Operation CUE

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Nevada's involvement in the testing of atomic weapons starts in 1946 and was 4,800 miles away in the Central Pacific Ocean.

With the end of World War II, the United States emerged as the only nation possessing atomic weapons. The military was curious to learn how they could use them in other wars.

The U.S. Navy was particularly interested in how their ships would fare. As many of the existing ships were destined to be scrapped, now that the war was over, so several of each type could be set aside and used as test subjects.

Four old, obsolete American battleships were selected for the test. One was the venerable old *U.S.S. Nevada*. She was a veteran of World War I and had earned fame as being the only battleship to get moving during the attack on Pearl Harbor. She'd participated in the Normandy Invasion and the invasions of Iwo Jima and Okinawa.

The old battleship was selected to be the target for the ABLE test. To help the B-29's bombardier identify the ship from the other 94 ships that made up the target fleet, she was painted a red-orange and her main guns were painted white.

On July 1 the bomb like the one dropped on Nagasaki was loaded into the bomb bay and the Superfortress overflew the fleet at about 30,000 feet. At 09:00, with the U.S.S. Nevada centered in the bombsight's crosshairs, the bomb was released.

It missed.

By a half-mile.

The bomb detonated around 520 feet above the water, almost over the U.S.S. Gilliam, an attack transport. *The Gilliam* was blown to smithereens.

The *Nevada* fared much better… a bit scorched and with some damage above the decks. Mechanically, she was still capable of combat. However, an analysis of the readings indicated that she would have been a ghost ship. Most of the crew would have been killed instantly by the burst of gamma radiation, and those deep in the hull, although better protected, would have received a fatal dose and would have soon been dead.

A second test, BAKER, was conducted three weeks later. This test would be an underwater blast. Although the Nevada was further away, and the bomb was 90 feet underwater, this was the test that killed her. Badly damaged, she remained afloat. The problem was radioactive contamination. Initially, everyone thought that simply sweeping

the dust off the decks would be enough. It wasn't. Scrubbing with soap, water, and lye did no better. High-pressure water also failed.

The *Nevada* was towed back to Pearl Harbor and for the next 2 years method after method was tried to decontaminate her, and the other ships. Finally, the Navy threw in the towel. It was decided that the contaminated ships could not be scrapped, but they could perform one final service to their country. The proud *USS Nevada* was towed 65 miles from Pearl Harbor, and the *USS Iowa* and other ships used her for target practice. She still refused to sink. It took an aerial torpedo to send her to the bottom, July 31, 1948.

After World War II, the U.S. government established the Atomic Energy Commission (AEC) to monitor the peacetime development of atomic science and technology. President Harry S. Truman signed the McMahon/Atomic Energy Act on August 1, 1946, transferring the control of atomic energy from military to civilian hands, effective on January 1, 1947. This shift gave the members of the AEC complete control of the plants, laboratories, equipment, and personnel assembled during the war to produce the atomic bomb.

The search for a suitable location for testing, codenamed "Project Nutmeg," commenced in late 1948. The government was looking for a place where nuclear tests would have little impact on the American people or the American economy yet had acceptable logistical availabilities as well as a sufficient nearby population to service the workforce (schools, grocery stores, and such).

Five primary sites were considered:

- The Dugway Proving Ground/Wendover Bombing Range, Utah
- The Alamogordo-White Sands Guided Missile Range, New Mexico
- An area in Nevada from Fallon to Eureka
- The Tonopah-Las Vegas Bombing and Gunnery Range, Nevada
- The Pamlico Sound area, North Carolina
- Alaska

By early 1949 the AEC had rethought their position concerning the need for an atomic testing site. As more information was being collected and the dangers of radioactive fallout becoming better understood, the AEC decided to abandon the search, and not conduct atomic testing within the United States, but reserved the right to reverse their position in the event of a national emergency.

That emergency quickly emerged when, on August 29 of the same year, the Soviet Union detonated their first atomic bomb. The nuclear race was on.

The Tonopah-Las Vegas site was selected to be the test site for 'small' detonations (less than a megaton), in large part because the government already owned the land, and that choice would not require the removal and relocation of entire towns and villages. Additionally, Las Vegas was nearby and could support the needs of the workers (the city was not yet a gambling and entertainment mecca).

On December 18, 1950, President Harry Truman authorized the establishment of a 680 square mile portion of the Range as the Nevada Proving Ground. Under the authority of President Truman, the AEC then designated and managed this land. In 1955, the name of the site was changed to the Nevada Testing Site.

The first atomic test at the site was conducted on January 27, 1951. A B-29 dropped a 1 kiloton device. Because of the uncertainty of the altitudes the devices actually detonated at, the AEC soon began setting their above-ground devices in tall towers so they could collect more accurate data on the blasts.

The AEC was very open about the tests and would announce an upcoming detonation. The flash of the explosions and the radioactive clouds could be seen from quite far. In Las Vegas, which was beginning to see a different kind of boom, the blasts took on a party atmosphere. Visitors to Las Vegas would enjoy 'atomic parties.' There were atomic cocktails, atomic hairdos, and even beauty contests to name Miss Atomic Blast.

Despite the party atmosphere in Las Vegas surrounding the atomic tests, the rest of the United States was growing increasingly concerned with the possible effects that an atomic or nuclear blast would have on their communities.

Since the creation of the Nevada Test Site, the AEC would plan a series of tests each year, and each series of tests would be grouped under a specific code name. The AEC's fourteen tests scheduled for 1955 were all grouped as the Teapot tests. The thirteenth test in the series carried the name APPLE-2, was not only testing a new formulation for the plutonium and other components of nuclear devices but the Federal Civil Defense Agency (FCDA - the forerunner of the Office of Civil Defense, later to become the Federal Emergency Management Agency) was tasked with determining how well various structures and components of American infrastructure could survive an atomic/nuclear attack. The FCDA named their portion of the exercise Operation Cue.

With the increasing competition between the United States and the Soviet Union on all fronts, Americans were getting increasingly anxious about the possibility of nuclear war. How would their communities look afterward? What would be left? Additionally, more information about the effects of radiation on the survivors of Hiroshima and Nagasaki was becoming known, and coupled with the Castle Bravo incident of the year before, radioactive fallout was on the minds of a lot of people.

The FCDA contacted Civil Air Patrol National Headquarters (NHQ) and requested assistance for the upcoming atomic test. For NHQ it was a no-brainer: the best folks for the job were those that had already been living with the other atomic tests: Nevada Wing. Probably no other wing had more actual experience with monitoring radioactive clouds and more hands-on experience with actual decontamination techniques that the aircraft would need to undergo after their missions. The NVWG/CC, Lt Col Raymond Smith, appointed Maj Bill Stead as the NVWG Project Officer for the effort.

Also weighing in NVWG's favor was the fact that the wing owned several Stinson L-5 aircraft. These were former warbirds that had been used by the US Army in Europe and

the Pacific, providing liaison and courier services. But more importantly, these aircraft (the B thru G models) had a unique trapezoidal door arrangement on their right side that allowed a stretcher with a patient strapped on to be airlifted from the battlefield to a hospital or aid station. And the aircraft had outstanding short field landing and takeoff capabilities (one observer to an L-5 short field takeoff demonstration said the plane, after a short takeoff roll, left the ground “like a homesick angel”). In a post-atomic blast area littered with debris, such a capability would be critical.

It is important to note that although some NVWG owned aircraft were participating, most of the aircraft used were privately owned. At this point in CAP’s history, most “CAP aircraft” were member-owned. Of the roughly 5000 CAP aircraft the organization claimed, almost 4000 were the property of their members. Members were allowed to place the famous CAP emblem on their aircraft (or jeeps) – the blue circle, white triangle, red tri-blade prop that we are all familiar with. Ex-warbirds (liaison and trainer aircraft) were entering the CAP fleet, but the bulk of the flying was being done by member-owned birds. Additionally, the registrations on wing-owned aircraft listed the wing as the owner, not NHQ. When it came time to sell a wing-owned aircraft, it was the wing’s job to handle the transaction.

For Operation Cue, numerous structures resembling conventional American houses were built, each one using different materials and building techniques. The insides were outfitted with what would normally be found in a contemporary home of the period. American businesses contributed many of the test items – furniture, foodstuffs, automobiles, trailers, refrigerators, lamps, clothing, and such. J.C. Penny’s even contributed mannequins so that injuries could be analyzed. Some structures had makeshift bomb shelters in place (really, just copies of what the Britons had come up with during the Blitz fifteen years earlier). Additionally, radio towers, gas stations, and other items were erected to see how they would hold up. Banks and businesses were particularly interested in finding out how vaults and other record storage containers would fare. The press nicknamed this mockup of an American community “Doom Town” and “Survival City”. The mockup would be used as a plot device in the 2008 film “Indiana Jones and the Kingdom of the Crystal Skull” (if you haven’t seen it, I won’t give anything away other than our intrepid hero, left to die in Doom Town by atomic incineration by the bad guys, does manage to survive).

It also seems that the Postal Service and Internal Revenue Service were interested to see how mail and such could be received from an affected area. Seems the IRS was concerned that in the event of a nuclear attack some folks might have a problem filing their income taxes.

On March 13 it was publicly announced that The Nevada Wing would be involved in the upcoming atomic test. “CAP Has Part In Atomic Test” proclaimed the article on the front page of the *Nevada State Journal,* as well as other newspapers across the country. The Federal Civil Defense Administration was tasking the Nevada Wing with duties that would normally be handled by the military, such as radiation measurement over and

around the test site, aerial photography, casualty evacuation, courier duty, and communications support. Nevada would supply 40 men and women, and whatever aircraft, automobiles, jeeps, motorcycles, and radios that their part of the exercise would require. The military would have a small part,

Two weeks later, on March 26, Reno played host to that year's Western Region Conference. The conference was front-page news, as was Nevada Wing's planned participation in the upcoming bomb test. One side of the front page carried two articles and a photo of the arrival of folks for the conference, the other side of the page carried an article *Nevada's CAP To Take Part In Atom Test: Local Fliers Among First Civilians Selected*." While the article did not name any of the CAP members that would be involved, the article did provide a clearer picture of what the Nevada Wing would be doing. NVWG would be stationed at a test headquarters (the auditorium of Las Vegas High School - now called the Las Vegas Academy of the Arts), at Sky Haven Airport in Las Vegas (since renamed North Las Vegas Airport), the Camp Desert Rock airfield, the Forward Headquarters and the Yucca airfield located within the Nevada Test Site. The article emphasized the split-second flying that the Civil Defense Department was demanding. The pilots would need to reach each checkpoint within 1 minute of their assigned time to facilitate air control in and around the Nevada test Site. The article noted that "(T)he project will be a difficult test of CAP's operational capabilities.

Notably missing from the article was information on Nevada Wing's other duties during the operation, specifically monitoring radiation from the fallout cloud, and perhaps more significantly, the evacuation of casualties. This information would be casually mentioned in other news releases as the test date drew nearer.

The Civil Defense's Atomic Test Director, Mr. Harold Goodwin, was quoted as saying "This aerial support provided by light planes operated by civilian volunteers is typical of the support the American people could expect from the Civil Air Patrol in the event of an emergency." Additionally, the name of this activity was first mentioned: OPERATION CUE.

Some folks apparently did not fully understand the seriousness of the blasts or the effects. One housewife sent a letter to the AEC volunteering to be stationed in one of the unmanned underground bunkers nearest ground zero. She wanted to be the person closest to an atomic blast. Her request was turned down, and she lamented to several newspapers across the country just how disappointed she was.

The date set for the blast was April 26. The AEC and the FCDA flooded the news outlets with press releases. Newspapers nationwide listed the coverage of the blast in their TV programming sections. Approximately 5700 observers, journalists, technicians, and military personnel were slated to be present. Many of the NVWG members who were participating were given paid time off by their employers, such was the level of community support.

NVWG personnel had arrived days before the test to ready themselves for the upcoming tasks. Decontamination station for the aircraft needed to be set up, routes that the ground couriers would cover needed to be checked, radios and antennas set up.

The plan for the couriers was critical. Messages would be prepared at the various test locations, and the couriers would pick them up and place them in bags marked “Western Union”, Post Office”, or “Air Express”. One-stop on their route was News Nob, the location where most of the observers were located. Here, they would collect the articles that the reporters had written as well as film, and then speed off to the Yucca airstrip. There, the bags were loaded into a waiting CAP aircraft and flown to Sky Haven Airport. The material would be transferred to a waiting helicopter, which would head for the Test Headquarters at Las Vegas High School. There, the bags were handed off to other couriers who sped them to their designation – the nearby Post Office had a special bin for the test, and Western Union had set up a station in the auditorium lobby of the high school.

However, the day before the event weather predictions were that the winds would be pushing the radioactive fallout cloud towards Las Vegas, so the test was rescheduled for April 27.

Again, TV programming schedules listed the upcoming atomic test. Again, the test was postponed because the winds were predicted to send the fallout directly over populated areas.

April 28 was a repeat of the first two schedules. By the beginning of May, the test had been planned and then canceled four different times, all because of wind conditions. Newspapers across the country began ridiculing the AEC and FCDA for their inability to conduct one highly publicized event. In later years NASA would experience the same lambasting for postponed shuttle launches. It seemed that members of the press, and the public, demanded entertainment at the cost of safety. One article made issue of the fact that Sarah Churchill, daughter of the former Prime Minister, had stopped by to watch the test, only to be disappointed by the test’s postponement, and had to leave.

Numerous observers, journalists, and volunteers began to trickle away either out of boredom or due to other appointments. Roughly 2000 headed elsewhere. Most NVWG volunteers were able to stick it out, but there were a few who had to head home because they, or their employers, could no longer afford for them to be away.

By May 5 the test had been scheduled, then canceled nine times. That morning, at 0510, the waiting ended. The winds that had prevented the prior firings finally cooperated, and the desert morning darkness disappeared in the blinding blast from the tower. All that remained of the 500-foot-tall tower were stumps on the desert floor. The journalists and observers that had stuck around were not disappointed.

Although the yield from the device was calculated to be as much as 40 kilotons, the actual yield was around 29 kilotons, larger than either of the bombs dropped on Japan.

Once the fallout cloud had reached a ‘safe’ altitude of 43,000 feet and was drifting to the northeast towards Ely, the NVWG planes tasked with radiological monitoring were buzzing the test site, taking measurements, filling out record forms, and when appropriate, calling into their assigned bases.

The L-5s landed adjacent to a couple of the houses that were still standing. Simulated casualties were placed on stretchers, loaded into the back of the aircraft, and flown to designated airfields where their ‘injured survivors’ were transferred to ambulances. Then they took off and headed back to Doom Town/ Survival City to pick up additional patients. Note: the two-story houses that the NVWG aircraft were photographed and film at both still stand and are stops on the monthly tour of the former Nevada Test Site.

The communications folks and messages centers began processing test traffic, and motorcycles and automobiles were soon picking up pouches and delivering them to their destinations.

The aftermath of the day’s events is a little hard to believe in today’s world. The day after the detonation, the AEC and the FCDA thought it would be a great idea to hold a picnic amongst the wreckage, and almost 2000 observers and participants chowed down on hot roast beef and all the fixings. Perhaps this was part of the effort to downplay the fear of radioactive fallout and the damage that a single ‘small’ bomb could have. Further, the mannequins that were not radioactive were returned to J.C. Penny’s (nobody really knows what happened to them from there).

On the “plus” side, it was determined that the best trailer to survive an attack in was an Airstream. Aside from one small dent, there was no other damage to the exterior or interior.

With the show over, the NVWG members headed home to their units. Of course, they were called upon by members of their units and their communities to give talks on what their experiences were like. But very quickly life returned to normal. There was training to attend, missions to fly, and paperwork to complete. No records have been found to indicate that beyond a “thank you” or “well done!” that any of them received any further recognition. But then, that’s typical for a member of the Nevada Wing – just let ‘em serve their communities.

On February 15, 1956, the Nevada Wing received a citation from the Federal Civil Defense Administration’s Director Val Peterson for their work with the Atomic Energy Commission’s OPERATION CUE.

That same year the aircraft manufacturer Lear, in cooperation with National Headquarters, enlisted the services of famed actor Tyrone Power and Hollywood director Henry King to produce and release a 17-minute color movie, “Sky Sentinels”. Although ostensibly a recruiting film, the focus of the film was CAP’s participation in

Operation Cue, focusing on NVWG, and what kind of assistance CAP would provide in a civil defense emergency. Prominently shown were NVWG aircraft, personnel, and the NVWG shoulder patch. According to the 1957 Annual Report produced by National Headquarters, the film was shown on television 231 times during 1957 alone (no mention of the exercise made it into the 1955 or 1956 reports).

The AEC and the FCDA/OCD published their results and made their recommendations about how to best strengthen homes and buildings. The FCDA/OCD published guidelines and books for the average homeowner on how to better prepare. They also released film footage of the blast and the effects on homes, automobiles, and various infrastructure components. These films, as well as “Sky Sentinels”, can be viewed on YouTube.

In October 1962 things looked like the tests and exercises would become real. With the US and the USSR playing a game of chicken in what became known as the Cuban Missile Crisis, the guidelines and books, and presumably lumber, plywood, food, and, yes, toilet paper, were flying off the shelves. Children in grade schools were practicing “duck and cover” drills. Luckily cooler heads prevailed.

Nevada Wing’s ‘atomic air force’ continued to soldier on into the late 1960’s. By 1970, the L-5s were becoming too expensive to operate, the once plentiful supply of parts getting close to exhaustion. Coupled with the fact that they consumed 11 gallons of fuel per hour, and the new crop of pilots coming out of flying schools had mostly trained in tricycle gear aircraft, the days of using conventional gear aircraft by CAP was coming to an end. In December 1970, NVWG HQ announced that the following year they would sell all 9 of their aircraft (L-5s, L-16s, L-17s, and T-34s) and use the proceeds to purchase several new all-metal high-wing tricycle gear aircraft (that would be cheaper to operate. The first NVWG owned planes were put up for sale the following month.

Although we no longer have the mission records and the complete list of those members of the Nevada Wing who participated in Operation CUE may never be known, we do know the following personnel participated:

Project Officer ..... Major Bill Stead
Personnel Officer ..... Capt Myra McCue
Pilot ..... Capt Doris Eacret
Communications Officer ..... Lt Col Art Sowle (later becoming
..... NVWG Commander)
Yucca Air Strip Commander ..... Capt Harry North
Yucca Air Strip Message Chief..... Capt Ray White
Forward Observer ..... Capt Otto Linnecke
(NVWG member closest to the blast – in a trench 2.1 Miles from Ground Zero)
Message Center Chief ..... Capt Al Van Natta
Motorcycle Courier ..... Capt Robert Ross
Motorcycle Courier ..... SM John P. Gorman