it is already "in the area". An ICBM-type weapon system doesn't need to be "in the area"!

What does this do for you? We are getting in to a time that demands that we step back and take another look.

If we don't.....then sundown isn't going to be far off!! And that would be a tremendous waste and loss for

our nation!

We just have be willing to think about things a little differently.....not digging in our heals....loosening up on some things.....while holding tight to others that have value in transition.

If we start by saying we can't change what a wing is, or that maintenance and ops has to be blue suit and it has to fit in a MM hole, then.....

But if we step back, loosen up and think about it from an effects/capability perspective, yeah cost too, wonder what might happen?

Talk about thinking differently, when I was in the JSTPS, missile tactics, we were always arguing with the Navy about SLBM launch commit times and reaction times.....took the SSBNs time to get the word, get ready, come to launch depth, position and launch.....and when they started, they wanted to launch 'em all! They didn't want to hold any back for later! They were deeply (no pun intended) concerned about the survivability of the SSBN.

But look at today! Since the Cold War, look who's launching a few Tomahawks from a submerged SSN.....survivability has a different ring to it now. The environment has changed and they have adapted.

We better do that and more!

The Challenges Ahead are Great

How do we adapt a great Cold War LBSND to continue to be great well into this century? AND....

How do we adapt that old Cold War LBSND system such that it can play a role in engaging new targets in new (non-uke) ways at great distances. With exceedingly high probability of success??

My good friend Carl Builder once told me that we airmen are terribly guilty of talking a lot about what air and space and missile power can do and not enough about why America should care. I think he was right.....so we must be sure we are working America's problem here.

For some who have trouble dealing with re-structuring or re-defining the ICBM weapon system.....or a wing.....get over it! Or it won't be around much longer.

Let me wrap this up, I've been talking too long anyway.

Your AAFM is a great team of resources for our active duty brothers and sisters, bench strength you might say. This evening has been a nice start to getting better acquainted and hopefully in a way that is helpful. We have AAFM folks who have been in the ICBM development and operations business. They would love to

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Pointy Ended (Cont) - share what they know with the active duty troops. Ralph Tourino used to be the Director of BMO. Mitch Mitchell used to be the SPD for Small Mobile ICBM. John Gordon, Ken Van Dillen and Ken Kissell used to be in the MX basing mode business at Air Staff. Some of us served at SAC as planners and maintainers and with JSTPS as operators. Others, like Ron Gray and Mike Jackson, are field maintenance experts bar none ! We know this business. We claim the privilege of assisting you..... as you see fit. And it has been an honor to have shared this evening with you.

We have been America's "Ace in the Hole" for over forty years now. But it's time for us to get out of our own way! Its time to change, to adapt, and the means to get it done is right here tonight!

Do Good, Confront Evil and Press On!!

The ICBM Heritage Dinner, which will become an annual occurrence, was a joint effort between AAFM and Col Rick Patenaude and the Deterrent and Strike Division of AFSPC. Capt Lorinda Frederick took care of the details, and about 80 people, AAFM members and officers and NCOs who work current missile and space programs attended. The 2004 event planned dates are 24-25 March 2004. Details will be provided when available.

Last of the Titans: Passage of a Cold Warrior

- by Maj Dan Wetmore, MbrNo L290, Vandenberg AFB, CA

Within the realm of American rocketry is a class of boosters known as the "Heritage Vehicles". It was a trilogy of ancient gods (Thor, Atlas, Titan) which started out life as throw vehicles for nuclear munitions, and later enjoyed second careers transporting satellites into earth orbit. The Thors all left long ago. The original Atlases too. And on 18 October 18, the last of the Titans departed our company as Space Launch Vehicle 23G-9, rocketing from a launch pad on Vandenberg's south base to take its place in the firmament, a star in its own right. Theirs was a select fraternity. Yet within it, the Atlas Dand Titan II enjoyed the further distinction of having held a third job. Of the many boosters fielded in the history of U.S. rocketry, only those two performed in all three arenas of space activity: missile defense, satellite lift, and manned space flight.

Missile Defense: As instruments of strategic deterrence, ICBMs served on the front lines of the cold war. And among the quartet (Atlas, Titan, Minuteman,



Last Titan II Launch

from 1963 to 1987.

The Titan II ICBM pervaded the cornfields of the country and the consciousness of a generation. They were deployed from the Mississippi to the Pacific; at Little Rock, McConnell, and Davis-Monthan along with test silos at Vandenberg.

The Manned Space Program: In 1961, President John F. Kennedy challenged America to send men to our nearest neighbor by decade's end. This brought an additional role for the Titan II. The 250,000-mile path to the moon was laid with three stepping-stones, and the second of these was the Gemini Program. It was built on the foundations laid by the Mercury missions, in which Redstone and Atlas D rockets carried one-man capsules into space in order to baseline the mechanics of space travel and study its effects on humans.

In ten of the twelve flights of the Gemini program which followed during 1965-66, modified Titan IIs carried astronauts aloft aboard two-man craft. These flights focussed on the logistics of 'twinning' spacecraft in orbit; rendezvous and docking procedures. The subsequent Apollo missions were heir to these efforts, as those Saturn launches brought the first moon landing on 20 July 1969.

Commercial and Governmental Satellite

Lift: In 1986, following decommissioning of the Titan II as a weapon system, fourteen of the fifty-four remaining vehicles were reacquired by Lockheed Martin in a 'swords to plough shares' venture. Returned to the factory in Colorado, they were retrofitted for spacelift duty, then followed the path to Vandenberg beaten by their earlier siblings in the ICBM program. In 1988, the Titans began to fly again from California shores,

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Peacekeeper) of subterranean sentinels which held that duty, the Titan II cast the longest shadow, tipped as it was with the 9-megaton Mark 6, largest warhead ever fielded by the United States. With an explosive equivalence 600 times that released at Hiroshima, the Titan II stood watch nearly a quarter of a century,

Titan Launch (Cont) - successfully placing weather and experimental payloads in polar, low-earth orbit. Titan II continued its contributions to lunar exploration in this third occupation, when the payload of 1994's Clementine mission provided evidence of water on the moon.

Of all the Titan IIs minted by the Martin Company between 1962-67, 108 have now passed into history. Two were destroyed in various accidents, while 106 performed their intended function. Eighty-one were used in ICBM tests and evaluations: twenty-three above ground at Cape Kennedy, fifty-eight in silo from north Vandenberg. Twelve flew from the Cape in the Gemini program, and thirteen have now lofted satellites from south Vandenberg.

Of the forty-five left, forty retired to Arizona, where they lie in leisure at Davis-Monthan AFB. Four others do volunteer work at museums, and a final spaceframe, G-10, remains at Vandenberg, a taxi waiting for a fare that may never come.

Ultimately, the second-to-last forged was the last to fly. The missile originally known as B-107 was "commissioned" on 18 April 1967 at the Martin plant. In 1968 it entered active duty with the 381SMW at McConnell AFB. From 1968 to 1986, B-107 stood alert at Launch Complex 8 near Kingman, 50 miles west of Wichita, under the watchful eyes of the 532SMS.

In 1988 it returned to Colorado for two years of retrofitting for space flight, finally making its way to Vandenberg in 1996. Four years later, an inaugural launch attempt was aborted nineteen seconds prior to lift-off and G-9 was removed from the pad. Six months later it was repositioned, but satellite concerns prompted a second de-stack. Half a year later marked its third and final return to the pad, where it provided the 430,000 pounds of thrust necessary to take the sixteenth in a series of DMSP weather satellites for its six-minute ride 100 nautical miles into space.

But as the stand-down fly-out of four decades on active duty, G-9's progress can be plotted on a larger scale. Having counted both warheads and commercial wares among its payloads, it spanned the extremes of Goddard's legacy; first underscoring the oppositions which keep nations at arms' length and later emplacing the technologies which draw them together.

In the end, though history didn't exactly repeat itself, it did approximate. As 160 tons of guided telephone pole demonstrated their buoyancy that crisp Saturday morning, the people watching from the viewing area of Vandenberg's Rod & Gun Club did so a mile and a half from the site of the inaugural silo launch of a Titan II,

which lifted off from Complex 395-C on 16 February 1963. Within a few miles began and ended the forty-year flight of a single (and nearly singular) craft which traversed the whole of the history of space utilization.

And though the success of that launch was a function of the skill and determination of untold personnel, perhaps luck deserves a bit of the credit for G-9's departure. It would help explain how, in the third year of the third millennium, that third-generation ICBM, enjoying its third incarnation as a satellite lifter, finally lifted off on the third attempt of its third trip to the third pad of the original Point Arguello Launch Complex. What's in a name? In the case of G-3 (squared), perhaps everything.

Leading the way in Space! - by LtCol

Ab Barredo, Mbr.No A2216, Broomfield, CO

There is no doubt that our former missileers are leading the way in many places, but none as visible as in the Space arena. For three former missileers of the ol' 91SMW, they have come to lead the launch and sustainment of reserve space operations in the Space Based Infrared system otherwise known as "SBIRS". LtCol Ariel "AB" Barredo (former 740SMS), Maj Derek "Sport" Hunt (former 742SMS), and Maj Jimmy "Pineapple" Mindoro (former 741SMS) were all stationed up at Minot as "Roughriders" in the Minuteman III weapon system back in the late 80's, early 90s. Upon completion of their initial crew tours, they took different directions in the USAF and eventually ended up leaving the active duty air force. However, their service to country commitment was deep and each eventually joined the Air Force Reserves at different times and somehow all ended up assigned to the 8th Space Warning Squadron (8SWS) in the late 90s at Buckley AFB, Colorado. Since then, they have been driving the unit and supporting the SBIRS mission from unit activation and through six major campaigns, to include most recently Operation Iraqi Freedom. Their missile crew experience helped them bring a methodical operations discipline to their Space responsibilities. SBIRS is a relatively new space weapon system providing 24x7 global infrared detection capability to end users. As Maj Hunt once put it, "It's a demanding, but sexy mission!" The 8SWS is a Reserve Associate Unit made up of full-time Active Guard Reserve and part-time Traditional Reservist personnel. It supports the SBIRS mission areas along side its active duty host unit. See the unofficial web page at <http://geocities.com/sbirs8SWS> for more information!



Atlas in Gantry at Vandenberg in the early days

A Piece of String - by LtGen (Ret) Richard C.

Henry, a member of the Schriever "Old Timers", and former commander of the Space and Missile Systems Organization (SAMSO) and later Space Division in Los Angeles. Gen Henry also had assignments in SAC and TAC, and flew the B-50 and F-4. He served in Headquarters 7th Air Division, High Wycombe Air Station, England, as a staff officer for the Thor intermediate range ballistic missile deployment and was involved with the manned spaceflight program

In 1955 I was assigned to the Operational Requirements Division in the Directorate of Operations, Headquarters SAC with duty at Holloman AFB, NM. That October I was transferred to the Western Development Division (WDD) of ARDC in El Segundo, California. I was the only SAC officer stationed with the WDD and was the 45th Air Force officer to report into the organization. The ICBM program was just getting started and all military personnel were directed to wear civilian clothing because what we were doing was apparently classified. I was a junior Captain and, being the only SAC officer on the installation, I was privileged to participate in many meetings and conferences that normally did not include officers of my rank

In the fall of 1956, the WDD formed a site selection team for the first ICBM base. The ICBM development had become a crash program second only to the Manhattan Project of World War II with the objective of fielding an operational ICBM as early as possible. A map survey narrowed the choices down to three sites, Camp Cooke in California, Fort Warren in Wyoming and Camp McCoy in Wisconsin. I was on a team that visited Camp McCoy and after a walk through of the area, it was clear that the terrain was unsuitable for ICBM pads. The weather at Ft Warren provided obstacles for a crash construction program. Camp Cooke was a two division Army post during World War II and had been mothballed after the war. Being reasonably close to the WDD, it was an attractive option. During earlier discussions about the

ICBM program, it was becoming increasingly clear that some sort of operational launching was needed to give SAC the planning factors that it needed for its Emergency War Plan (EWP) targeting. Launchings from Cape Canaveral were not appropriate because that was a research and development environment and firing results could not be easily applied to war time planning factors. The idea of firing west into Kwajalein had already been surfaced; the launch site had not yet been selected. Camp Cooke was a natural.

The selection of Camp Cooke was, from a military perspective, an easy selection. However, it was necessary to get approval through the civilian power structure in Washington. Again, as the only SAC officer on station, I was privileged to sit in on the preparations for the presentations in the Pentagon. In those days, briefings were given using grease pencils and butcher paper. Viewgraphs had not yet come on the scene.

The setting was one of those dingy conference rooms in the Pentagon. The room was full and some famous names were present. General Thomas Power was Commander of ARDC. General Nate Twining was Chief of Staff. General Thomas White was Vice Chief of Staff. The room was loaded with Lt Generals, Major Generals and Brigadiers whose names I don't remember. I was the only Captain and the sole SAC representative. The time was 5pm. It was dark outside and normal business was done for the day. All in all, I counted 33 stars in the room. A WDD Major who shared an office with me was the briefer. The Secretary of the Air Force was receiving the briefing. One of the briefing aids was a map showing the world as viewed from the North Pole. During the briefing, the key issue became the ability to launch an operational ICBM at an enemy target from Camp Cooke. The Secretary stated that the first ICBM base had to have an operational capability. Camp Cooke was far enough south that it was not obvious that useful targets could be reached. No one had the answer. General Thomas White took a piece of string, measured off 5,000 miles, the range of the Atlas, and using a pencil laid out an arc from Camp Cooke on the polar projection of the world, showing conclusively that worthwhile targets could be attacked from launch sites on Camp Cooke.

A piece of string carried the day. After all the briefings on the studies and rationale for the selection of Camp Cooke, a piece of string made the difference between approval and disapproval. Camp Cooke is now, of course, Vandenberg AFB. That was an experience that this young Captain never forgot. Needless to say, it was a receiver on, transmitter off experience.



Tom Reed and Minuteman test RV

Fifty Years Ago This Winter - by Tom

Reed, MbrNo A2284, Healdsburg, CA, Western Development Division veteran and former Secretary of the Air Force Secretary. It is drawn from his new book, "At the Abyss: An Insider's History of the Cold War", to be released by Random House in March 2004.

During the Big War the Germans built some rockets. When it was over the Soviets transplanted that Peenemunde culture to Moscow. But it was only in the winter of 1953-54, fifty years ago this month, that the US woke up to the dangers and the opportunities.

1953 brought a new administration to power in Washington, and it ushered out the old in Moscow. Stalin died on March 5. During the summer that followed the Soviets conducted their first H-bomb test. British communication intelligence experts, posing as archaeologists while traveling through Iran, were monitoring early Soviet V-2 flights in Russia. In the fall of the year Trevor Gardner, a young special assistant to the Secretary of the Air Force, empanelled the brightest and best of American academia to look into the profligately wasteful and unproductive US guided missile programs then in place.

American scientists had been hard at work. At Los Alamos a design for a practical, portable H-bomb had been completed. At the Ames Laboratory in California Dr. Harvey Julian Allen was doing calculations on the physics of hypersonic vehicles reentering the atmosphere. In Cambridge, an MIT professor, "Doc" Draper was devising a way to use the gyroscopes developed for gun sights in World War II to guide aircraft and eventually missiles over long distances. The glue to put all this technology together was the Teapot Committee, chartered by Trevor Gardner in October 1953. It was led by Simon Ramo and included the bright lights of CalTech, MIT, Princeton, Harvard, Hughes Aircraft, and the Bell Labs.

In February 1954 the Teapot Committee rendered its report, a bombshell to those cleared to read it. In part that was because the credentials of the chairman and his

committee were unassailable and in part because they forecast a serious and hitherto unappreciated Soviet missile threat to the US. The Teapot Committee report did not call for an immediate flood of new money. Instead it said a practical American intercontinental ballistic missile (ICBM) would be feasible within 6-8 years, but only if a radical reorganization of the ICBM program was accomplished. Rather than pouring money into the existing Atlas program (a 220 ton missile with seven engines, needed to deliver an 8,000 pound warhead to the other side of the world) the committee recommended taking a year to do a weapons system study, to define a more realistic Atlas along the following lines:

1. Warhead: Plan on a 1,500 (not 8,000) pound warhead with a yield in the megaton range. This would drastically reduce the size of the missile. Details were to be reviewed in light of the upcoming Castle nuclear test series then getting under way in the Pacific.

2. Reentry vehicle: Do away with the requirement for high speed (Mach 6) approach to the target. Reentry heating considerations would not allow that. Mach 1 would be good enough.

3. Guidance: Strive for the use of self-contained inertial guidance and be content with a 2-3 mile average miss distance, not the 1,500 feet called for in the then-current Atlas specifications. With a megaton warhead that would be close enough.

4. Engines: Use the technology under development for Atlas as well as the other strategic missiles (Navaho), and expand the construction of test stands to support that work.

5. Basing: Get realistic about the need for reduced vulnerability to nuclear attack, a higher rate of fire, and a faster response time. These requirements would make the missile design more difficult, but they were necessary if US missiles were to strike the nuclear facilities of any attacker on a timely basis.

These technical guidelines were impressive, but they paled in comparison to the revolutionary management scheme proposed. The Teapot Committee felt that the usual armed services procurement regulations, the unending layers of review authority, could not deal with this crisis. The Atlas program, "... must be relieved of excessive detailed regulation by existing government agencies." While subsequent committees would spell out the details, the Teapot Committee wanted a direct line of authority from the Pentagon to the new Atlas development agency. That would be the Western Development Division (WDD), to be organized in Los Angeles where

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Fifty Years - (Cont) - the technical talent lay, the products of CalTech and Howard Hughes's unintentional incubator. Brigadier General Bernard Schriever would be the WDD's Commander.

The rest is history. AAFM members know it well. Atlas first flew, haltingly at first, in 1957. By the end of the Eisenhower years Atlas was deployed, other ICBM and IRBM programs were in the pipeline, and many of our members were on alert at launch pads from Vandenberg to F. E. Warren to the U.K.

It all turned out quite well.

2003 Missile Heritage Grants

AAFAM awarded \$10,000 to four museums for 2003. We had seven outstanding grant applications for a total of almost \$20,000, and the committee had some tough decisions. Grants for 2003 included \$1,500 to the Museum of the Western Prairie in Altus, OK for an Atlas F display, \$2,500 to the Ellsworth Heritage Foundation for a Hounddog missile display, \$3,000 to the Peterson Space and Missile Museum for a Minuteman LCC enclosure and \$3,000 to the Hill AFB Museum for missile park interpretive signs. You have now given more than \$95,000 to museums for missile displays. Grants this year were in memory of MSgt (Ret) Robert M. Cox, Col (Ret) Ralph Dowell, James Elsner Jr, Col (Ret) Bernard Garfinkel, Col (Ret) Bruce Harger, LtCol (Ret) Bryon Johnson, TSgt (Ret) Paul Lackey, 1Lt Paul Monaghan, LtCol (Ret) Richard Morgan, LtCol (Ret) Hubert Spraberry.

Cold War Museum

One of the participants in the September Cold War History conference that AAFM helped sponsor was Francis Gary Powers, Jr., son of the U-2 pilot who was shot down by the Soviets in 1960. Shortly after AAFM began, Gary began work on his project, the Cold War Museum, which will be in the Washington, DC area. One possible location is the former Nike Missile Base located in Lorton, Virginia. Another potential location is adjacent to the new Air and Space Museum near Dulles Airport. The Lorton Nike Missile Base is a Cold War historical site located about 40 minutes from Washington, D.C.

At present, the organization has a traveling display that Gary has taken to several locations, as well as an on-line museum, educational programs and more - all can be reviewed at their web page at www.coldwar.org.

AAFAM will keep you advised of their progress, and you can contact Francis Gary Powers, Jr. at The Cold War Museum P.O. Box 178 Fairfax, VA 22030, telephone (703) 273-2381, e-mail gpowersjr@coldwar.org

AFSPC Streamlines Launch

Operations - By Stefan T. Bocchino, HQAFSPC Public Affairs

Effective 5 December, 2003, Air Force Space Command began the reorganization of its space launch and range functions in a way that provides a clear unity of command in launch execution from the on-site wing commanders, through the Space and Missile Systems Center (SMC) Commander to the AFSPC Commander. This action was made possible by the 2001 Space Commission merging of SMC into AFSPC, and will create a single line of authority for launch responsibility. The launch campaign begins years before a launch as the booster and spacecraft are ordered, built and tested. The booster subsystems arrive from around the country at the launch site for assembly, checkout and integrated testing as a composite "stack." The entire spacelift process culminates with booster launch and spacecraft insertion into its operational orbit.

This reorganization will provide more cohesive and effective operations at Patrick Air Force Base, Fla., and Vandenberg AFB, Calif., and allows the SMC commander to direct the launch campaign from the acquisition/engineering phase through launch execution at the wings through the on-scene wing commanders.

"What we decided to do is take our detachments that used to work for SMC and combine them together (with each wing) - the acquisition and operations together - into a launch group that is a synthesis of both acquisition and operations. Because, launch and assured access to space is not all operations. It is not all acquisition. It is a little bit of both" said Gen. Lance Lord, Commander, Air Force Space Command. "We've had 33 successful launches in a row. This has been done with the support of two great contractor teams and the professionalism of our men and women performing both acquisition and launch operations at the launch site. We've had great leadership and oversight from Lieutenant General Brian Arnold and the folks at the SMC in Los Angeles, and I fully expect this reorganization to sharpen our focus on mission success," General Lord said.

One and One

Convince a friend to join us in Omaha as a first time attendee for our National Meeting and you get a new AAFM coin see back cover

490MS History Project - by 1Lt Ben

Bourcy, 490MS, Malmstrom AFB, MT

The 490MS has a rich and proud history. As the 490th Bomb Squadron in the China-Burma-India Theater during World War II, the squadron earned the name 'Burma Bridge Busters' because of their success in destroying crucial bridges used by the Japanese. The 490BS destroyed 191 major bridges in Burma, Thailand and South-west China and received two Distinguished Unit Citations. One hundred and eighty-five crewmembers were killed in action.

In May 1962, the unit was reactivated as the 490SMS at Malmstrom. Since its reactivation, the unit has received 7 Air Force Outstanding Unit Awards. Known as the "Farsiders" because of the distance of their Launch Control Centers (LCCs) from support base (90 to 140 miles), the squadron's around-the-clock vigilance deterred the Soviet Union during the Cold War and provides nuclear "top-cover" for the Air Expeditionary forces in the War against Terrorism today.

The rich history of the 490MS serves as a touchstone and benchmark to motivate our airmen and officers today. Recently, the squadron has begun putting together a history book to preserve the legacy of the 490MS. We are looking for submissions and artifacts. If you have a story to tell, let us know. We are in particular need of information from the 1960's and 70's. Also, we are putting together an alumni directory for information and a potential reunion of the bomb and missile squadrons. If you would like to be included please send us your contact information.

Send your information to the 490th Missile Squadron, c/o Squadron Historian, 21 75th Street North, suite 44, Malmstrom AFB, MT 59402 or e-mail Lt Bourcy at bcttbourcy@bresnan.net

12MS Reunion - by Lt Tim Ryan, 12MS, Malmstrom AFB, MT

The 12th Missile Squadron at Malmstrom has a reunion weekend planned for 4-6 March 2004 in Great Falls Montana. Activities will include an "icebreaker" at the Base Club on Thursday night. On Friday, the squadron will be providing several tours during the day and a Dinner and Dancing event that evening at the Holiday Inn Great Falls. The reunion will conclude with a MAF Tour and BBQ Luncheon. The contacts are Capt Amy Sitze, amy.sitze@malmstrom.af.mil and Lt Tim Ryan, timothy.ryan@malmstrom.af.mil.



3901SMES Maintenance Evaluation

The IG is Coming - Part II - by Col)Ret)

Charlie Simpson, AAFM Executive Director

Last issue, we talked about ORIs in early missile systems, with details about the way it was in Titan I. My own experience took me from Titan I maintenance to Minuteman II operations, as a crew member in the 321SMW at Grand Forks. By 1965, we had an experienced missile inspection team at Headquarters, SAC, and a 3901SMES with four years of experience in evaluating missile units. And we got to see both teams often.

In the early days of Minuteman, the IG came at least once per year, and the 3901SMES was at each wing every six months. Most of the time, the Operational Readiness Inspections (ORI) were no-notice, and some of the 3901SMES visits were the same. The IG team would arrive by C-97 or KC-135, and many of the 110-120 team members would immediately head for the field. Operations inspectors went to every LCF to watch the combat crews react to the ORI initiation and execution messages, as well as begin their compliance inspections of the topside and below ground facilities. Meanwhile, most of the other inspectors, for both wings if a bomb wing was on the same base, fanned out to watch the wing get ready to "go to war."

Over the years, as the team members gained more experience (or hired more inspectors from the units), the depth of the inspections grew. After the initial check of how the wing did its recall, got organized and reacted to the exercise execution message, team members began checking all aspects of the unit's compliance with Air Force and SAC directives. In operations, the team began selecting several combat crews to undergo checks in the missile procedures trainers. These MPT checks consisted basically of emergency war order preparation and execution with some system problems mixed in for

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The IG (Cont) - good measure. These MPT checks were an important part of the wing's overall rating on the ORI. Some wings earned Outstanding ratings in early ORIs, but most ended up with Satisfactory - a single combat crew failure could cause that rating. And, of course, some wings didn't fare well, with too many crew failures, too many compliance discrepancies and ratings of Marginal or Unsatisfactory. One unpleasant aspect of a low rating was a quick return visit by the IG.

The compliance part of the ORI, which at times was considered a separate inspection that began once the "ORI Phase" ended, was a very detailed (described as "nit-picky" but some) review of programs, policies, management and leadership in every office and shop in the wing. Many of us remember write-ups like "Mops and brooms co-mingled in the storage closet" or "toast crumbs in the butter dish" - the inspectors were always thorough. When I was a captain in the Evaluation Division (Standboard) at Grand Forks, I was assigned the task of "escorting" the inspector as he did his job - supposedly to be able to answer any question or find any file he was looking for. The first year that our shop was subjected to a full compliance inspection, the major who inspected us found no discrepancies - but he rated us Satisfactory. His rationale was that we were the first Standboard shop that the IG had ever given a compliance inspection, and he had to assume that while we were "very good, maybe the Standboard shops in all the wings are as good or better." There were several keys for doing well in this part of the inspection - one of the most important was to avoid "repeats" - discrepancies that had been found in the previous visit - which meant you had failed to fix the problem the first time.

There were a lot of other aspects to the ORI sometimes considered part of the inspection and often considered to be concurrent with but separate. The Nuclear Surety Inspection (NSI) was one of those - but NSIs were also, over the years, conducted by other folks (like the Nuclear Surety folks from Albuquerque). NSIs were (and still are) tough - as well they should be. Basically, the inspection verifies that the unit stores, safeguards and handles nuclear weapons properly - operations, maintenance and security get a good going over in each NSI.

Twice a year, the 3901SMES came to visit - their evaluations were detailed personnel checks, complete standboards for ops crews and task evaluations for maintenance, munitions, comm and civil engineers. In each area, the evaluations also watched local evaluations perform their tasks - it was not good when a wing standboard

crew of maintenance evaluator made errors while checking a wing crew while being scrutinized by the higher headquarters evaluators. But the 3901SMES also checked compliance - program evaluations ensured that, in operations, for example, the evaluation, training and EWO programs were meeting their objectives. Evaluations also checked crews on alert, sometimes shortly after the team arrived. Most 3901SMES visits were scheduled - for a while, the team did "no-notice" evaluations, but since the team visited every six months, most were scheduled visits. Those of us who served in the 3901SMES used to say that "a cancelled visit would be as good for a wing as a completed evaluation" since units spent many hours preparing for semiannual evaluations.

For missileers who served in NATO units, there were some new experiences - TAC Evals and ORIs were common in some ways, but far different in others. We will look at these inspections, some recent and current procedures and more personal stories in future issues.

Two Numbers - 17 and 26 - by LtCol (Ret)

Roger Tollerud, MbrNo A0117, Layton, UT

Early in the summer of 1970 Col Grover Graves and I departed the 4315CCTS for Minot AFB. He as the new 91SMW Commander and me as a new Crew Commander in the 740SMS. Fast forward some months through upgrade training and an upgrade standboard check and I was into the routine of pulling alert in the Minuteman III weapon system. The SAC IG landed and a team headed for the Launch Control Center where my Deputy, Lt Dennis Daigger and I were on alert. We were the Squadron Command Post for the 740SMS and if memory serves there were only two other LCCs up because of a modification program that was in work.

The IG entered our capsule and after a brief inspection we all settled down to wait for the Exercise Execution Message. We waited and we waited and we waited. Finally, the message came and as we processed it we realized that it was 17 minutes late. The rules said (and this after all was SAC—the Mother of all rule makers) that an exercise launch message could not be late and we were obviously not trained for it. The IG in our LCC was confused and I was concerned. I was faced with two options, neither of which was very good, stop and say we were outside the established rules and run the risk of busting the Wing 'cause we quit or simulate the launch using a combination of exercise and EWO checklists.

At the start of this little story I mentioned that Grover Graves, a legendary and self proclaimed "iron ass",
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The IG (Cont) - was our Wing Commander. The thought of explaining to him why I decided not to launch drove me quickly to the second option. So with the concurrence of my Deputy we went as far as we could in the exercise checklist and then took the Squadron to page 26 of the EWO Squadron Delay checklist and completed the sequence with repeated warnings to all on the net not to actually insert and turn keys! Following the exercise there was some discussion between the IG in my capsule and those in the Wing Command Post and I understand that later there were heated discussions between the wing and HQ/SAC for placing a crew in that circumstance. The end result of this is that using unorthodox methods we were successful in our portion of the exercise and the Wing was successful. To the best of my memory Colonel Graves never said a word to us but I remember that the 740SMS Commander, LtCol Glenn Fornes called Dennis and me "my heroes!" at a party at the club after the IG left. Which given the alternatives was pretty good!

Atlas E, MOCAM and ORIs - by Jack Roberts, MbrNo A0513, Campbell, TX

ORI meant one thing for the troops on the 548SMS (Atlas E) mobile maintenance (MOCAM) crews: Long Hours! An launch could be simulated in two ways in Atlas, with what we called a transponder countdown and or with a dual propellant loading (DPL). The transponders were electronic units that simulated the conditions of a launch. The reactions on the launch control console would be exactly the same as if the bird were actually being erected, fueled, and launched. This tested the logic units that controlled the sequence of things that happened during a launch but it did not test the overhead door system, the erector, the fueling systems, or the hydraulic systems and pneumatic systems.

The only way to get a true test on all systems was to do a DPL. Because of several obvious safety issues, an ORI team could not just drive up to a complex gate and order the crew to push the button and see what happened. First, the munitions people had to remove the warhead. Then the missile engines had to have the igniters, powder cans, and hypergolic cylinders removed so that they could not start. (The Atlas on-board computer actually took over the countdown in the last few minutes of launch and fired its own engines.)

As the MMT on MOCAM One, I could have the engines ready for a DPL in about 30 minutes. But the real work began for the maintenance crews after the DPL. An engine service cart had to be brought from base and

the engines had to be flushed and the lube oil tanks topped off. The missile had to be vertical for this procedure and, as I recall, it took several hours. The interior of the thrust section was always wet with condensation that had formed on the LOX lines and had to be dried out as best it could be using the thrust section heaters and rags.

It took about an hour and a half to reinstall the powder cans, igniters, and hypergols before we could button up the thrust section. Then munitions people came back and reinstalled the warhead. As I recall, it took 10 to 12 hours to get the bird back on line after a DPL. That was if everything went right during the countdown! If anything went wrong, it might take several days of MAPCHE and MDU check outs, more transponder runs, and more DPLs before we could pronounce the bird "flightworthy."

Either way, we were in for some long hours on site. Our maintenance crews often relieved each other on site at 12 noon and at 12 midnight. This meant getting to base at least two hours before we were due at the site and getting home two hours after relieving the other crew. 100+ hour weeks were common.

This schedule was brutal and we were aware that we might make a mistake due to fatigue. But, we watched out for each other both on duty and off. Luckily, we had no mishaps on our watch and always seemed to get the job done.

Taps for Missileers

Robert J. Conrad, serving first in the Merchant Marine and was the First Sergeant with Mace missile unit at Bitburg AB, Germany. He was involved with the TAC Missileers organization

James Elsner, Jr, an AAFM Member, passed away late in 2002. He had served in the 341MW and lived in Hartford, CT

Joe Giannantonio served in the 381SMW and lived in California

LtCol (Ret) Richard Morgan, an AAFM Member, served in the 321MW and lived in Oak Harbor, WA

Maj (Ret) Donald M. Thorne, an AAFM member, served in the 44SMW and lived in Santa Rosa, CA

An Apology and a Correction

Your editor used a wrong first name for Admiral Ellis on our National Meeting registration form in June and September - his first name is James.

Page 7, end of column one, September issue is missing "shaved or showered in five days. Unsung, these men were the first silent demonstrators of deterrence.