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The Nevada Test Site's Cold War Historic Properties Program

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The Nevada Test Site (NTS) is the United States' main continental nuclear weapons testing ground. Currently, the United States is observing a moratorium on nuclear weapons, although the NTS is maintained in a state of readiness. The first test at NTS, code named Able, was detonated on January 27, 1951, and the last test, Divider, was detonated on September 28, 1992. Between these two events, more than 900 nuclear devices were detonated at



Historic Image of Dignitaries Viewing

Nuclear Test

this facility, leaving a historical legacy that captures the essence of the Cold War, the constant improvement of nuclear weapons-capabilities, and, ultimately, the United States' victory over the Soviet Union.

The NTS covers 1,350 square miles in southern Nevada and is managed by the U.S. Department of Energy (DOE). The topography ranges from lower elevation valleys with playa lakes to higher plateaus dominated by a pinyon/juniper woodland. The lower elevations, consisting largely of flat terrain, were used during the atmospheric testing period, during which nuclear devices were detonated atop towers, dropped from planes, strung from balloons - one was even shot from a cannon. The Limited Test Ban Treaty, enacted in 1963, banned all atmospheric testing, but underground tests were allowed to continue. Both the lower valleys and the higher plateaus were utilized for underground nuclear tests until the current moratorium began in 1992.

In 1991, the DOE's Nevada Operations Office (DOE/NV) initiated the first historical evaluations of Cold War structures under Section 106 of the National Historic Preservation Act (NHPA). DOE/NV recognized the potential adverse effects of proposed projects on the historical integrity of the Bare Reactor Experiment Nevada (BREN) Tower and the Underground Parking Garage at NTS. The BREN Tower was used in a non-explosive nuclear weapons program in which the U.S. government studied the effects of radiation on survivors of the

Hiroshima and Nagasaki bombs. The Underground Parking Garage was built for Priscilla, an atmospheric nuclear weapons test, designed to determine which types of edifices had the best chance of surviving a nuclear detonation. Tests of this type were known as Civil Effects Tests; their purpose was to establish the ability of a typical urban structure to protect the civilian population in the event of nuclear attack.



Japanese Village on the NTS (part of Operation BREN)



The BREN Tower

In 1992, DOE/NV provided funding to complete a preliminary inventory of the buildings, structures, and objects potentially eligible for the National Register of Historic Places (National Register). The Nevada Test Site Historic Structures Survey provides DOE/NV with five historic contexts related to the Cold War Period; identification of

buildings, structures, and objects associated with those contexts; and recommendations for historic districts, conservation efforts, and other management actions. The scope of the report is NTS-wide and includes information on Cold War properties associated with the development of nuclear-powered rocket engines, storage of radioactive materials, studies of the effects of radiation on the environment, and atmospheric and underground nuclear weapons testing. Coeval with this study was the continuance of Section 106 evaluations. To date, more than twenty such projects have been completed.

DOE/NV recognizes the national and world significance of the events embodied in the historic properties at the NTS and is taking an active role in historic preservation efforts for this Cold War legacy. However, “preservation” may be inappropriate for buildings that were created as targets for demolition. Many of these properties embody the incomprehensible, catastrophic force of nuclear weapons. Maintaining the integrity of these properties is challenging: DOE/NV must strike a balance between the natural deterioration of these properties and the need to maintain the attributes of destruction from nuclear weapons.



The Priscilla Event

Inventory and Evaluation of Manhattan Project and Early Cold War Properties at Los Alamos National Laboratory, Los Alamos, New Mexico: A Status Report

Ellen D. McGehee
Los Alamos National Laboratory

Los Alamos National Laboratory (LANL) is operated by the University of California for the DOE. In the early 1940s, Los Alamos, New Mexico, was selected to be the site of a secret laboratory used for development of the world's first atomic bombs.

The Manhattan Project and Early Cold War years at Los Alamos (circa 1943 to 1956) are associated with the development of the atomic and hydrogen bombs, early advancements in supercomputing, fundamental biomedical research and health physics research, explosives research and development, early developments in reactor technology, pioneering physics research, and the development of early high-speed photography.

LANL has conducted a preliminary inventory and has identified more than 500 buildings or structures constructed between 1943 and 1956. These properties include laboratory facilities and experimental areas, as well as facilities for utilities and maintenance, administration, health and safety, site security, communication and transportation, and waste treatment. An architectural evaluation of the properties has not been conducted; however, basic construction types include metal Butler buildings, wooden buildings with asbestos shingles, and concrete buildings.

Because of the nature of the activities conducted for the Manhattan Project and Early Cold War-era facilities, many of these properties are now candidates for decontamination and decommissioning (D&D) as part of LANL's Environmental Restoration Program.

In June 1994, a historic building evaluation was conducted for Technical Area 21, Buildings 3 and 4 (TA-21-3 and TA-21-4). Proposed D&D project activities included the removal of all contaminated and uncontaminated equipment, tanks, and piping inside the buildings. Other project activities included the razing of Buildings TA-21-3 and TA-21-4, and the removal of building foundations and associated parking areas, soils beneath the foundations, and associated drain lines and utilities.



V-Site, Building TA-16-515, High Explosives Processing Building

Buildings TA-21-3 and TA-21-4 were of similar construction; they were both industrial-sized metal Butler buildings. The original activities carried out in these two laboratory buildings were associated with the Manhattan Project (circa 1943 to 1949). Both buildings were constructed in 1945 and were used for plutonium research until the 1950s. At that time, the activities conducted in these buildings changed from plutonium work to enriched uranium recovery. The buildings had both been extensively remodeled and decontaminated since their construction in 1945, resulting in a significant loss of historical and physical integrity. Although associated with important historical events, the buildings were determined ineligible for the National Register and have subsequently been demolished.

In 1994 and 1995, a historic building evaluation and documentation program was initiated for 28 properties at LANL's TA-16 constructed between 1944 and 1951. Proposed D&D activities included the removal of all contaminated equipment and material from the interior and exterior of structures and buildings. Associated drain lines and utilities, if contaminated, would also be removed. As a result of the decontamination phase, most of the contaminated properties would be completely demolished.

Early activities at TA-16 (S-Site) supported the development of the first atomic bombs: the Trinity, the Hiroshima, and the Nagasaki. The manufacturing of the high-explosives components for many of the Early Cold War implosion bombs was also carried out at TA-16. Because all of the properties were determined to be eligible for the National Register under Criterion A, a Memorandum of Agreement was drafted between the DOE and the New Mexico State Historic Preservation Officer stipulating required mitigation measures. Key measures included an architectural evaluation of the individual buildings, the generation of Historic American Building Survey/Historic American Engineering Record (HABS/HAER) quality drawings, an extensive



Building TA-16-27: High Explosives Casting Building



Interior of Building TA-16-27: cooling stations (center), large kettle (left), and blackboards (right rear)

black-and-white photodocumentation effort using a large-format camera, and the renovation of one of the buildings - the "Back Gate Guard Station" (TA-16-1451) - to a usable state. An in-depth site history document was also stipulated.

In August 1997, the LANL Laboratory Historical Heritage Committee (LHHC) was formed to provide input to LANL management regarding historic preservation issues. The committee is working

closely with personnel from DOE/HQ (headquarters) as part of a new DOE-wide historic preservation program focusing on World War II and Cold War properties. The committee, in conjunction with the LANL cultural resource management program, is currently developing a program to assess LANL's Manhattan Project and Cold War properties on a site-wide basis, rather than the project-by-project basis of the last 3 years.

A complex of six buildings at TA-16, known as "V-Site", was scheduled to be demolished as part of the D&D project described above. These buildings are significant because of their association with events leading up to the detonation of the first atomic bomb at the Trinity site. The demolition of the complex is currently on hold. The LHHHC is initiating a National Historic Landmark evaluation of V-Site and, in conjunction with the National Park Service, will be identifying different options for renovation.

In October 1997, D&D work was initiated at Building TA-16-27, an explosives casting building evaluated as part of the 28 properties mentioned previously. This building is contaminated with high-explosives residue and will be completely demolished as a result of the D&D activities. LANL archaeologists have identified approximately 130 objects for removal and eventual curation. These Cold War-era artifacts include high-explosives casting equipment such as melting kettles, multi-temperature water cooling stations, process blackboards, "explosion-proof" lighting and electrical systems, and associated gauges, pipes, and control panels.

Candyman Concocts Cold War-Era Confection

Rudy Purificato
Air Force Research Laboratory

Sammy Davis Jr. didn't have the entrepreneurial confectionery vision of a former Brooks AFB

veteran when he recorded his hit 1970's song "Candyman." However, for retired MSgt. A. E. Dillard, turning a 'hard rock candy mountain' of nearly one million pieces of Cold War era Civil Defense candy into a potential gold mine wasn't too difficult a leap of faith. The ordained Baptist minister, who ended his 24-year Air Force career on December 8, 1997 as executive superintendent for the Human Systems Center's (HSC) development planning, is truly acting like a kid in a candy store. In Dillard's case, he is the candy store. This summer he purchased more than two tons of what appears to be fossilized colored mothballs from East Kelly AFB's Defense Reutilization and Marketing Office (DRMO).

In April, contractors renovating Building 150 (HSC Command at Brooks AFB), discovered the candy in the building's basement. Part of the basement had served as a Civil Defense shelter. Dillard's co-worker, Lt Col Rick St. Pierre, project manager for the HSC headquarters move, said the candy had been in the building weeks prior to President John F. Kennedy's visit to Brooks AFB on November 21, 1963 where he dedicated Building 150. Stenciled on each of the 200 boxes containing sealed candy cans are the words: "Civil Defense carbohydrate supplement, October 1963." St. Pierre said the candy was originally intended to provide calories for survivors of a nuclear attack. Thirty-four years later, the now inedible candy was designated for disposal at DRMO. Prior to its shipment, Dillard had been examining some of the candy taken from an opened can in St. Pierre's office. St. Pierre and Major Tom Petrasek joked about the confection, dubbing it "Cold War candy." The jokes triggered Dillard's idea to found the Cold War Candy Company. "I thought it (candy) would be a nice historical memento. I thought about encapsulating and preserving the candy," Dillard recalls.

Knowing the candy contained red dye #2, proven to cause cancer in laboratory animals, Dillard realized the sweets, long soured by time, would be destroyed. He convinced DRMO officials to put it up for bids by telling them there was someone interested in buying it for its historic value, not

consumption. In July, Dillard became the proud owner of 980,000 pieces of red and yellow candy so hard they could be classified as ‘jawbreakers.’ “When I first saw the candy, I could picture what it meant to me. I was eight years old in 1963 when President Kennedy dedicated Building 150. He was assassinated the next day. I remember my parents standing in the living room watching news of his assassination on TV. I remember the violence in the South during the civil rights movement, and what Kennedy did to improve civil rights,” Dillard noted.

Born in Meridian, Miss., Dillard moved with his parents to Iowa. As a child, he went on a school field trip to a Civil Defense shelter where he actually tasted the same candy he now plans to market as historic mementos. Dillard explained, “When I saw the candy, all of those memories flashed through my mind. Kennedy didn’t dedicate the candy, but he dedicated the building where the candy had been stored.” Dillard took seriously the joking by his co-workers. Using knowledge he had gained while completing work on an MBA from Wayland Baptist University, he incorporated his company, found investors, developed a trademark and applied for a patent. He developed the idea to embed the candy in a crystalline or Lucite clear plastic substance. He first tested the idea by imbedding two pieces of candy in a block of Lucite to see if it would work. His concern was the candy melting under the heat.

Dillard developed three prototype products that he exhibited at Aerospace Day. He also surveyed Aerospace Day visitors as part of a marketing study. His most unusual product is a large Lucite pyramid in which two pieces of candy appear to float below a Kennedy half-dollar coin. “What better way to preserve a historical memento than in a pyramid,” Dillard said. “People relate to pyramids as symbols of preservation.” Besides the pyramid, he has encased the candy in two types of Lucite blocks. Accompanying each product is an eight-page full-color brochure and a laminated business card that briefly describe the candy’s history. Dillard has also developed a history magazine to be marketed in conjunction with his products. The magazine features the history of the Cold War, Kennedy’s

connection to it and even some of JFK’s speeches. “It’s definitely a leap of faith,” he admits about his risky venture. “I’m no genius. I looked at it as a Godsend. I’m looking for a job. The church I pastor is too small to provide income to sustain my family.”

Dillard admitted the risky enterprise is out-of-character for him. However, he was motivated, in part, by the entrepreneurial influence of his stepfather Joe Boston, whose motto has become his own: “Nothing beats a failure but a try.” Some naysayers may have prematurely labeled Dillard as a bit ‘nuts’ for risking his family’s future financial security. Yet, he credited St. Pierre and the inspiration of others who recognized his vision, for helping motivate him. St. Pierre said there is a collecting culture dedicated to the Cold War era. “This culture views Kennedy as a great president. Anything associated with him will sell,” he adds.

Dillard believes his venture is not accidental. “My motive for doing this is not totally selfish. What I make, I’ll parlay into the ministry,” Dillard confessed. His long-range plan is to use profits from his candy business to fund the first Gospel supper club in San Antonio. “I’m a visionary,” he said. “I see further than this [candy] enterprise. One day, all the candy will be gone.” Before Dillard exhausts his candy supply, he plans to build a multi-cultural, non-denominational Gospel supper club. The club will serve candy-less cuisine sweetened by the sounds of Gospel music and flavored by Christian comedy acts.

“To me it’s an outreach [ministry],” Dillard said about his future plans. His faith may be compared to the Bible story about the tiny mustard seed, a faith that can move mountains. With Dillard’s faith, he hopes to move candy mountains. “It’s a far-fetched idea in many minds, but I plan to develop markets for my product,” Dillard said. Among these markets are consignments at the Brooks Heritage Foundation, at airport novelty stores, Presidential libraries and museums, and the Internet via a web page. Dillard truly may be destined to be America’s next confectionery entrepreneur like Hershey. His

first name is 'Almond.' With a name like that, Dillard is a sure bet to turn the candy into his 'Almond Joy.'

NOTE: This article has been edited from an article that originally appeared in the December 5, 1997 issue of the Brooks AFB newspaper Discovery. Special thanks to the author, Mr. Rudy Purificato, Air Force Research Laboratory and SSgt Dawn Hart, NCOIC, Editor, Discovery, Office of Public Affairs, Brooks AFB, TX Used with permission.

Cold War Projects Searchable Database

Since January 1996, *In From The Cold* has presented articles and project descriptions for a variety of studies conducted by DOD and other federal agencies to document the legacy of the Cold War in the United States. At publication of Volume 1, Number 6 (May 1998), 101 project descriptions have been submitted and presented. In order to facilitate future research efforts, the U.S. Army Construction Engineering Research Laboratory (USACERL) and the Air Force Center for Environmental Excellence (AFCEE) have prepared a searchable database of the information in these project descriptions.

The data have been organized in a Microsoft Access Database file and uploaded onto the Worldwide Web for use by interested parties. The database can be found on the AFCEE web page at www.afcee.brooks.af.mil/ec/ecform.htm. Instructions for use are included. Users may search any or all of the following fields: Project Name, Location, Abstract, Result, Sponsor, Investigator, Point of Contact (POC), Completion Date using Boolean AND or OR search algorithms. AFCEE will update the database regularly.

Statement of Purpose

The purpose of *In From the Cold* is to provide a forum in which Cultural Resources Managers and Cold War experts throughout the Department of Defense, the DOE, and the National Park Service may offer support and expertise to one another in

their Cold War research efforts. It does not purport to reflect policy, practices or doctrine.

Newsletter Information

Projects submitted directly by a federal agency or verified by the federal sponsor can be published in this newsletter. Copies of the newsletter are mailed to the Department of Defense, the DOE, and the National Park Service. Copies of studies and reports listed in the newsletter are not available from HQ AFCEE. Please contact the project sponsor directly. Your articles are welcome!

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