



Air Force Space Command and the Future of the ICBM Force

By General Lance W. Lord Commander, AF Space Command

If you visit one of our three operational ICBM units today, you might conclude that life at a missile wing appears to be pretty much as many of you remember from your time on active duty in operations, maintenance, security forces, communications, or the other career fields so vital to providing our credible nuclear deterrent. Maintenance teams arrive at their work centers often before dawn to prepare for a long day’s dispatch to repair a problem at a launch facility far away from the support base. After the daily wing pre-departure briefing, missile crews, facility managers and chefs travel to the Missile Alert Facilities and begin their tours of duty. Security forces are on seemingly constant patrol in the missile complexes, providing protection for RV convoys and rapid response to any security situation. Training and evaluation occur on a daily basis. Exercises and preparing for the next higher headquarters inspection are facts of life. But, as you are probably well aware, the United States Air Force is in the beginning stages of a transformational process that will that will significantly change the way we do business in the future.



It is our mission in Air Force Space Command to “defend the United States of America through the control and exploitation of space,” and we’ve got the best missile and space team the world has ever seen to do it! In this article, I’d like to share my thoughts with you on my priorities for Air Force Space Command and how they are shaping the future of one of our key capabilities—a cornerstone of our national defense—America’s ICBM force.

The Secretary of the Air Force, Dr. James G. Roche, recently said, “We must (Continued on page 4)

ICBMs in the 1960s -Part IV



Genesis of the Missile Program - by Col (Ret) Nicolaus

Gaynos, mbrno A0671, Post Falls, Idaho

I was reassigned from Deputy Commander, 1805th AACS Wing at Pepperrell AFB, Newfoundland to Western Development Division in Los Angeles in the spring of 1957. WDD was developing the Atlas with contractual assistance from Thompson, Ramo, Woolridge (Dr. Simon Ramo as Chief Scientist) and Convair as Atlas contractor.

WDD was commanded by BGen Bernard A. Schriever who had spent several years at the Pentagon developing the ballistic missile concept. One third of his hand picked staff had PhD’s and Masters degrees. There was an academic air prevailing at WDD. Staff meetings had a language of cryogenics, apogees, UDMH, gimbals. orbital mechanics, LOX, ablation, ad infinitum. My career had been primarily (Continued on page 7)

The Mission of the Association of Air Force Missileers -

- Preserving the Heritage of USAF 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

A Word from the Association

National Meetings - You will see two articles about our recent gathering in Santa Maria in this issue. We are already hard at work on the 2004 National Meeting, which will be in Omaha 19-23 May 2004. Several members have already volunteered to assist - it should be a great gathering and an opportunity for many of us to return to a place where we spent part of our time as missileers.

Upcoming Newsletters - As usual, this issue is jampacked with articles and stories about missiles and missileers. I had originally planned to run at least two other articles, one about the rebuilding of the Missile Alert Facility at Minot that burned over a year ago, and another about our tenth anniversary. Both will appear in the March issue. Keep sending in those great stories and articles, and be patient - they will eventually appear in our publication.

Missile Heritage Grants - During our National Meeting, a committee of board members reviewed 2002 applications and funded \$7670 in grants for museums. These are the Titan Museum, \$1,000, Renovate Missile Vehicles, Whiteman Museum, \$670, Replace LCC/LCEB Dehumidifiers, Peterson Air and Space Museum, \$3,000, Display Missile Artifacts, Clinton County Historical As

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sociation (Plattsburgh), \$2,000, Archive 556SMS historical records. They were provided this year in honor of the following members who passed away - BGen (Ret) Charles (Chick) J. Adams, Col (Ret) Edward L. Bailey, SMSgt (Ret) Neal Balmer, MSgt (Ret.) Bobby E. Bazzel, LtCol (Ret) Ray Berry, William Bernstein, LtCol (Ret) William T. Cooper, Col (Ret) Wayne DeReu, MSgt (Ret) Andrew Fitzgerald, LtCol (Ret) Chad Fossen, LtCol (Ret) Edward Gennaro, SSgt (Ret) Nicholas Peters

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.

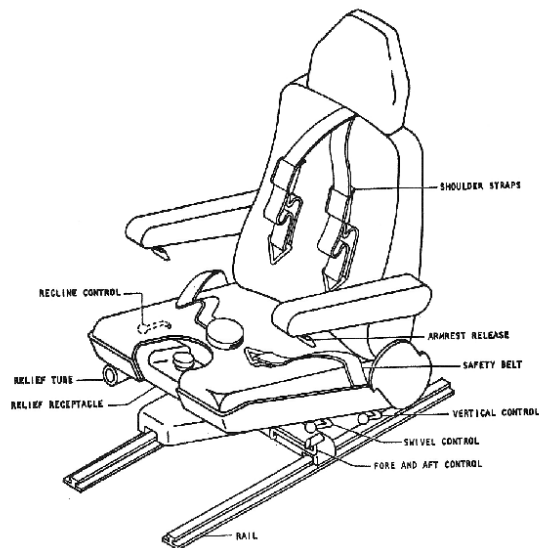
Titan II Launch - If I'm not mistaken, the last OT Titan II was launched on 27 June 1976. The number was B-17, nicknamed Rivet Hawk. I was the Task Force Commander, from the 308SMW in Little Rock. The 308SMW commander was Col Joe Morgan. The test was to verify the carousel guidance system. It worked great! I am holding one of the hold down bolts as we speak. The only significant bump in the road, was a tift between the contractor and the Air Force. One of the hydraulic actuators failed, and the contractor wanted to replace it with a "new and improved" model. I got the word from Ogden that the launch was going to be 100% operational. There was much moaning and groaning and knashing of teeth, but it launched as advertised. It was launched with an Arkasas Razorback on stage 2, and the Rivet Hawk logo. The launch crew got a thrill at engine start, because there was a slight malfunction, the water had been flowing, and not drained before the countdown was continued. They said the place really rocked and rolled, but had no adverse effects on the missile. *Tom Hafner, mbrno A0291, Bellaire Beach, FL,*

The final Titan II launch is scheduled for the first half of 2004 - we will let members know more when it is finally scheduled. As to the Rivet Hawk launch, Tom says it "worked great!". Mostly true, but due to a programming error by Delco, it missed the target more than it should have - the editor ran the Accuracy Evaluation Branch at Hq SAC/BME then, and ended up going to the Pentagon to convince folks that we knew what happened and should press on with the decision to buy the Carousel guidance - we had no more test assets and no more guidance spares, so it wasn't a hard decision.

The Chair - Here is a recent recollection of mine that I thought you might be interested in. It was quite an exper

(Continued on page 3)

Letters (Cont) - ience to be in the Minuteman capsules at the time they first became operational at Malmstrom AFB in 1962, not the least of which was the Cuban Missile Crisis. But on a lighter note the operators seat, as it was called in the T.O. 21-SM80A-1, had a unique feature. The accompanying picture is from the manual. If you were strapped in at your crew console for extended periods, for say a nuclear war, one of your needs was taken care of by a relief tube. I believe the reason it was there was that this was an off-the-shelf seat used for crew stations on some Boeing aircraft and the relief tube just came with it. Regardless we were trained in its use. It had a funnel with a spring loaded valve, hose and receptacle with a screw cap. While I never actually used it, the idea was that you filled the funnel and then held the flow while the funnel was raised a bit higher, a lever depressed to open the valve and the liquid would flow into the receptacle, and the process was repeated as required. The filling position for the funnel was below the receptacle so continuous flow was not possible. Within a few years this seat was replaced with a more comfortable one that lacked a relief tube, but apparently we managed. *Jim Tegart, mbrno A1897, Littleton, CO*



Santa Maria - I wanted to let you know that I thought you and Mrs. Castro did an outstanding job, putting the recent National Meeting together. It was great meeting so many wonderful people and having an opportunity to share experiences. I even found that I was jealous of some of the people that stayed on in the Air Force and built careers

around the missile field, which I was proud to be part of. The only down side to the week was finding out how much we are losing with the downsizing of our missile forces. Not only the loss of the prestige of being part of the missileers, but the possible loss of knowledge and the building of our knowledge base. So much of what we take for granted in our daily lives are direct results of needed improvements in the missile field. Cryogenics (super cooled gases, propellant applications in industry and hospitals (oxygen)), Electronics, (Solid state to survive the shock of launch, TV, Radio, Phones), Fuel Cells (Power for Astronauts, coming in cars). And the list goes on. Keep up the good work. We need your efforts to keep alive our heritage. *Dick Somerset, A1295, Essex Junction, VT*

We received a number of letters and emails about the October meeting in Santa Maria - see page 11 for more about our gathering. It was a great event.

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Taps for Missileers

BGen (Ret) Fred W. Vetter, Jr., died on 8 August 2002. While a colonel at Headquarters, US Air Force, he designed the Guided Missile Insignia (our beloved "Pocket Rocket") and later commanded the 585TMG at Bitburg AB, Germany. General Vetter was born in 1921 and retired 1 August 1970 after commanding the 436th Military Airlift Wing at Dover AFB. He remained in the Dover area after retirement. He wore the Senior Missileman Badge at his retirement.

LtCol (Ret) Bryon Johnson, an AAFM member, served in Titan II in the 381SMW, at SAC, AF Space Command and in the Pentagon, and lived in Gainesville, VA. SSgt(Ret) Nicholas Peters, an AAFM member, served in Matador in Germany and lived in Tamarac, FL.

Col (Ret) Lonnie Hicks served in Minuteman maintenance in the 341SMW and 91SMW.

LtCol (Ret) Ralph Hutchins served in Titan II in the 390SMW.

Bill Sitzmann, who lived in from Tucson.

Maj (Ret) Jedford E Smith served in Minuteman in the 351SMW and lived in Tucson, AZ.

Gen Lord (Cont) - ensure our space forces, equipment and concepts of operation remain as innovative and capabilities-based as those we develop for air-breathing systems...[space forces] are no longer nice-to-have...they've become indispensable." That innovation and capabilities-based focus is exactly what I am looking for today from the men and women of Air Force Space Command (AFSPC) and everyone supporting us. When I took command in April, I outlined three priorities that AFSPC will use to shape and influence the future of space and ICBM operations. These priorities impact everything we do.

My first priority is our role as a Major Command (MAJCOM) - organizing, training and equipping space and missile forces that are skilled in air, land and sea...and the experts in space. One thing you need to know, though, based on my career heritage in the ICBM business; when I use the term "space," I include both our ICBM and space missions. As part of the Air Force team, we have to be skilled in air, land and sea so we can employ our forces in an integrated manner consistent with our Chief's vision and service doctrine. We also have to understand Joint Doctrine and the other elements of our joint and coalition warfighting team - air, land, sea and space - and their capabilities. As AFSPC, though, we are going to be the experts in the ICBM and space business. When someone has a question about National Security Space, we want them to come to us. With the addition of the Space and Missile Systems Center (SMC) to the AFSPC team over a year ago, we now own our capabilities from "concept through employment and sustainment" and can truly say, "The road to space runs through Colorado Springs!"

My second priority is to take the forces and capabilities that we have organized, trained and equipped, and provide them to the warfighter. That is our Component role. One way to look at this relationship is from a systems perspective—our MAJCOM role equates to the "inputs" while the "outputs" are those capabilities we provide to generate battlefield effects. We present our forces and capabilities to the warfighter in a seamlessly integrated fashion and we must be there, as promised, to support those who need our space capabilities whether in the air, on land, at sea, or in space.

Recently, there have been some significant changes to the Unified Command Plan that directly affect AFSPC. There are now two new commands, US Northern Command and US Strategic Command. Changes to the strate-

gic environment and our strategy drove these changes, and we are going to do our best to support the "New STRATCOM" in our role as the Air Force component for space and ICBM operations.

USSTRATCOM is the command and control center for U.S. strategic forces and controls military space operations, computer network operations, information operations, strategic warning and intelligence assessments as well as global strategic planning. The command is responsible for both early warning of and defense against missile attack and long-range conventional attacks. The command is charged with deterring and defending against the proliferation of weapons of mass destruction. As Admiral Ellis has said, "it's a new command with global focus and strategic reach...the only thing that's the same is the name!"

My third priority for the command is to support Mr. Peter Teets and make sure the Air Force's role as DoD's Executive Agent for Space is a resounding success. The Air Force has been given an enormous responsibility, and we have got to get it right. I have also learned it is always a good idea to work your boss's agenda, and he has set out four priorities of his own that we are working to support: getting space acquisition programs on track, providing assured access to space, integrating black and white space and establishing a career path for space professional and leadership development. As I said before, the road to space runs through Colorado Springs and it runs right up to Mr. Teets' door!

That is my framework for our future...our MAJCOM role of organizing, training and equipping, our component role providing forces and capabilities to the warfighter, and our support for the DoD Executive Agency for Space. One of our key capabilities, and probably the one of most interest to missileers, both past and present, is our land-based strategic nuclear deterrent.

Back in 1958, the Boeing Airplane Company received the assembly and test contract for the Minuteman missile. Today, AF Space Command continues to operate and sustain a modernized and capable ICBM force. Across vast areas of North Dakota, Montana, Wyoming, Nebraska and Colorado—over 45,000 sq miles—our ICBM team continues to deter conflict with safe, secure, ready missiles and professional people...ready to employ force if directed by our national leadership. Those men and women, the warriors of our 20th Air Force, perform this critical mission 24/7/365 - no matter what the con-

Gen Lord (Cont) - ditions. The ICBM team, though, is more than just 20AF. There are several other organizations that help ensure the success of that vital team and help guarantee the team's level of readiness and success.

Organizations at Vandenberg AFB continue to provide training and flight test support for the ICBM force. Hill AFB and the Ogden Air Logistics Center provide depot support and the senior ICBM leadership reports directly to the SMC commander as they manage the critical life extension programs of the Minuteman and Peacekeeper weapon systems. A 20AF Operating Location at Offutt AFB provides ICBM targeting support as well as training for the airborne launch control system and national command and control. Finally, LtGen Brian Arnold and his team at SMC, through his role as the Program Executive Officer, are helping the command develop the replacement for our current ICBM force.

With the retirement of the Peacekeeper weapon system, our force of 500 Minuteman III missiles will continue to provide the capabilities needed by USSTRATCOM. Ongoing life extension programs are in-place to ensure a viable force through 2020, including the Guidance Replacement Program (GRP), Propulsion Replacement Program (PRP), Safety Enhanced Reentry Vehicle (SERV) program - Mk 21 on MM III, and the Minuteman Minimum Essential Emergency Communications Network (MEECN) Program (MMP). We have also identified, especially in the wake of the September 11th attacks, the importance of security. It is an absolute necessity and we continue to enhance our security force capabilities.

One of the guiding forces shaping our future is the recent Nuclear Posture Review (NPR), and key to that review is a new security environment. The threat today is very different than it was in June 1969 when I pulled my first Minuteman alert at Oscar-Zero (321SMW) near Cooperstown, North Dakota.. It is even different than it was 12 years ago when the Berlin Wall fell and the Cold War ended, due in large part to the key role played by our ICBM deterrent force. Today, the threat is not one nation-state with nuclear-tipped ICBMs aimed at us. It is not a single political regime or person or religion or ideology. Our National Security Strategy makes it clear, "our security environment has undergone profound transformation...new deadly challenges have emerged from rogue states and terrorists." Talking about North Korea, Iran and Iraq in his 2002 State of the Union Address, President Bush said, "States like these, and their terrorist allies, constitute an axis of evil,

arming to threaten the peace of the world." That changing security environment and that changing threat require changes to the way we do business.

The recommendations set out in the NPR provide a set of guidelines for making that change. Throughout the Cold War, the framework for our strategic deterrent was "the triad." The NPR establishes a New Triad: offensive strike systems both nuclear and non-nuclear, defenses both active and passive, and a revitalized defense infrastructure. That infrastructure will be key to providing new capabilities in a timely fashion to meet emerging threats. Just as I did in my discussion of priorities, the NPR is talking about capabilities. The NPR fuels an evolution in nuclear policy and the Air Force will support DoD policy goals of a capabilities-based, vice threat-based, force. Terrorists or rogue states armed with weapons of mass destruction will likely test America's security commitments to our friends and allies, and those capabilities, both nuclear and non-nuclear, are absolutely necessary to assure friend and foe alike of US resolve.

Something I have not mentioned yet, but that absolutely must be mentioned, is the "glue" that binds all three legs of this New Triad together: enhanced command and control, intelligence, and adaptive planning. The effectiveness of this New Triad depends on these three things. Enhancing our intelligence, not just on our adversaries capabilities, but also on their intentions, will allow timely adjustments to our force and improve the precision with which it can strike and defend. Rapid and adaptive planning in the employment of the strike and defense forces will ensure we maintain a significant advantage as we manage crises, deter attacks and conduct military operations.

As a result of the NPR, AFSPC will continue to organize, train and equip our force - our MAJCOM role - and maintain the Land-Based Strategic Nuclear Deterrent (LBSND). We are modernizing and extending the life of the Minuteman III weapon system out to the 2020 timeframe. The NPR, as well as other strategies and directives, acknowledge the continued need for nuclear deterrence and the need for land-based ICBMs. Our intent is to do a major Analysis of Alternatives (AoA) study to determine the best solution to a particular mission need and provide that to the warfighter. The warfighter requires the capability to develop adaptable and flexible options to hold a wide range of targets at

(Continued on page 6)

Gen Lord (Cont) - risk. Notice the "adaptable and flexible" part of that need, something that is completely in line with the recommendations of the NPR. We are starting now in FY03 with "pre-AoA" activities to address some key requirements like scenarios as well as modeling and simulation. Our focus is to provide the best solution while maintaining the integrity of the AoA process. The actual AoA study to determine the successor to Minuteman III will be in the FY04-05 timeframe. Whether that successor is similar to the Minuteman III or radically different from the weapon system we have today will be hammered out in the AoA process.

Finally, the most important factors in this process are the men and women who will bring the concepts and requirements into operational reality for this LBSND system. Missileers have seen many changes over the years. We used to have several missiles types and double the number of wings, which afforded our young missileers many different opportunities. With the downsizing of the missile force to three wings and two missiles types, these opportunities have changed somewhat. In 1993, we combined the space and missile operations career fields and encouraged our young operators to get both space and missile experience. This was the right answer to spur needed integration and still is. However, we found the unintended consequence was a loss of operational depth in our missileers based on the diversity of opportunities within the command.

The Space Commission called for DoD initiatives to "create and sustain a cadre of space professionals" and I agree that establishing a strong, proactive Space Professional development program is essential to safeguarding our nation's leadership position in space. The Commission recommendations, and subsequent Secretary of Defense direction, provide an opportunity to more deliberately focus our space professional development.

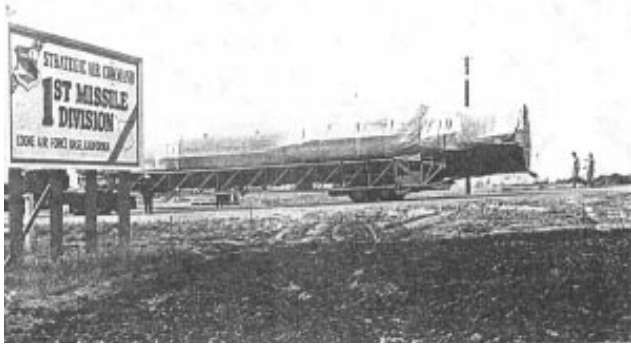
To implement this direction, we developed a Space Professional Strategy that describes a structured approach for developing space professionals. Our strategy is comprehensive and provides a blueprint for better developing the training, education, and experience needs of our space professionals while recognizing the unique roles those officers, enlisted members, and DoD civilian employees play in National Security Space. Additionally, this strategy addresses the varied disciplines represented in the space professional cadre - a cadre that accomplishes the complex functions required to take ICBM

and space systems from concept to employment. For example, we need men and women steeped in the missile business - who have "majored" in ICBMs - and I think this strategy will provide exactly that.

We have been actively working this strategy since I took command and I plan to present it to the Air Force and OSD leadership in the near future. We will then begin the harder task of implementing the initiatives identified in the strategy - initiatives that center on the force's education, training and experience needs. Given the importance and complexity of professional development, we recognize this is a long-term commitment but it's the right thing to do - for our business and for our country. We are making progress and we will continue to work this until we have it right. Secretary Roche summed it up best when he said "The resource most critical to ensuring our space superiority in the years to come is not technological or fiscal - it's people, like everything else in the Air Force." As military dependence on space grows, the Air Force must meet the challenge of developing the right people to acquire, operate, and employ military space capabilities. We have the best space and missile operators and acquirers in the world and we will continue to improve on that standard of excellence.

In conclusion, I'd like to thank you for your continued support of our Nation's defense. In a poem familiar to most of you, Captain Robert Wyckoff offered a description of missileers that I think appropriately describes the entire ICBM team, past and present. He wrote, "...between them is a common bond, of knowledge they're a team...who love their land, who serve it long and well." Rest assured, our ICBM team remains strong, remains dedicated and remains ready. The men and women of AF Space Command serve today, just as those who served before them, "for duty, honor, country, and a matter of self-pride." This is an exciting time in the history of ICBMs and to be in Air Force Space Command. While the coming years promise to be years of great challenge, I believe they also offer the opportunity for great satisfaction and a job well done.

General Lord started his AF career as a missile crewmember in the 321SMW at Grand Forks. He served as a 3901SMES evaluator, commander of the 10SMS, commander, 341CSG, director of the USAFE GLCM office and had assignments at HqAFSPC and the Pentagon. He was vice commander, 351SMW and commander, 321SMW, 30SW and 90MW, SOS Commandant, Commander, 2AF, vice commander, AF Space Command, commander, Air University and Assistant Vice Chief of Staff, USAF.



Atlas entering Cooke AFB

Genesis (cont) - with "hot solder and wet cement" so I knew I had much to learn, but, events took a fortuitous turn. The 392ABG was being expanded and the 704th Strategic Missile Wing and 1st Missile Division would relocate to Cooke AFB. We were offered the opportunity to volunteer for reassignment there.

I was well aware of the dangers of volunteering for anything when I was an enlisted man, however the Personnel Officer was persuasive with his description of Cooke as "a base north of Santa Barbara, on the ocean with sandy beaches, balmy breezes and a sunny climate". Just think, a release from LA smog and congestion. Needless to say I was first in line.

Within a week, with two trunks strapped on the roof, two children buried in the rear and my wife Tex beside me, we headed north to our new military home with a song in our hearts. We sailed through Santa Barbara but as it faded in our rear view mirror we found ourselves in wide-open country. When we turned west on the Lompoc Road our surroundings became more rustic. Late in the afternoon we entered Lompoc and as I gassed up I asked the attendant how to get to Cooke AFB. He said he never heard of it but there were some soldiers north of Lompoc and I might try there. I found the gate and entered the USDB, which was a Federal prison! I was told to continue north. The gravel road narrowed but I was undaunted in my search for Cooke AFB. As I topped a small rise I spotted a man near the road and called out "is this the road to Cooke?" He shouted back "no hablo Inglaish!" The army had leased Cooke out for grazing and he was one of many Mexican shepherds tending their flocks. I knew now that my "volunteerism" of the previous week was being fulfilled.

With nightfall upon us I was elated to view a cantonment ahead, which was our destination, Cooke AFB.

It was a large complex of two story WWII GI barracks, one story wooden administrative buildings, maintenance buildings and motor pools. Most were unoccupied but in a caretaker status. A Corps of Engineer LtCol was in charge of most of the base facilities. There were about 50 to 75 enlisted men and several AF officers. The Provost Marshal was a Major with several administrative and supply officers. This was the fledgling ballistic missile program of the USAF and I was proud to be a charter member!

I was appointed Director of Communications/Electronics of the 1MD and immediately started setting up my office in a converted barracks. The telephone central consisted of an army cord and jack switchboard with a telephone operator in attendance. The telephone book was a 4x5 card with printed subscribers names and numbers. Some subscribers had field telephones. Most of our time was spent reviewing base construction plans, routine staff work for WDD and supervising the rehabilitation of base facilities. Things were soon to change with a resounding bang.

On 4 October 1957 the USSR announced launch of Sputnik and it was circling the planet every ninety minutes! October 5th all hell broke loose. The Air Staff was anxious to learn about this totally new threat. What was it all about? Where were we? Could we do this? Etc. Needless to say the following months were filled with TDY visitors with their briefcases and golf clubs attending briefings and taking the word back to the Pentagon. On 3 November the USSR announced it had launched Sputnik II with a passenger, Laika the dog. Now the activity increased to a fever pitch. It became necessary to declare a moratorium and limit visits to "need to know".

The expedited construction programs with scores of civilian contractors created a serious problem in the cable system on the base. Excavation equipment would run willy-nilly on the base and cut 200 and 400 cable pairs several times a week. When I confronted the operators they would shrug it off with "Forget it, our insurance company will cover it". I was told to solve this problem post haste! I came up with a simple solution. I notified all contractors future cable cuts were to be turned over to the FBI as suspected sabotage of the missile program. Cable cuts fell to zero.

On 4 October 1958, Cooke was dedicated as Vandenberg AFB. I was Master of Ceremonies and developed a great program with bands, flags and dedicatory

Genesis (cont) -speeches with Mrs. Hoyt Vandenberg arriving on the parade grounds in a 1958 pink Cadillac with huge tailfins. The reviewing stand had over twenty-five stars, from one star to four stars. It was truly a banner day. Incidentally, it was one year to the day of the launch of Sputnik, I do not know if that was intended or not.

The base population grew by thousands and the string of vehicles would extend for miles winding to and from the base. Missile complexes, administrative buildings, Capehart housing, commissary, BX buildings and warehouses, etc., created a round-the-clock activity. Many of the WWII barracks were moved and converted for a new role in the missile and space program. It was not unusual to see two buildings pass each other going in opposite directions! A case of separate contractors fulfilling their separate contracts. The first Officers Club was created by assembling six WWII barracks in a "U" shape, a far cry from the present building.

The first missile launch was a Thor IRBM on 16 December 1958. The base declared a holiday so we could witness this historic event. The countdown took hours but a festive atmosphere prevailed and rounds of applause rose in a crescendo as it majestically lifted off and soared down range. This event was outdone on 28 February 1959 when a historic first polar orbiter satellite, Discoverer I, was launched successfully.

The Atlas complex with its huge girdered tower and MOD I guidance system was being completed. This weapon system relied on radar guidance, which was extremely vulnerable to possible jamming either intentional or unintentional. We were in the Cold War! The com-

mand destruct transmitter was on triple alert but a command destruct at this stage of the game would have been extremely damaging. But, it also expedited the R&D on inertial systems. We launched an Atlas on 9 September 1959 and as a result of that success we were ordered to place an Atlas with a nuclear warhead on alert in October. This was to let the world know the USAF had a real deterrent. The press seized the opportunity to photograph this gleaming giant missile spewing a vapor stream. It was awesome. I don't know if Pravda published it, but I feel sure they knew about it. On base we referred to it as our "Hollywood capability".

With the successful launches of the three ballistic missiles it now became necessary to survey for future silo locations. A task force of seven highly qualified officers from communications/electronics, logistics, personnel, transportation, public relations and operations were provided a list of about twenty possible locations that were to be identified as potential missile locations. Our orders were to be incognito, to use only first names in our meetings with the towns people and under no circumstance reveal the Air Force interest in the area.

We traveled in rental vehicles and covered seven states. From Kansas to North Dakota in the north, and westerly to Washington. Upon entering a town we would go to city hall meet the mayor, and usually the sheriff and city staff and begin our survey. The inquiry usually centered around water and electrical power, railhead and interstate highway access, water tables and general geological data, and other demographics. Of course in the smaller towns rumors ran thick and fast that we were communists, foreign spies, or representatives of Fortune 500 companies seeking a new location for a huge factory.

We left town quietly after a day or two and proceeded on our journey. The "tinkle and trickle towns (towns where the telephone and water lines identified the boundaries) were the most suspicious of our activities and often tailed us. This wasn't true in larger towns such as Minot, Cheyenne or Spokane.

Our team returned to VAFB, compiled our findings and forwarded them to WDD where the selection of the final sites was made. We finally felt we had accomplished our mission when we launched a solid propellant inertially guided intercontinental missile the Minuteman in 1962. It was a historic date for the free world and a long way from the date when I asked a Mexican sheepherder how to get to Cooke AFB.



Cuban Missile Crisis - Another

View - by MSgr (Ret) Vic Haas, mbrno A0267, Sanford, FL

During the 1962 missile crisis in Cuba, I was assigned to the 1381st Geodetic Survey Squadron (M) at Orlando AFB, Florida. This was a period during which our future was very uncertain. Even though we had no "War Time Capability" at Orlando AFB, we were certainly aware of the possibilities of becoming involved in a confrontation with Cuba and of course Russia. We were placed on a "state of readiness" should this event escalate into a combat situation. In view of this situation, I would like to tell you about the events, that not only took place with our armed forces but with the civilian population, especially in Florida.

Since our unit was primarily involved with the Geodetic Surveys of ICBM Sites, we were not considered to be a tactical missile type unit. However, we were directly involved at McCoy AFB, Florida with the "Air-to-Surface Missile", specifically designated the Hound Dog (GAM-77). This missile was carried by the B-52s bombers deployed to McCoy AFB, Florida and was capable of carrying a warhead of up to 4 megatons. The B-52 bomber capabilities at McCoy AFB were astronomical. Our job was to make certain that constant check surveys were being performed by our unit to ascertain the accuracy and capabilities of the GAM-77 systems. The average Floridian didn't realize of how well Florida had been mobilized with air, land and sea forces. The state was nothing short of being a "floating fortress", especially at our bases in south Florida which were naturally prepared to engage any aggressor toward the US.

The average Florida resident knew we were ready but had no idea just how prepared our military really was. For example, many Floridians actually moved out of the state in fear of an invasion. Little did they realize that Florida was probably the safest place to be with all the military protection we had. Yet there were many others who actually had small bomb shelters built in their back yards for the protection of their families. Most of these were actually constructed in the western portion of the Orlando area while some others were in scattered locations in the area.

Are your Dues Current???



New Minuteman Historic Site

You may have seen this on the Today show or in our local paper this fall. On 28 September 2002, the Air Force turned over Delta-01 launch control facility and Delta-09 launch facility, both near Interstate 90 east of Wall, SD, to the National Park Service as the Minuteman Missile National Historic Site. Both facilities will be open to the public by 2005. The LF has been modified to comply with strategic arms reduction treaties, with a glass enclosure over the half-open silo door. LtGen Bob Hinson, AFSPC Vice Commander, Principal Deputy Assistant Secretary of the Air Force Ron Orr, Assistant Secretary of the Interior Craig Manson, National Park Service Director Fran Mainella and 28th Bomb Wing Commander Col James Kowalski took part in the ceremony.

Craig Manson was a crewmember in the 44SMW at Ellsworth in the mid-1970s. The morning of the ceremony, he appeared on the Today Show with Katie Couric with a live interview from the LCC at Delta-01. AAFM president Jay Kelley, board member Dick Keen, who commanded the 66SMS that included Delta flight, executive director Charlie Simpson and a number of AAFM members joined many others at the ceremony at the launch facility and the reception that followed at Wall Drug.



Titan II – From Start to START

by BGen (Ret) Joel McKean, mbrno A1642, Wilmington, NC

A teaching career had been the goal all along, and asking for recall to active duty was my ticket to teach at the Air Force Academy. But wait a minute – we've all heard about, "The needs of the service come first." So the classroom was Sheppard AFB, and the assignment was the 570SMS at Davis-Monthan AFB.

Martin-Marietta was in the process of getting the first Titan II silo ready to turn over to the Air Force. International events had put more than a little pressure on the company to finish their work so that the missile could be declared "in the green," operationally ready. The successful conclusion of the Cuban missile crisis didn't make our job any less important; it just emphasized the importance of deterrence; and that was the name of the game during the entire lifetime of this missile system. The crisis and crew duty would be remembered many times as Titan II lived on as a part of my Air Force career, but deterrence would remain paramount.

Titan II was the first strategic missile system to facilitate a new strategy of deterrence. As the technology of MIRVed (Multiple Independently-targetable Reentry Vehicles) was developed and incorporated into our strategic missile systems, the U.S. national policy moved from mutual assured destruction (MAD) to one of deterrence based on the ability to respond to any provocation at an appropriate level of force. It no longer had to be all or nothing at all. The idea of crisis stability, based on rational actions by leaders of the two superpowers, helped create an atmosphere in which talks about arms reduction could take place.

The dream of teaching mathematics at the Air Force Academy materialized, but was relatively short lived as I started in January 1972 to deal with the planning aspects of the strategic forces at SAC Headquarters. Although Titan II was but one system of many in our strategic arsenal, it was an important part of the SIOP (Single Integrated Operation Plan). SAC's motto was, "Peace is our profession," and the most effective way to keep the peace was by maintaining a strong deterrent force. We were ready, and the world knew it!

About this time, two agreements were reached between the US and the USSR. One was the ABM Treaty, restricting Anti-Ballistic Missile systems, and the other was the SALT I Agreement (not a treaty). An adequate discussion of the ABM Treaty, particularly in light of what

the U.S. needs to do in this arena today, would fill another article, so I'll leave that for another time, but it was an essential element in the historical chain that took us from confrontations like the Cuban missile crisis to becoming the only nuclear superpower with the break up of the Soviet Union and the demise of the Warsaw Pact.

The SALT I Accord was an agreement to freeze our strategic nuclear missiles at their then-current levels. Although the accord received criticism from all sides (it didn't do enough; it did too much; or it didn't treat the sides equally), it did provide a basis for negotiations that would eventually reduce the size of Soviet and US strategic forces in a way that would maintain stability while decreasing the likelihood of nuclear war.

With instructions hammered out in the Washington interagency arena and signed by President Ford, we began talking with the Soviets about significant cuts in our strategic weapon systems, resulting in lower and equal levels of ICBM's, SLBM's, and long-range bombers. Again, I was dealing with the Titan II, creating treaty language to proscribe numbers and provide details for dismantlement of this system by verifiable methods. Titan II had served well as a deterrent to nuclear war. Now it was to serve with equal distinction as a lever to negotiate lower and equal levels of strategic nuclear systems with the Soviets. In June 1979, the SALT Two Treaty was signed by Presidents Carter and Krushchev in Vienna. Although SALT Two was never ratified by the U.S. Senate which is a necessary step in the finalization of any international treaty, both sides abided by it, and the groundwork was laid for a new round of talks, called START (Strategic Arms Reduction Talks). And so we have Titan II, from the start of its deployment to START.

Titan II, although never launched in anger, was an essential link in the historical chain that stretched from the Cold War to significant arms reduction treaties and the eventual demise of the Warsaw Pact. The thousands of men and women who made this possible by serving with distinction can be proud indeed.

An Upcoming Issue of our Newsletter will feature stories and articles about Missileers and Food. Send in your tales about Foil Packs, MREs, Chefs, your local "Take-Out" or other meals.



Gen Lord and Gen Kelley

Our Fifth National Meeting - by Col

(Ret) Charlie Simpson, AAFM Executive Director

It's hard to believe that AAFM is now ten years old, but the fact that we just had our fifth biennial meeting attests to that fact. More than 210 members and guests gathered in Santa Maria, California in late October for a busy, informative and fun-filled event. The Santa Maria Inn did a superb job as our host for our second time meeting there. The 38 attendees of the 556SMS (the Plattsburgh Atlas F unit) reunion added a lot to our meeting - a clear demonstration of the advantage of scheduling your unit reunion in conjunction with the AAFM National Meeting.

People arrived throughout Wednesday to register, collect name tags, schedules, AAFM flashlights and license plate frames and renew friendships. Our welcome reception and buffet that evening, in the Cabana, which was also our hospitality suite, was a great opening for the meeting. Thursday morning, following breakfast, about 120 of us climbed on blue AF busses for a day at Vandenberg. We toured the Solid Rocket Processing Building, where the big boosters for Titan and the new Delta are assembled, the Minuteman missile procedures trainer that I spent many hours in 1965, the air-launched cruise missile maintenance training facility and the Vandenberg Heritage Center, where director Jay Prichard had some interesting discussions with many of you. Dinner at the club (now called the Pacific Coast Club) was what some called "the best club dinner I ever had", and we returned to the hotel for time to socialize in the hospitality suite.

Friday, a large group toured Hearst Castle, and a smaller group played in the AAFM golf tournament. Gen Lance Lord arrived just in time to present the awards to the winners of the tourney. About 130 of us jammed the upstairs of the Far Western for some real Santa Maria BBQ.

It was so crowded that Gen Lord, his aide Dan Dant, the Leonards (Hal is one of my favorite golf opponents every two years) and the Simpsons had to wait for another table to be set up - we ate on the "balcony" overlooking the rest of the crowd.

Saturday morning we had breakfast, followed by our general membership meeting, with about 150 in attendance. We reviewed AAFM programs, finances and future plans. Then seven of your twelve board members (Jay Kelley, Jim Burba, Bob Kelchner, Dayna Castro, Lance Lord, Jim Crouch and Dick Keen) met to discuss finances, dues, operating procedures, award programs, membership and future meetings. The board decided to meet in 2004 in Omaha, to leave dues alone, to allow surviving spouses of lifetime members to continue with the membership and to designate one board member as the 20AF representative, appointed when required by the Commander, 20AF. During open discussion with about 30 AAFM members, we discussed ways to attract members and more attendees at our National Meetings (see Jay Kelley's article). Following the meeting, a committee reviewed applications for our 2002 Missile Heritage Grants and determined who would get funds this year (see page 2)

Saturday evening, almost 200 of us assembled for our banquet. The presence of the 556SMS reunion group, along with a number of missile and space students we invited as our guests, added much to the evening. We also had a number of 381st Training Group instructors and staff present, as well as Col and Mrs Rob Worley (30SW commander) and LtCol and Mrs Brian Pletcher (392TRS commander) as guests. Jim

(Continued on page 6)



A Gathering of Chiefs - Mike Kenderes, Hank Habanick and Bob Kelchner at our National Meeting in Santa Maria

President's Corner - by AAFM President LtGen

(Ret) Jay Kelley, mbrno L194, Colorado Springs, CO

Our Meeting at Santa Maria was a great success ! Good folks, good stories, good team work with the 551st (Atlas), good food, good drink, and a good time for all present. Gen Lance Lord updated us on his challenges and intent as Commander of Air Force Space Command and also pledged his support for our AAFM. Please note his article in this newsletter !

We really enjoyed the support and participation of the 381st Training Group, the current space and missile school house for officer and enlisted. In fact, I will be working with Col Tom Bouthiller, the commander of the 381st, to figure out how AAFM can sponsor awards for the top grads. More on this in our next newsletter.

As we look ahead, be sure to put Omaha on your horizon for the Spring or Fall of 2004 for our next AAFM meeting. We will be getting back to you soon on a specific date. However, while you are waiting for us to nail down a date, please put your "thinking hat" on and give AAFM a few minutes of your time. At the Santa Maria meeting I asked those present to find one new member, someone you honestly believe would appreciate AAFM and would want to join up. All they need is a little "nudge". Be the one to give 'em that little "nudge". Put an application in their hand, right along with a copy of our newsletter. And while you are at it, how about giving some thought to current or past members that seem to have dropped out or simply ain't engaged. Pick one and help that person re-engage with AAFM. Better yet, start working on them now and encourage them to go with you or join you in Omaha in 2004 !

Now, I call all this "One Plus One", a new one and an old one. If we each got one new member.....and we each got an inactive person re-engaged, we just might grow a little and then be able to do more for missiles, space and our Air Force. We would also be able to be more effective in sustaining the great missile heritage we all so deeply respect

Thanks for your continuing great support of AAFM. If we each do a little then no one has to do a lot. And together there isn't anything we can't do.

Remember "One Plus One"
Find a new member for AAFM and
encourage one to join us in Omaha in 2004



556SMS Members

Meeting (cont) - Burba and I presented a reading on missileers and the Cuban Missile Crisis (it was the 40th anniversary of that tense time) and we announced the grant winners. Following dinner, General Lance Lord, commander of AF Space Command and an AAFM founding board member, gave a superb talk about the past, present and future of missiles and missileers, a great ending to an exceptional evening.

Sunday morning, we gathered for our final breakfast and good-byes, already talking about 2004 and Omaha. The folks at Vandenberg, at the Santa Maria Inn and your board secretary Dayna Castro all did a superb job for us in 2002 - we look forward to seeing you in Omaha 19-23 May 2004.

Reunions

551SMS, Lincoln, Nebraska, 24-27 April, 2003, contact, Ken Fisher, sms551@aol.com, 2890 Lafayette Ave, Bronx, NY 10465-2231, phone 718-792-2360

485TMW (GLCM, Florennes), 6-9 March 2003, Tucson, Arizona, Contact Joe Whaley, 5425 N. Ventana Vista Rd, Tucson, AZ 85750, phone 520-577-9580, email JWhaley580@aol.com

TAC Missileers, 19-21 June 2003, Denver Tech Center Embassy Suites, 800-654-4810 for reservations, email perkster@fcol.com

Get your Reunion Notice to us early -
or Join us in Omaha 19-23 May 2004
with your unit Reunion