

AFA 335

TENNESSEE VALLEY FLYER

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Letter from the President

As 2020 drew to a close, I wanted to take a moment to reflect on what that crazy year has meant to our Chapter, our members, our Air Force and Space Force, and our Great Nation.

As a chapter, I am saddened by the fact that my first year as your president had been such a roller coaster of non-events, canceled functions, and virtual meetings. The fellowship and camaraderie of being together and participating in the many venues and events around the Tennessee Valley has been all but shut down since March 2020, and I, for one, am more than a bit "COVID-fatigued". I'm boosted and encouraged though that many of us have still been able to meet in the monthly meetings, and even had a modest group at the Straight to Ale brewery for the US Air Force's 73rd Birthday and that we were still able to volunteer for the Galaxy of Lights event, as per usual. Both of those events brought a smile to everyone who participated.

For our members, I hope and pray that we all continue to stay safe, while this virus continues to wreak havoc on so many around our nation and the world. With the vaccine available now, and many of our chapter members already receiving it, it may not be long before we are able to resume some sense of normalcy.

For our US Air Force and its new sibling, the US Space Force, I am proud to see the continued dedication to the crucial missions facing us on this chaotic world stage. One only has to read the daily report from Air Force Magazine to see that through all of the turmoil of last year, we still fulfilled every mission asked of us, with a professionalism and expertise that is and will remain, unmatched.

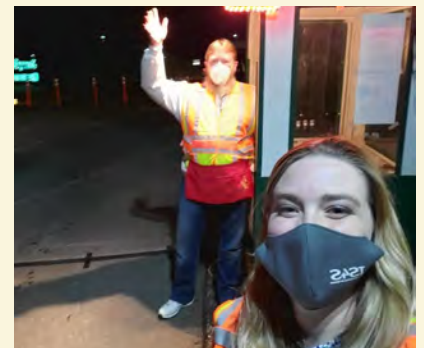
For our Nation, it is my fervent hope that the current divide in our citizenry continues to resolve itself over the next months. My 2021 New Year's Resolution was to take the energy I spent lamenting the future of the United States and turning it into a stronger effort to improve the daily lives of my family and the people of the community. Teddy Roosevelt said, "Complaining about a problem without posing a solution is called whining." Let's all pledge to propose solutions, instead of whining.

All that said, I thank you all for your encouragement, I thank you for our service, I pray for our Nation and her leaders, and I hope for a fantastic remainder of 2021.

Yours in Airpower,

John Pennell

AFA Chapter 335 President



AFA Chapter 335 Galaxy of Lights Support Team December 2020

Tennessee Valley Chapter Supports Botanical Garden GALAXY OF LIGHTS

By Rick Driesbach

We had a great time supporting the Huntsville Botanical Garden's Galaxy of Lights on December 15, 2020. Chapter 335 volunteers donned their masks and safety vests to welcome guests to the annual holiday celebration and fundraiser for the Garden. We processed over five hundred cars over the course of the thankfully warm evening. Everyone stayed safe by using copious amounts of hand sanitizer and keeping our masks on throughout the evening. After the gates were closed we each had the opportunity to enjoy the lights ourselves with no traffic! The Team consisted of Rick Driesbach, Eric Silkowski, Eric Jackson, Jack and Bidy Royster, Ken and Lisa Philippart, Daryl and Barb Carpenter, Guy Broadhurst, Ted Henrich, Bob Hovde, Mike Johannes, John Pennell, Jay Carlson, John Phillip, and Jonathan and Kathleen Mason. Thanks to everyone who came out to support the Chapter and the Botanical Garden!

First Inspection in the Soviet Union Under the INF Treaty

A Heritage Article By Rick Driesbach

On 8 December 1987, President Reagan and Michael Gorbachev signed the historic Intermediate Range Nuclear Forces (INF) Treaty. It was the first arms control agreement with the Soviet Union that allowed for intrusive on-site inspections. Within about 6 weeks, the On-Site Inspection Agency (OSIA) was created from scratch within the Defense Department. This treaty was to eliminate a whole range-class of Soviet missiles, namely the SS-4, SS-5, SS-12 and SS-20 ballistic missiles and the Soviet SSC-X-4 ground-launched cruise missile. On the US side, the Army's Pershing II ballistic missile and the Air Force's Ground Launched Cruise Missile, or GLCM, would be eliminated.

I had been the primary USEUCOM analyst for Soviet missile capabilities and deployments from 1981 to 1985, focusing on the widely-deployed and highly potent (3 independently targetable reentry vehicles with large nuclear warheads and a 5,000 km max range) SS-20 Intermediate Range Ballistic Missile (IRBM). After returning to the US, and attending Air Command and Staff College (AFSC), I was assigned to the Strategic Forces Division of the Technical Intelligence Estimates Directorate (INET) of the Air Staff in the Pentagon.

Since the Soviets had a huge number of ballistic missiles and associated facilities that fell under the auspices of the INF Treaty (i.e., 49 SS-20 bases with 441 launchers), all of which had to be inspected during the treaty-specified baseline period (1 July to 30 Aug 1988), many inspection teams needed to be quickly organized, trained, and deployed.



Пусковая установка с ракетой РСД-10 на стартовой позиции.
The launcher with the SS-20 missile at the launching site

I became a natural choice for an INF inspector since I had over 6 years' experience in analyzing Soviet ballistic missiles in all range categories. Myself, and over a hundred other potential inspectors from across the DoD and other federal agencies, attended a 9-day inspector course at the Defense Intelligence Agency (DIA) in February 1988. I was selected to be Deputy Team Chief of INF Baseline Inspection Team #1 (consisting of 10 US Government personnel including two interpreters). Our Team deployed to Germany in late April to conduct a "mock inspection" of a USAF GLCM base at Wueschheim in southwestern Germany – both to give us "inspecting" experience and to aid the US base in preparation for receiving Soviet inspectors.

On 26 June, our Team deployed to Rhein Mein AB, Germany. On 1 July, we flew via USAF C-141 to Sheremetyevo Airport, about 30 km from Moscow. US Army Brig General Roland Lajoie, director of the OSIA, joined our Team. On 2 July, we flew via Soviet air transport about 700 km to airfield near Gomel, Belarus, and then by Strategic Rocket Force (SRF) convoy to the SS-20 base at Rechitsa.

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We inspected the SS-20 base that day, made our way back to Moscow via SRF convoy and Soviet air, and then flew back to Rhein Main AB via C-141 the next day. Our team debriefed that mission, pre-briefed the next mission, and flew back to Moscow on 7 July. That would be our pattern of the entire summer of 1988. In total, our team made seven trips into the Soviet Union inspecting missile bases in Russia, Belarus, Ukraine, Kazakhstan, and Estonia, and two trips to inspect former SS-12 sites in Czechoslovakia. In the USSR, we inspected seven SS-20 bases, two SS-20 support facilities, two SS-4 launch facilities, and witnessed the first explosive destruction of three SS-20 missiles at Kapustin Yar on 28 August. Throughout the summer, our days were long, sometimes going 18 hours. We wore civilian clothes. It was a hot summer in the USSR, and we had no air conditioning, nor cool drinks (as ice was not plentiful and the purity could not be trusted when it was available). The Soviets (particularly our Moscow escorts) clearly had orders to treat us well and to make sure that all aspects of the treaty were complied with to the “T”. We only met officers at each base, as all lower ranking personnel were relocated elsewhere while we inspected. Since the SS-20s carried 3 nuclear warheads, facility security was extensive, but opened-up for our easy entry and inspections. Local SRF officers were proud of their weapon systems, and clearly viewed us as enemy spies, but our Moscow-based Soviet escorts ensured that we were treated courteously and that there were no inspection glitches.



Lt Col Driesbach (Center with US Army BG Lajoie to his left

On 31 August 1988, INF Inspection Team #1 departed Germany and returned to the US – mission accomplished. I had no desire to continue INF inspections, so I returned to my duties in the Pentagon, never to return to the USSR.

On 2 February 2019, the US provided a 6-month notice of withdrawal from the INF Treaty due to a continuing violation by Russia. The actual US withdrawal took effect on 2 August 2019 because Russia failed to return to full and verified compliance by destroying its non-compliant missile system—the SSC-8 ground-launched, intermediate-range cruise missile.



Tut Fann Veteran's Home Covid Update

Please keep the Veterans and staff at Huntsville's Floyd E. 'Tut' Fann State Veterans Home in your thoughts and prayers. As reported in a number of news outlets, the Tut Fann facility has been hit hard with COVID.

Over the past year, over 50 residents and 35 staff have tested positive for COVID, with at least 13 related deaths under investigation reported so far.

"It has been a difficult battle and it is a long way from over, and we know that," said Alabama Department of Veteran Affairs Commissioner W. Kent Davis. Commissioner Davis invited the CDC, Alabama Department of Public Health, and a team of infectious disease experts to visit and analyze ways to improve the facility during care for COVID-19 patients.

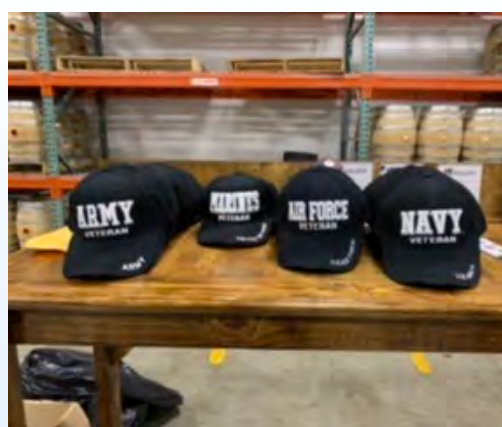
"I started asking pretty early on for outside help," said Davis. "We have had the National Guard come in, decontamination and sanitizing teams have visited all our homes. They have used hydrogen peroxide for decontamination in the homes. We've also hired commercial firms to do the same type of decontamination in the homes."

Thankfully the veterans at Tut Fann did start getting the Covid-19 vaccine in late December, 2020. Please keep the Veterans and staff at Tut Fann in your thoughts & prayers during this difficult time. If you have any concerns about what is going on at Tut Fann you are encouraged to contact the Alabama Department of Veteran Affairs. Scott Patton is our local Tennessee Valley AFA representative monitoring and supporting the Veterans at Tut Fann.



AFA Donation of Veteran's Service Caps to Tut Fann Residents December 2020

Tennessee Valley AFA Chapter President, John Pennell, delivered 94 Service Caps for residents of the Tut Fann Veteran's Home in Huntsville, AL. Members of the Chapter Executive Council made personal contributions of funds to bring a little Christmas Cheer to these heros. The Chapter worked in conjunction with the American Legion Auxiliary who built Christmas stockings featuring the caps for every vet.



Preserving Minuteman Survivability

by John Phillip

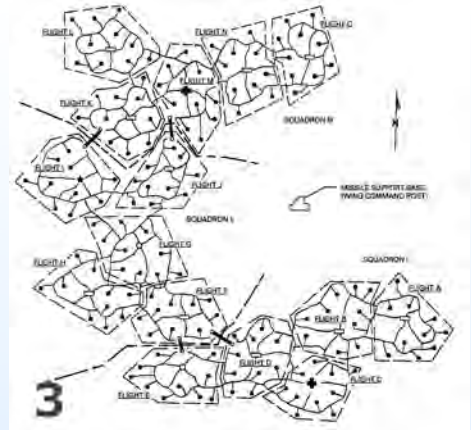
Background

One of the most critical and interesting projects of my Air Force career was assessing the survivability of the Minuteman weapon system's Hardened Intersite Cable System (HICS). It may not have been very flashy; but, it was the most important project I was tasked to create and manage while assigned to Strategic Air Command (SAC) Headquarter (HQ) from 1973 to 1976.



The HICS is an underground cable system that connects fifty Launch Facilities (LF) with their Minuteman missiles to five Launch Control Facilities (LCF) with its manned, underground Launch Control Centers (LCC). Figure 1 shows a drawing of the LF and LCF configuration for Minot Air force Base (AFB), ND. All fifty-five structures in a squadron are substantially hardened to all effects of a nearby nuclear detonation. The HICS is also designed to a comparable level of survivability.

Figure 2 shows a representation of the Minuteman wing layout of LFs (dots) and LCFs (icon) at Minot AFB, ND. Figure 3 gives an impressive perspective of the actual paths of the HICS layout for the Minot wing and the redundant interconnectivity it provides between the LCFs and LFs to support a very robust and survivable command and control capability for the weapon system. The underground facilities of Minuteman were made to be very survivable. Most importantly, the HICS is what makes the whole weapon system truly functional.



The HICS is crucial in providing the two crew members in the underground LCC at the LCF with the ability to monitor the status of their ten primary Minuteman missiles in flight. The extensive interconnectivity creates a data network where each LCC interrogates its ten primary missiles and receives a reply of any status changes within each minute. The data network is continually assessing the missile, guidance, electrical, environmental and security systems to ensure that the whole LF is fully operational.

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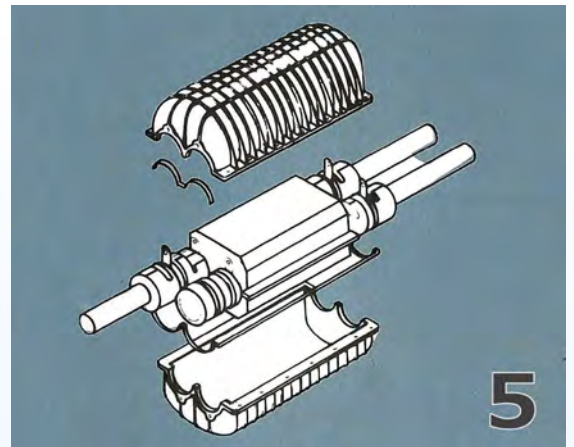
Besides the data transfers, the HICS supports voice communication between the LCC and the ten LFs in its flight, voice communication between the five LCCs in the squadron, plus voice communication between the LCC/LCF and the support base. The HICS provides connectivity between the three squadrons that make up the Minuteman wing.



The HICS cables are pneumatically pressurized with air and this pressure is constantly monitored to assure there are no pressure losses. Any time there is even a small loss of pressure, a security alert is generated. This helps to prevent an unauthorized attempt to gain access to the cable and provides awareness that an inadvertent natural or unnatural activity has broken the integrity of the cable system. Security forces will immediately respond to these alerts followed by communications technicians, as appropriate.

The HICS cable is about two inches in diameter. The many individual wires are covered by a pneumatic sheath that is pressurized with dry air primarily for physical security but also to prevent moisture from entering and degrading the system. The cable has a very strong metal cover and an outside rubber layer that is exterior to the pneumatic sheath. Overall, the HICS provides a very effective mechanical and secure connectivity solution for the weapon system.

The cable is laid out in one thousand foot rolls. A specially designed “splice case” is used to join the cable between the rolls. First, an “inner splice case” made of steel provides a cavity in which the individual wires are spliced. The inner splice case also provides the pneumatic seal between the two cables. Next, an “outer splice case” is secured around the inner case and clamped around the cables to provide mechanical integrity to the splice. Figure 5 is a diagram of the HICS splice case. The diagram actually shows three cables being spliced. If needed, the system can actually support splicing of four cables in one splice case.



As seen in Figures 2 and 3, the Minot AFB, ND wing is used as an average example of the magnitude of the HICS layout in a Minuteman wing. For the Minot example, all LFs are separated by at least four miles and all LCFs are separated by at least ten miles. To support the Minot AFB wing, one thousand, five hundred and thirty five miles of HICS cable and forty seven cable air dryer compressors are used over the eight thousand five hundred square miles of its missile complex. Figure 6 shows the trenching machine digging a trench near six feet deep across distant farm land. The cost of the HICS almost matched the cost of building the fifty-five facilities in a Minuteman squadron.



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The Problem

The Minuteman Weapon System was deployed from the early-60s to the mid-60s. By the early-70s, the SAC Minuteman communications technicians were finding substantial corrosion on the outer splice cases. The outer case models were a mixture of fiberglass, steel and aluminum. The aluminum case was the least expensive and had become the standard replacement case in the Minuteman system. Unfortunately, the aluminum cases were showing the most degradation where soil conditions were very corrosive or near water - conditions which applied to large parts of the widely dispersed Minuteman wings.

The big unknown and concern in SAC was the potential impact on the survivability of the HICS and, in turn, the whole Minuteman weapon system. Airborne control aircraft would still be able to launch any surviving but unconnected Minuteman missiles that had been executed in a nuclear exchange; however, the overall war plan timing would lose its impact in the target area.

The Minuteman Astronautical Requirements Directorate at HQ SAC was tasked in 1973 to assess the impact of the HICS degradation. That was my directorate and I was designated to be the project officer.

The Solution

First, over three months I generated a number of senior level letters requesting assistance from the Ballistic Missile Office (BMO), our Air Force Systems Command program office at Norton AFB, CA. In coordination with the BMO engineers, we developed a plan where SAC splice cases would piggy back on a conventional, high explosive test that was planned for the summer of 1974 by the Defense Nuclear Agency (DNA) at the Nevada Test Site, code named “Pre-Mine Throw IV”.

We tasked the communications squadrons at each of the 6 Minuteman wings to exhume a total of 56 representative splice cases with a specified length of existing cable on each side of the splice case. We had the cases and protruding cables shipped to Nellis AFB, NV and then trucked to the Nevada Test Site support area at Mercury, NV. Figure 7 shows Las Vegas, NV in relation to the Nevada Test Site. During August, 1974, I spent two weeks with a senior NCO and a contingent of SAC communications technicians at the Nevada Test Site.

Preparing the splice cases for the Pre-mine Throw IV Test

Our SAC contingent met at Nellis AFB, NV. Two Air Force liaison personnel from the DNA transported us to the support installation at Mercury, NV. Figure 8 shows the support and administrative area of Mercury, NV. Underground nuclear testing was a monumental effort of the Nevada Test site at this time. The DNA and supporting contractors sent over thirty busloads of employees between the test site and Las Vegas each work day. Many other employees drove their own vehicles. These people ranged from professional scientists to hard rock miners who were involved in all aspects of nuclear testing.

Our Air Force contingent stayed in temporary quarters on Mercury, which were air conditioned and comfortable. The food was quite good and very inexpensive. Yucca Lake, shown on the Figure 7 map north of Mercury, was the site of our explosive test.



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Figure 9 is taken from the mountain west of Yucca Lake. The structure near the lower center of the photo was the twenty foot in diameter sphere that was to be filled with nitro-methane and detonated for the Pre-Mine Throw IV test. The structure in the distant left is a drilling rig that is preparing a shaft for another nuclear detonation.

The Minuteman splice cases were placed in three concentric arcs to provide testing at three levels of overpressure, starting near the Minuteman design survivability overpressure and moving to lower values. Figure 10 shows the trenches being laid out on the Yucca Lake bed.

After uncrating all of our splice cases, our initial task was to make a continuity check of each wire that passed through the splice case. The continuity check was made by our communications technicians using a jumper cable on each end of the splice case with a meter in the middle. Our dedicated technicians spent nearly three full days in the hot sun meticulously making the continuity checks of all fifty-six splice cases.



Our criteria for a successful test was to have continuity on each wire going through the splice cases BEFORE and AFTER the explosion.



The splice cases were positioned and buried in the trenches. Eight splice cases had a ten foot section of cable on each side of the splice case. Their cables were mounted on concrete pillars that were provided to us by the DNA test director. The pillars were set six feet into the ground and inside of the trench. This extra effort was done to determine if the passing overpressure could actually pull the cable out of the splice case. Figure 11 shows an end of a cable attached to one of the concrete mounts. We completed all of our work in testing the splice cases one day ahead of schedule.

A Tour of Yucca Mountain

With that extra day, our Air Force liaisons from DNA provided our SAC contingent with a tour of some parts of the Yucca Mountain test complex. Besides using vertical shafts for nuclear tests, the high and dry Yucca Mountain provided a testing system where horizontal passage ways were cut into the mesa. Off of a main line, branches were cut so that at the end, one or more “rooms” were hollowed out for each nuclear test.

Upon entering the mountain, we walked nearly one-half of a mile along a full scale railroad that was installed to remove rock that was excavated to create many branches for the individual nuclear tests. The actual size of this industrial hard-rock mining operation was incredible.

After we left the main line, we walked near four hundred feet in a smaller branch line to where we came to a separate and isolated room structure that had been excavated from the rock to support a nuclear test. There were actually two separate rooms constructed for this test. First, there was one room for the actual detonation, which must have been for a very small nuclear detonation. We were not allowed to enter the separate isolated detonation room. Second, there was a room that was evidently used to perform some nuclear radiation tests on materials. The two rooms were separated by a rock wall that was about five feet thick; however, a large, reinforced metal structure was also constructed to be part of the room separation. It contained a two foot square “guillotine” that was activated within microseconds of the detonation so that only the radiation part of the detonation came into the second room. The resulting blast effects were limited to the first room.

There was a bench in the test room that previously held the test objects. The top of the bench was visibly scorched lighter than other parts. The spots where the test objects were placed were not scorched where the objects were placed. A visible shadow moved away from where the objects sat. Also, strands of the instrumentation cables that went more than five hundred feet up to the top of mountain were dangling from the ceiling of the test room. This was absolutely a very unforgettable scene.

It was very obvious that Yucca Mountain could be an ideal location for storing current-day nuclear wastes. It has extremely good security, no water intrusion, very large capacity and a safe, long-term storage capability for otherwise harmful wastes.

Detonation of the Pre-mine Throw IV Sphere

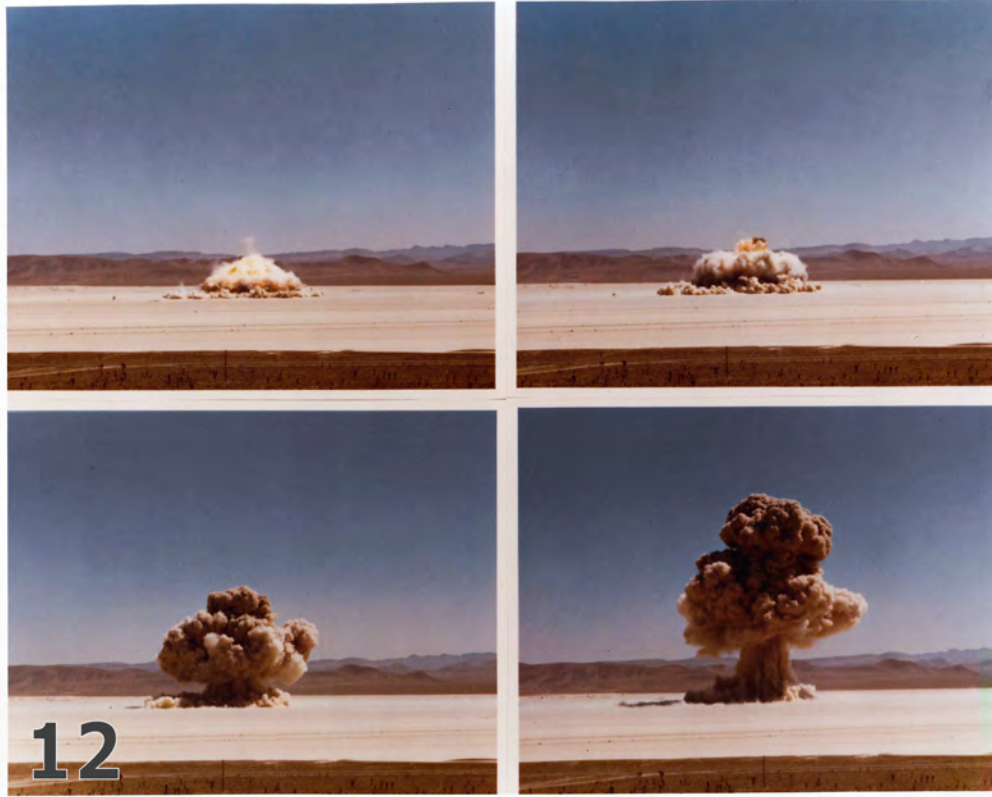
Right on schedule the sphere of nitro methane detonated. Observers were allowed to be about three thousand feet from the detonation on a nearby hillside but were not allowed to photograph the event. Official photographs were provided later. Figure 12 shows four parts of the explosion sequence.

First, the fireball could be seen for just about three seconds. The overpressure wave was evident as it raised sand and dust as the wave spread away from the fireball.

Second, the super-heated air quickly rose and even pulled back some of the dust that rose from the overpressure wave. The nearby blast effects generated a high amount of ejecta and the overpressure wave continued to spread.

Third, the superheated air and small particles of the ejecta began to rise further and faster. The overpressure wave continued to expand; however, its force diminished and was no longer able to raise sand or dust.

Fourth, the heated air and dust continued to rise and, in less than one minute, formed the common mushroom cloud. As the mushroom cloud rose to near one thousand feet, an aircraft made multiple passes through the dust of the dissipating mushroom cloud gathering air and particle samples.



Assessing the impact of the Pre-Mine Throw Detonation

One day after the detonation, we were allowed onto Yucca Lake. We began to cautiously uncover the splice cases and to assess any damage to the splice cases. In general, the outer splice cases that were moderately to heavily corroded received further damage. Mostly, cracks were observed in the outer splice cases. The heavily corroded outer splice cases exposed the inner splice cases directly to the overpressure surge and these inner splice cases showed substantial compression, as seen in Figure 13.

Finally, the eight tethered splice cases showed no evidence of stress or pulling on the clamps of the outer or inner splice cases. Over the next three days, another continuity check was performed on all the wires of each splice case. Of the hundreds of wires that had to be rechecked for continuity, not one of the wires failed this check – even on the inner splice cases that were substantially deformed. The total 100% success of the post-detonation continuity tests was an amazing finding. Most important, it clearly demonstrated the robust survivability of the HICS.



Summary of Results from the Pre-Mine Throw IV Test

Through SAC's participation in the Pre-Mine Throw IV test, we were able to have high confidence that:

1. The HICS would support the survivability of the Minuteman weapon system even if the outer splice cases were substantially degraded by corrosion.
2. No extensive splice case replacement program was necessary. However, in addition to normal, annual replacement efforts at each Minuteman wing, the communications personnel would set up a program to replace an additional 5% of the splice cases each year.
3. A new, reinforced fiberglass splice case that was part of the Pre-Mine Throw test was certified as the future replacement for the Minuteman outer splice cases.



Air Force Birthday Celebration

Chapter 335 Celebrated the Air Force's 73rd Birthday on September 18, 2020. The (mostly) socially-distanced gathering was at Community Partner Straight To Ale. The traditional cake was cut by Skeet Vaughn, Gary Connor, and Kathleen Mason. A good time was had by all who attended!



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Noble Eagle and the F-15E A Heritage Article By John Pennell



On September 11, 2001, America experienced our own “Pearl Harbor”. All of us remember where we were when airliners slammed into the Twin Towers, the Pentagon, and Flight 93 crashed in the Pennsylvania countryside.

I was a Lt Colonel Instructor Weapons Systems Officer (IWSO) in the 333rd Fighter Squadron at Seymour Johnson AFB, NC briefing to go fly a two ship student training mission. The squadron Operation Officer opened the door and told flying was cancelled and to report to the main briefing room. Once the news sunk in, our wing went to work. Four squadrons of F-15E Strike Eagles, were being prepared by expert maintenance crews for a mission we had never even considered.

Our Eagles were normally loaded with training missiles, no warheads, no rocket motors, but now we had jets with three live AIM-120 AAMRAMs, one live AIM-9 Sidewinder, and 500 rounds of 20 MM bullets.

Four hours after the second tower in New York fell, a four ship of F-15Es took off and headed to Washington, DC to set up a Defensive Counter Air (DCA) Combat Air Patrol (CAP) over the District of Columbia. At the four hour point, a second four ship arrived to relieve them. This process continued for the next 8 weeks. At that point, the CAPs were reduced to two aircraft on station, but we stayed there for 24 hours a day, seven days a week for the next three months.

Originally, only the two operational squadrons were going to participate, but the non-stop schedule forced the two training squadrons to participate. While the round the clock flying schedule was hard to maintain, the truly surreal part hit me one night while serving as the night Supervisor of Flying. I was briefing a four ship at 11:30 at night, sending them to their jets for a 1:00 am takeoff. Right before I started the step briefing, Lt Col “Guido” Hawkes, who I had known since 1985 when we were both Lieutenants in England, looked at me and asked, “Did you ever think we’d be flying CAP missions, with live weapons, over our own houses?” That’s when I realized just how serious our mission was. We were being asked to potentially shoot down an airliner of Americans if that’s what it came to.

Thankfully, we never had the need to take that shot. We did chase a number of planes out of the restricted no fly zones. It made us all hug our families a little tighter every day, made us realize what the role of the Air Force is, and how proud we were to serve the greatest nation on Earth.



Community Partners



MTSI

John Pennell, AFA Chapter 335 President, presents an Ace renewal letter to MTSI's Senior Vice President and Huntsville Operations Lead Tim King. A huge thanks to Mr. King and MTSI for supporting AFA's efforts in aerospace education at the highest level here in the Tennessee Valley!

CrossTek

A huge thanks to Clark Crosson, owner of CrossTek Construction, who holds a shiny new "Wingman" plaque! CrossTek's support of aerospace education has reached a new high level and we appreciate their support.



Davis Strategic Innovations

Davis Strategic Innovations' Vice President Andrew Davis accepting a Community Partner Wingman Renewal Medallion. Many thanks to DSI for continuing to support aerospace education!



Intuitive Research and Technology

Ms. Arlee Holmes, Intuitive Research and Technology Corporate Communications Manager, accepts the Community Partner Wingman Renewal Medallion. Intuitive continues to be a steadfast partner in supporting aerospace education in the Tennessee Valley.

Community Partners

CUBIC-GATR

Michael Blalock, Senior Program Manager at CUBIC-GATR, proudly displays his new Community Partner Plaque and his Ace Renewal Medallion. Above the new Plaque is the original CP Plaque which shows that GATR has now been a Community Partner of Chapter 335 for 11 years!



Radiance Technology

John Pennell presents an Ace Medallion and Recognition Letter to David Diaddario, President of Radiance Technologies. A huge thanks for Radiance's ongoing support for aerospace education at the Ace level!



Bevilacqua Research Corp

Rick Driesbach, former Chapter President, presents Bevilacqua Research Corporation their annual Community Partner Renewal Medallion. Accepting the medallion is Ms. Danielle Barbee, Executive Assistant to CEO Andy Bevilacqua. BRC has been a valued Community Partner for 10 years!!



Qualis

Qualis' Roger Rhodes (right) and Carlos Kingston (left) receiving the Air Force Association Community Partner Wingman Renewal Medallion. A big thanks to Qualis for continuing to be a supporter of aerospace education for the next generation!.

Community Partners

Conditioned Air Solutions



Former Chapter President Rick Driesbach presented a Wingman Community Partner Renewal Medallion to Ms. Victoria Erickson, Director of Customer Relations at Conditioned Air Solutions on 21 September 2020. Masks were worn in response to COVID19 pandemic.

Southeastern Skin Cancer & Dermatology

Medical Administrator Ms. Stephanie Robertson of Southeastern Skin Cancer and Dermatology accepting a Renewal Medallion. She was accepting on behalf of Dr. Bo Rivera who was unavailable. Thanks for your continued support of aerospace education!



Lamar Advertising

Bryan Bennett presents Community Partner Renewal Medallion to Theresa Tello, Office Manager, and Jeff Handley, General Manager, of Lamar Advertising. Thanks to Lamar for supporting aerospace education in the Tennessee Valley!



Linc Research, Inc.

Curtis Taylor, CEO of Linc Research Inc., accepting a Wingman Renewal Medallion. A huge thanks to Linc Research for supporting aerospace education with Chapter 335!

Community Partners



US Space & Rocket Center

Ms. Robin Soprano, Vice President for Space Camp at US Space & Rocket Center, accepting a Community Partner Renewal Medallion. USSRC has been a great ally in supporting aerospace education in the Tennessee Valley!



Canvas, Inc.

John Pennell presents a Letter of Recognition and Medallion to Air Force Veterans working for Canvas, Inc., one of the Chapter's Wingman Community Partners. We greatly appreciate Canvas' continued support of aerospace education in the Tennessee Valley!



NeXolve

NeXolve CEO Jim Moore and his Executive Assistant, Ms. Mona Gatlin accepting NeXolve's Renewal Medallion on 21 Sep 2020. NeXolve has been a loyal Community Partner for 10 years now!



Aero Thermo Technology, Inc.

Leroy Huntington, a former USAF R&D and Space Officer who works for Aero Thermo Technology, Inc. accepting a Wingman Renewal Medallion. Thanks for your excellent support of aerospace education!

Community Partners



Integrated Solutions for Systems

Engineer Chris Oliver at IS4S Headquarters accepts IS4S's second Wingman Renewal Medallion. Many thanks for supporting aerospace education in the Tennessee Valley!



Aleta Technologies

Aleta Technologies' CEO Jay Kurowsky accepts Aleta's Community Partner renewal medallion. Thank you for your support of the next generation through aerospace education!



Mary's Wine & Spirits Brownsboro

Steve Golpaye, owner of Mary's Wine and Spirits in Brownsboro, accepting the Community Partner Renewal Medallion. Steve has been a loyal Community Partner for many years. Thanks for your steadfast support of aerospace education in the Tennessee Valley!



Edward Jones Investments

Lt Col (Ret) Brenda Armstrong, Regional Manager of Edward Jones Investments, accepting a Wingman Renewal Medallion. Many thanks to fellow AFA member Brenda Armstrong and Edward Jones Investments for their strong support!

COMMUNITY PARTNERS

ACE LEVEL

CrossTek Construction
www.crosstekconstruction.biz

CUBIC-GATR Technologies
www.cubic.com

General Atomics Electromagnetic Systems
www.ga.com/ems

Mary's Wine & Spirits
Hwy 431 South, Brownsboro, AL

Modern Technology Solutions, Inc.
www.mtsi-va.com

PeopleTec, Inc.
www.peopletec.com

Radianc Technologies
www.radiancetek.com

Straight To Ale Brewing
www.straighttoale.com

Willbrook Solutions, Inc.
www.willbrook.net

Wingman Level

Aero Thermo Technology
www.aerothermo.com

Canvas
<https://www.canvas-inc.com/>

Conditioned Air Solutions
www.conditionedairsolutions.com

Davis Strategic Innovations, Inc.
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Edward Jones
www.edwardjones.com/
BrendaArmstrong

Integrated Solutions for Systems, Inc.
www.is4s.com

Intuitive Research and Technology
www.irtc-hq.com

Linc Research Inc.
www.lincresearchinc.com

Qualis Corporation
www.qualis-corp.com

Basic Level

Aleta Technologies
www.aletatechnologies.com

Bevilacqua Research Corp
www.brc2.com

Delta Research, Inc.
www.dr-inc.com

Hildegard's German Cuisine
www.hildegardsgermancuisine.com

Lamar Advertising
www.lamar.com/huntsville

Linda Morgan - Legend Realty
www.legend-realty.com/linda-morgan/

Lisa Philippart, LPC
<https://urlifematters.net>

NeXolve
www.nexolvematerials.com

Northington Consulting
www.northconllc.com

Redstone Federal Credit Union
www.redfcu.org

Shear Faith
www.vagaro.com/shearfaith1

Southeastern Skin Cancer & Dermatology
www.southeasterskin.com

U.S. Space & Rocket Center
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Want to become a Community Partner at the Ace, Wingman, or Basic level?

Contact George Krym at george.krym@yahoo.com.

UPCOMING EVENTS

20 May: Executive Council Meeting

31 May: Memorial Day

17 Jun: Executive Council Meeting

04 Jul: Independence Day

15 Jul: Executive Council Meeting

Chapter 335 Officers

• **President**

John Pennell

johnpennelljr@aol.com

• **Treasurer**

Jack Royster

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• **Vice President**

Guy Broadhurst

Broadhurst.guy@gmail.com

• **Secretary**

Eric Jackson

eric.jackson1969@gmail.com

Chapter 335 Special VPs

• **Aerospace Education:** Jay Carlson

• **Community Partners:** George Krym/
Bryan Bennett

• **CyberPatriot:** Bob Hovde

• **Webmaster:** Eric Silkowski




• **Newsletter:** Kathleen Mason

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