

United States
Atmospheric & Underwater
Atomic Weapon Activities

- 1945 "TRINITY"
ALAMOGORDO, N. M.
- 1945 "LITTLE BOY"
HIROSHIMA, JAPAN
- 1945 "FAT MAN"
NAGASAKI, JAPAN
- 1946 "CROSSROADS"
BIKINI ISLAND
- 1948 "SANDSTONE"
ENEWETAK ATOLL
- 1951 "RANGER"
NEVADA TEST SITE
- 1951 "GREENHOUSE"
ENEWETAK ATOLL
- 1951 "BUSTER - JANGLE"
NEVADA TEST SITE
- 1952 "TUMBLER - SNAPPER"
NEVADA TEST SITE
- 1952 "IVY"
ENEWETAK ATOLL
- 1953 "UPSHOT - KNOTHOLE"
NEVADA TEST SITE
- 1954 "CASTLE"
BIKINI ISLAND
- 1955 "TEAPOT"
NEVADA TEST SITE
- 1955 "WIGWAM"
OFFSHORE SAN DIEGO
- 1955 "PROJECT - 56"
NEVADA TEST SITE
- 1956 "REDWING"
ENEWETAK & BIKINI
- 1957 "PLUMBOB"
NEVADA TEST SITE
- 1958 "HARDTACK I"
ENEWETAK & BIKINI
- 1958 "NEWSREEL"
JOHNSON ISLAND
- 1958 "ARGUS"
SOUTH ATLANTIC
- 1958 "HARDTACK II"
NEVADA TEST SITE
- 1961 "NOUGAT"
NEVADA TEST SITE
- 1962 "DOMINIC I"
CHRISTMAS ISLAND
JOHNSON ISLAND
- 1965 "FLINTLOCK"
AMCHITKA, ALASKA
- 1969 "MANDREL"
AMCHITKA, ALASKA
- 1971 "GROMMET"
AMCHITKA, ALASKA
- 1974 "POST TEST EVENTS"
AMCHITKA, ALASKA

" IF YOU WERE THERE,
YOU ARE AN
ATOMIC VETERAN "



NAAV

A Non-profit Atomic Veterans Association

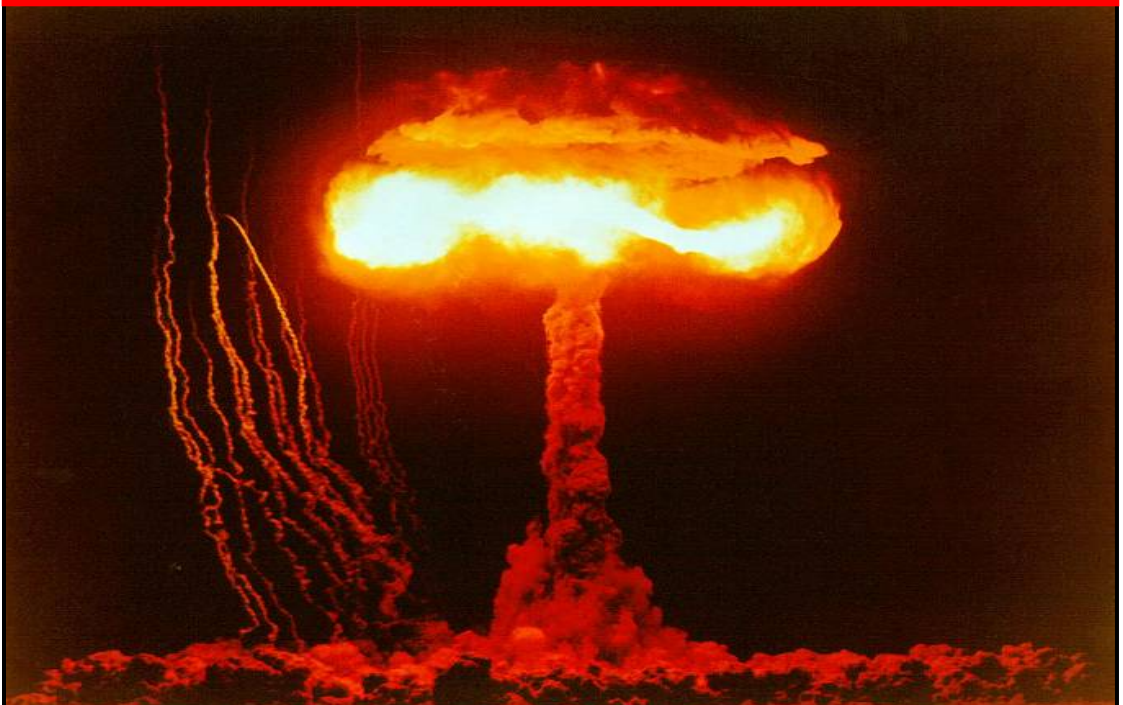
[with O. H. Q. in Houston, Texas]



" No amount of exposure to ionizing radiation has ever been scientifically proven to be safe "

R. J. RITTER - Editor

April, 2007



Upshot-Knothole " CLIMAX "

06-04-53

Page 5.



Upshot-Knothold " GRABLE "

05-25-53

Page 10.

The Newsletter for America's Atomic Veterans



COMMANDERS COMMENTS:

The **VBDR** (Veterans Board on Dose Reconstruction) held their **March, 2007** meetings in Las Vegas, NV. I was invited to prepare a 30 minute presentation, to be followed by a 30 minute question and answer session. Those present included members of the Dept. of Veteran's Affairs (**DVA**), The Defense Threat Reduction Agency (**DTRA**), The National Council for Radiation Protection (**NCRP**) and a

host of fellow Atomic Veteran's from across the country, and from the State of Hawaii.

The title of my presentation was " **The current views of America's Atomic Veteran Community regarding the VBDR, the DTRA and the DVA.** " It included **94** color slides with in-depth and detailed narration, and was more than well received, with many positive comments from **VBDR** members, fellow atomic veterans and visitors, excerpts & comments of which were given a full quarter page in the local Las Vegas news print.

The **VBDR** has (now finally) realized that America's atomic veterans have been facing a solid brick wall in their attempts to gain proper recognition and due benefits for standing in the way of an invisible enemy, while proudly and honorably serving their country. Given this, they are exploring a manner in which to secure Congressional recognition for atomic veterans, as a "unique group" of veterans, and most importantly, Congressional relief from "dose reconstruction" assessments.

VBDR Chairman, Dr. James Zimble (VAdm. USN Ret. & Past Surgeon General of the Navy) agreed that the U.S. Government can find areas in which to spend taxpayer dollars in a more useful manner, rather than the continued funding of dose reconstructions (at up to \$20,000 / dose), none of which, to date, have been able to reach any conclusive or provable results.

As a current **VBDR** consultant of record, and Board member designate, I will continue to devote my time & efforts in the best interest of the needs and requirements of all of America's atomic veterans, who are still with us today, and who are both in good and ill health, until my term as **NAAV** Cmdr. expires in the fall of **2009**.

These veterans are getting up in age, they are stressed out with physical debilitatingations, and (for the most part) they do not give a hoot about computers. They are, however; still hopeful that the Congress of the United States will recognize their gallantry and the sacrifices they have since endured, in the interest of the national security needs of their country.

As a note of interest, this issue of our periodic newsletter is a few weeks late, as we are finalizing our plans for the 2007 convention to be held in Oklahoma City, Ok., to be held on July 15th and 16th. This will be the only newsletter issued before the convention, and we also have to include Director election ballots, as well. Given this, the next newsletter will be printed in August, 07 (featuring Operation "Redwing") and a third issue will then be printed in December, 07.

We thank you for your continued support and ask that all members make an attempt to up-date their dues, so we can continue to operate on your behalf. Wishing all of you a pleasant and safe summer season, I am always at your service.

R. J. Ritter NAAV Cmdr.

NAAV 2007 Convention in Oklahoma City, OK.

The next **NAAV** convention will be held in **Oklahoma City, OK.**, on Monday **July 16, 2007** at the Hilton Garden Inn - 901 S. Meridian - Oklahoma City, OK., 73108 (405-942-1400).

The Hotel rates are **\$109 / night** for a King or Double & **\$129 / night** for a King Suite, and the Hotel will honor those rates for those wishing to arrive a day or two early, and leave a day or two late. All attendees must contact the Hotel to confirm their reservations.

Attendee registration will be held on the afternoon of (Sunday) **July 15th** from **1700** to **1900**. The Board of Director's will convene their annual business meeting at **1900** (in private) as per the **NAAV** By-laws. The (general meeting) morning session will begin on (Monday) **July 16th** at **0800**. The Monday afternoon session will begin at **1315**, with closing ceremonies scheduled for **1530**.

Due to the reduced number of attendees at previous conventions, this one will be scheduled for one (full) day only. For those staying at the Hotel, check out will be on (Tuesday) morning, **July 17th**. Additional information will be posted on the **NAAV** website (www.naav.com)

The **NAAV** Convention registration fee will be **\$45.00 / person**. If you plan to attend, please fill out the form below and mail to Bernie Clark.

NAAV 2007 Convention Registration Form

Name: _____ Ph: _____

Number attending: _____ Amount remitted: _____

Name of Operation or Test: _____

Arrival day: _____ Departure day: _____

Note: Make all checks or money orders to: **NAAV Inc.**

Send registration to:

NAAV Inc. 2439 E. 47th Street Tulsa, Ok. 74105

DD-214's ONLINE The Nat. Personnel Records Center

(**NPRC**) has provided the following website for those veterans who wish to gain access to their DD-214 discharge documents online. <http://vetrecs.archives.gov/>



In Memory of our Departed Members



- L. R. Thompson (OK)**
- Charles Goe Jr. (IA)**
- Bernard Hausch (WI)**
- Robert Twining (IN)**
- Lyle K. Dodge (KS)**
- William A. Prouty (IA)**
- Vic Tolley (ME)**
- John K. Miller (TX)**



"Rest in Peace our Veteran Friends"

LETTERS TO THE VBDR - LAS VEGAS

As a 2nd Lt., in a tank battalion, I was assigned to participate in Operation Upshot-Knothole, shot "Grable", (the atomic cannon test). Before the test shot, I was given a 2 hour course on handling a Geiger-Counter. After the detonation, and at the sound of a whistle, we were ordered out of our trenches, and proceeded towards ground zero, while the main body of test troops followed approx. one half mile behind. Our instructions were, that if we encountered a really "hot" item, we were to hand signal the technicians, who would then rope off the object, or the high risk radiation area.

During this exercise, we encountered a big problem, as the Geiger-Counter's operated haphazardly and randomly, often showing questionable readings. After all was over, we were then ordered to dump our film badges in a cardboard box at the rear containment area.

Since this date, I have not been able to confirm, or show proof of orders assigning me (or my men) to the test site, nor can I get any information on the amount of radiation that was registered on my film badge. I have written to various U.S. Agencies, with absolutely no results. When I go to the Temple, Tx., VAMC they give me a blank stare when I mention an Ionizing Radiation Registry exam. I do go there, from time to time, for blood tests, and prescription drugs, but they do not want to hear anything related to "Atomic Illnesses".

Major Donald L. Reiminger (U. S. Army -Ret.)
NAAV Member - Georgetown, Tx.

In March of 1953, my company of Marines crouched less than two miles from ground zero, of Operation Upshot-Knothole, shot "Badger", a 23 kt. atomic bomb detonated at the Nevada Test Site. We were then ordered to walk through the resulting destruction and remains of ground zero, and we did not have any personal radiation detection devices.

My (AN/PRC-10) 2-way backpack-radio sounded like hailstones falling on a tin roof. Today, nearly all of us are dead, and the few who are still living have a multitude of cancers, and health issues that are not common to military veterans who were not directly involved with the nuclear weapons testing projects. We know that cancer is a radiogenic disease, which scrambles, or mutates the body's DNA; thus, no one seriously denies that being close to the detonations at Hiroshima or Nagasaki, or in the desert of Nevada, or in the Marshall Islands, has caused cancers in those who were there. The Government continues to use "Radiation Dose Reconstruction" as a delay mechanism to keep G. I.'s from seeking statutory benefits from the DVA. No one knows how to "reconstruct a radiation dosage" estimate any more than we know how to reconstruct Sara's dosage at Sodom, before she became a pillar of salt.

Even now, they are still trying to guess the parameters of an unknown quadrilateral equation, the results of which are always "in-conclusive." Each dose reconstruction cost's the U.S. taxpayer as much as \$20,000, the results of which are always only theoretical, not factual. I echo the belief's of all atomic veterans, that the sole purpose of "Dose Reconstruction" is to act as a roadblock for atomic veterans claims for radiation induced illness compensation, which are always routinely denied by the DVA. And I will also agree that "Dose Reconstruction" should be abolished by the Congress of the United States of America.

John Nelson "Buz" Broussard (USMC Ret.)
Past NAAV Director - Lafayette, La

RECONSTRUCTING LOST MILITARY RECORDS From: Bernie Clark (NAAV Director)

While attending the 2006 convention in St. Louis, MO., the following information was made available. to those who toured the National Personnel Records Center (NPRC). There was a fire on the 6th floor of the NPRC in 1973, that destroyed or severely damaged the records of several thousand military veterans.

When a record is not in the NPRC's files, at the present time, and it would have been in the area that suffered the most damage in the fire on July 12, 1973, NPRC employees often cannot determine for certain if it was burned because there were no indices to the blocks of records involved. The records were merely filed in alphabetical order within each major block of storage space on the sixth floor. Included in these records were WW-I (11-01-1912 to 09-07-1939); WW-II (09-08-39 to 12-31-1946); and Post WW-II (Army - 01-01-1947 to 12-31-1959) (Air Force - 09-25-1947 to 12-31-1963).

Millions of records, including medical records, had been withdrawn from all three blocks of storage and were on loan to the Veterans Administration prior to the fire. It is possible to reconstruct a Veteran's lost, or destroyed, record by submitting (to the NPRC) photocopies, of military documents & papers (such as a DD-214) currently in his / her possession. These documents will be authenticated by the NPRC staff, and added to the Veteran's Records computerized index and filed for permanent retention.

Other sources of military service data include claims filed with the VA before July 1973; copies of morning reports, or payrolls, or military orders and records on file with organizations such as the DAV, or VFW. The data necessary to start a record reconstruction process will include the veteran's full name, branch of service, approx. dates of service, service serial number, place of discharge, last unit / ship / or billet assignment, and place of entry into the service.

This information should be forwarded to the National Personnel Records Center - 9700 Page Ave. St. Louis, MO. 63132. You can call them at 314-801-0800 for additional information. Be advised that this number is very busy, and you may have to wait sometime to be able to talk to a real person.

Bernie Clark - NAAV Director & Treasurer



The New U.S. ARMY "Prairie Dog - Shoot & Scoot" Underground Pop-Up Warfare Weapon

OPERATION "UPSHOT-KNOTHOLE" - 1953

By 1953 a pattern of test activity at the Nevada Proving Ground (**NPG**) had emerged. Through the fifties, every year or (every other year if a pacific test series intervened) a series of several test shots was fired at the **NPG** over a period of three or four months to address a wide variety of objectives. Operation "**Upshot-Knothole**" was just such a scatter-shot effort.

This series included **7** tower tests, **3** air drop tests and **1** Atomic Cannon test. There were approx. **21,000** military and civilian personnel involved in this nuclear test series, as a part of the **Camp Desert Rock V** weapons testing & evaluation program.

Post test technical information, to assist in future weapons design, was obtained in several of these tests. Efforts to prepare the U.S. military for atomic combat continued with proof tests of a number of new tactical weapons, including the first nuclear artillery shell.

The tests provided additional experience and information for planning atomic combat operations. Important information was also obtained for civil defense efforts. And critically important, "**Upshot-Knothole**" also tested the radiation implosion systems for the world's first deployable thermonuclear weapons which would be proof-tested in Operation "**Castle**" the following year.

As the first faint streaks of dawn poked over the distant hills the blast came. A vivid flash of light pierced the desert darkness and lit up the entire countryside with an instant of daylight. It lasted but a moment or two, then was gone. All eyes turned toward the spot where the bomb had exploded. They saw a big ball of furiously churning fire, smoke, sand and debris rapidly rising from the ground in huge, rolling waves.

The afterglow remained for several minutes while the mushroom cloud continued to rise, then drift away, and began to break apart. Then sun was still below the horizon, but daylight was rapidly approaching. Soon, broad streaks of sunlight slanted over the mountain tops like ghostly fingers clawing at the heavens. The continued rumbling of the shock wave lasted nearly five minutes, bouncing back and forth, from one mountain wall to another.

This was "**Upshot-Knothole**" test **Annie**, (*March 17, 1953*) a **16** kiloton detonation from a 300 ft. tower. **Annie** was the first of **11** atomic weapon tests at *Yucca Flats*, and *Frenchman's Flat*, Nevada. This operation exposed exercise personnel to nuclear tests, and thus radiation, more aggressively than previous atmospheric tests.

Observation, by troop formations, were conducted at what was calculated to be the minimum safe separation distance from ground zero, while many personnel would eventually be exposed to radiation from multiple atomic weapons tests.

At that time, the current occupational radiation exposure limits (of **0.3** rem/week and **5** rem/year) would limit maximum exposures to **3.3** rems over the **11** week operation. Approximately **3,000** soldiers reached or exceeded this limit, with **84** exceeding the annual limit, with the highest recorded exposure of **26.6** rems. These exposures, did not produce observable symptoms, at that time, however; they would eventually increase the lifetime risk of cancer's by an appreciable factor.

The fallout effects, on the downwind civilian population, taken together was much worse. The "**Upshot-Knothole**" test series released an estimated **35,000** kilocuries of **radio-iodine (I-131)** into the atmosphere. As a comparison, the "**Trinity**" test blast released approx.



**Upshot-Knothole "BADGER" 04-18-53 Yucca Flats, NV
23 Kiloton Tower Test**

3,200 kilocuries of **radio-iodine (I-131)** into the atmosphere. The radio-iodine release from the "**Upshot-Knothole**" series subjected the downwind civilian population to radiation exposures amounting to 89 million person-rads of thyroid tissue exposure, or approx. 24% of all exposure due to all continental nuclear tests. This could then be expected to eventually cause about 28,000 cases of thyroid cancer, that would lead to approx. 1,400 deaths. Due to secrecy restraints, the total number of deaths may never be known.

In an effort to calm public fears about weapons testing, the "**Annie**" test was an "open-shot" test, where civilian reporters were permitted to view it from the "*News Nob*", which was located **10** miles south of the ground zero. "**Annie**" was a nuclear weapons development test, that incorporated an experimental nuclear device code named **XR-3**, that provided additional information to normalize the yield - vs - initiation time curve. The bomb device was a **Mk-5 HE** assembly, using a *Type-D* pit, and a Betatron for external initiation, and was the third such device test experiment by the U.S. The total bomb weight was **2,700** lb., and the predicted yield was to be **15** to **20** kilotons.

Test "**Nancy**" (March 24, 1953 - 24 kilotons), was a **TX-15** "**Zombie**" thermo-nuclear weapon design, that was originally scheduled to be proof-tested at the Pacific Proving Grounds in 1954. The device, code named "**Nevada Zombie**", tested both the "**Racer**" primary and the **TX-15** radiation implosion systems.

The **TX-15** appears to have been something of a transitional design between a radiation implosion fission bomb, and a optimized thermo-nuclear design. It was originally conceived as a two stage pure fission unit using enriched *Uranium* fuel, but matured into a thermo-nuclear system for improved yield as design work and successful pre-testing was progressing.

It was lighter, and had a smaller diameter, than any of the other thermo-nuclear designs that were under development at that time. The "**Nevada Zombie**" weighed 11,000 lb., had a diameter of 35.4 inches, and a length of 122 inches. The "**Racer**" primary produced a yield below the predicted range of **35 - 40** kilotons, thus leading to a design modification for the "**Simon**" shot.

The "**Ruth**" shot, (March 31, 1953 - 0.2 kilotons), was the first device to be tested by the University of California Radiation Laboratory, (later designated Lawrence-Livermore Labs.), which would be the new second weapons laboratory established by Teller and Lawrence. The **UCRL** device, named "**Hydride I**", was a fission bomb based on a core of enriched *Uranium-Hydride* fuel. Like its sister device tested in the "**Ray**" shot 12 days later, "**Hydride I**" was intended for use as a primary in a compact thermo-nuclear system, that could be easily launched from a high altitude platform. "**Hydride I**" weighed 7,400 lb, was 56 inches in diameter and was 66 inches long. A "**Betatron**" was used for the primary initiation.

The *Uranium-Hydride* fission bomb approach was considered during the days of the Manhattan Project as a possible way for reducing the required critical mass of *Uranium*. The *Hydrogen* in the *Hydride* compound (**UH-3**) moderates the fast *Neutrons* somewhat, which moves the energy spectrum down into a region where the average fission cross section of *Uranium* is substantially higher producing a smaller effective critical mass. Unfortunately, the bomb efficiency is very adversely affected by the slowing down of the *Neutrons* since it gives the bomb core more time to blow apart. The concept (if it worked) would allow low yield bombs that, while inherently inefficient, also did not use up much fissile material.

The Manhattan Project had abandoned this idea as a practical bomb design, although *Uranium-Hydride* systems proved quite valuable for criticality experiments when fissile material was scarce. The famous "**Dragon**" prompted criticality experiments where a chunk of fissile material was dropped through a sub-critical mass to momentarily reach super-criticality used *Uranium-Hydride*.



Upshot-Knothole "**CLIMAX**" 06-04-53 Yucca Flats, NV
61 Kiloton Air Drop Test



Upshot-Knothole "**HARRY**" 05-01-53 Yucca Flats, NV
32 Kiloton Tower Test

After the war, Los Alamos physicists were skeptical of the usefulness of *Uranium-Hydride* in weapons. Edward Teller remained interested in the concept though, and used his prominent position to push Hydride weapon development when the **UCRL** weapons lab opened.

The "**Ruth**" shot (March 31, 1953 - 0.2 kiloton) was a fizzle. The predicted yield was **1.5 to 3** kt, while the **200** ton yield was only a fraction of that. Especially embarrassing to **UCRL** was that only the top 100 feet of the 300 foot shot tower was vaporized (though much of the remainder was widely scattered across the desert). It was standard practice, at that time, for each test to totally erase all evidence associated with it, thus automatically "declassifying" the site, which "**Ruth**" failed to accomplish.

Shot "**Dixie**" (April 6, 1953 - 11 kilotons) was dropped from a B-50 bomber, and detonated 565 feet east, and 72 feet north of the designated ground zero. "**Dixie**" was a **Mk-5D** bomb proof test. The predicted yield was **8 to 12** kt. This test

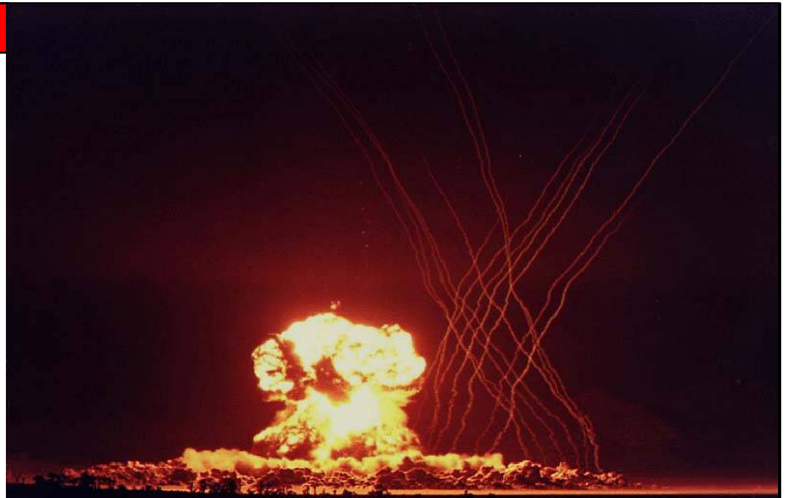
experimented with *Lithium-Deuteride* as a means of fusion boosting. The device weight was 3260 lb, diameter was 60 inches, length was 128 inches.

Shot "**Ray**" (April 11, 1953 - .2 kilotons) was the second test of a *Uranium-Hydride* device, this time using the heavy isotope of *Hydrogen-Deuterium*. The *Uranium-Deuteride* device was called **Hydride II**, and was otherwise basically identical to **Hydride I**. The predicted yield was **0.5** kt to **1** kt, with the lower expected yield making a smaller gap with the same **200** ton yield as the first test. **UCRL** scientist Herbert York claims not to regard this test as a failure since it was lower than the predicted range by "only a factor of three". This shot was fired on a tower of only 100 feet tall, to ensure that the tower would be entirely destroyed.

Shot "**Badger**" (April 18, 1953 – 23 kilotons), was a test of the **TX-16** thermonuclear weapon design, the reduced size cryogenic weapon descended from the "Sausage" device tested in "**Ivy Mike** shot. The test device was named "**Buzzard**" and used a *Deuterium* gas boosted *Racer* primary. The expected yield was **35 to 40 kt.**

The device had a diameter of 56 inches, and weighed 7,400 lb. The full scale thermonuclear version of this design was actually deployed on a limited scale for a short time as an "Emergency Capability" weapon in late 1953 and early 1954. The full scale version was never tested though due to the success of the new solid fueled weapon designs

Shot "**Simon**" (April 25, 1953 - 43 kilotons), was a test geared toward developing the **TX-17/24** thermonuclear weapon design. The **TX-17** and **TX-24** were the physically largest and heaviest weapons, as well as one of the highest yield weapons, ever deployed by the United States.



Upshot-Knothole "SIMON" 04-25-53 Yucca Flats, NV
43 Kiloton Tower Test

The test device, code named "*Simultaneity*", was much smaller and lighter however. It had a diameter of 35.4 inches and a length of 224 inches, with a total weight of 11,000 lb. It used a redesigned "*Racer*" primary with **2 kg** of enriched *Uranium* added to the design tested in the "**Nancy**" shot. This new addition boosted its yield by almost a factor of two. The predicted yield was **35 to 40 kt.**

Shot "**Encore**" (May 8, 1953 – 27 kilotons), was released from a B-50 bomber from a height of 19,000 feet, and detonated 15 feet west and 937 feet south of the designated ground zero. This was a weapon effects test ("E" as in "Encore" and "effects"), and used a **Mk-6D** bomb with a predicted yield of **30 to 35 kt.** The total device weight was 8,330 lb.

Test "**Harry**" (May 19, 1953 - 32 kilotons), incorporated a device, known as "**Hamlet**", that was designed by *Ted Taylor* (at Los Alamos) and holds the distinction of being the most efficient "*pure fission*" design, with a yield below **100 kilotons**, ever exploded (the most efficient fission weapon of any size was the **500 kt. "Ivy King** shot, which was also designed by Taylor). This implies an unusually effective compression of the fissile material. The design was noted as being a test of a new "*hollow core*" concept. It may be that this was the first device to use a hollow core, earlier levitated core devices being solid cores suspended inside a hollow tamper. It is also possible that a two stage levitation scheme may have been used to further intensify the shock compression. The predicted yield of the "**Harry**" shot was **37 kt.**

The "**Hamlet**" device incorporated the **TX-13D** heavy weight strategic bomb design. The system was 56 inches in diameter and 66 inches long and weighed 7,000 lb (without the outer bomb case), full weight was 8,000 lb. A *Betatron* was used for the initiation. This design was never deployed because the design optimization chosen - using a large heavy bomb to get an efficient yield out of a small amount of fissile material - was obsolete in an era of rapidly expanding fissile material supply and with thermo-nuclear weapons nearing deployment status.

The "**Harry**" shot is also notable for another reason. It resulted in the heaviest contamination of "*Downwinders*" (civilians living downwind of the Nevada test Site) of any atmospheric test within the continental limits of the United States, as measured by external gamma ray exposure. For the period up to the end of 1958 (through Operation "**Hardtack II**") it is estimated that a cumulative total of **85,000** person-roentgens of external gamma ray exposure occurred. Of this amount, "**Harry**" contributed **30,000** by itself.

Test "**Grable**" (May 25, 1953 – 15 kilotons), was the only "*live fire*" test of a **280mm AFAP** (artillery fired atomic projectile), resulting in an artillery delivered airburst. The shell travelled 11,000 yards downrange before detonation which occurred 86 feet west, 137 feet south, and 24 feet above the designated "*ground zero*" burst point. The **280 mm** shell was also a "*gun-style*" weapon in another sense, it used a "*gun-type*" fission weapon assembly, exactly the same as that used in the "**Little Boy**" bomb that was dropped over Hiroshima, Japan on August 6, 1945. This was in fact the first test of a "*gun-type*" bomb, as the Hiroshima bomb was not pre-tested before being dropped on Japan.

The predicted yield was **14 kt.** The **Mk-65 "Atomic-Cannon"** fired a **Mk-9 280mm** (11.02 inch) shell that was 54.4 inches long, weighed 803 lb, and used "*Oralloy*" as the fissile material. The air burst detonation was arranged incorporating a special "*time-fuze*". The **Mk-9** was fired by an enormous 85 ton artillery piece. The gun had a muzzle velocity of **2060 ft./sec.**, and a range of up to **20 miles**. The gun crew only had a limited time to get to the safety of the close proximity trench, (after firing the projectile), before the actual detonation event.

Test "**Climax**" (June 4, 1953 61 kilotons) was also launched from a B-36H bomber, and detonated 172 feet west, and 232 feet north of the designated "*ground zero*". This was a proof test of the **Mk-7** high yield, light weight fission bomb. The diameter of the bomb was 30 inches, making it suitable for external carriage by high speed fighter-bombers. The predicted yield of this device was **50 to 70 kt.**, and produced the highest yield of any U.S. continental test up to this time. The **Mk-7** was the lightest and most compact implosion bomb design yet developed, and its implosion system (a *composite "Cobra" core* in a **Type-D** pit) was later used as a primary in several high yield thermonuclear devices in the "**Castle**" test series. The complete bomb was 30.5 inches wide and 183 inches long, and weighed 1,840 lb. The implosion system weighed 900 lb and used the more powerful "**Cyclotol**" **75/25** in preference to the "**Composition B**" used in most bombs at that time.

The Veterans' Advisory Board on (radiation) Dose Reconstruction (**V.B.D.R.**) after a series of public meetings, from September, 2005 to November, 2006, including 12 months of auditing and assessments, has recently made the following recommendations to the Defense Threat Reduction Agency (**D.T.R.A.**) and the Department of Veteran Affairs (**D.V.A.**)

Recommendations to the D.T.R.A.

Develop a screening procedure for skin radiation dose assessments that would expedite processing of cases for which the doses are well below or above the level likely to result in a successful claim. Worst case upper bounds would be used to provide the veteran the maximum benefit of the doubt.

Develop a screening procedure for prostate cancer cases that expedites processing of cases where the doses are well below the level likely to result in a successful claim.

Perform a comprehensive analysis of uncertainties for all beta dose exposure scenarios.

Hire a consultant to write a quality assurance (QA) plan.

Develop and implement a QA program to be integrated into the current contracting process.

Develop standard operating procedures addressing QA elements, including metrics.

Recommendations to the D.V.A.

Provide all the settled case outcomes to the Nuclear Test Personnel Review (**N.T.P.R.**)

Grant service connection to veterans whose basal cell skin cancers and melanomas are claimed to be as a result of participation in above ground nuclear tests, and service in Hiroshima and Nagasaki, and whose participation in these activities has been verified by the Department of Defense.

Centralize claims with radiation issues in a single site staffed with trained and experienced personnel, co-located with the Veteran's Benefits Administration (**V.B.A.**).

Establish a centralized database to track radiation issues with information readily available.

D.V.A. to provide the Board with a timetable and status for the development of a Q.A. plan and program, including metrics, in the radiation exposure claims settlement process.

Include all validated radiation issue claimants in the Ionizing Radiation Registry.

Award service connection retroactively to the date of the initial claim for all current and future radiation risk activity conditions held to be presumptively service connected under 38 CFR 3.309.

Improve interaction and communication with veterans of Hiroshima and Nagasaki, Japan, or who were prisoners of war there, or who took part in atmospheric nuclear tests between 1945 and 1962.

Communicate information on radiation risk and significance of veterans' doses in relation to their diseases.

By: Irene Smith (**D.T.R.A.** public affairs specialist.)

Veterans Administration Announces Outreach Campaign

The Department of Veterans Affairs (**VA**) today announced a special outreach campaign to inform veterans about the **VA's** disability compensation program. "Our goal is to ensure that all veterans receive the benefits they have earned through their service to our nation," said the Honorable R. James Nicholson, Secretary of Veterans Affairs. "This effort reaffirms our commitment to provide full, fair and equitable compensation for veterans."

Under the **VA** compensation program, monthly tax-free payments are made to veterans who have medical conditions that are determined to be the result of their military service. The **VA** was recently directed by Congress to undertake this special outreach program in response to concerns that the average amount of **VA** disability compensation received by veterans in the six states is lower than that being paid in other states.

The **VA** emphasized that all veterans with the same degree of disability should receive the same amount of **VA** compensation, regardless of where they live. However, historical differences in the average amount of **VA** disability compensation received by veterans from one State to another have existed for decades and appear to relate to such factors as the wartime period served, the branch of a veteran's service, the number of officer and enlisted personnel in a State, as well as the number of veterans who apply for benefits and the number of disabilities claimed by veterans in certain areas.

To help get the word out, the **VA** is distributing informational brochures and enlisting the support of veterans service organizations, State and County veterans offices, and congressional offices throughout the State. Veterans already receiving **VA** disability compensation benefits, and for whom **VA** therefore has a current address, will receive a letter from **VA** advising them of the steps to follow if they want to reopen their disability claim.

About **326,000** veterans in the six states were included in the letter-mailing effort. These letters were mailed over a period of two weeks and will include a special flyer advising veterans how to submit a claim for increased benefits if they believe their service-connected conditions have worsened or they have an additional disability not previously claimed.

Information will also be provided on what is required if a veteran believes an error was made in an earlier decision and wants the **VA** to review the claim. To accomplish this, the **VA** has established a special Internet site to provide information for veterans interested in applying for **VA** disability compensation benefits or for an increased disability rating:

<http://www.vba.va.gov/SpecialOutreach>

Veterans may also visit their local **VA** Regional Office or call toll-free **1-800-827-1000** for assistance. A representative will provide additional information and help them file a claim. Assistance is also available from the many veterans' organizations that are formally recognized to represent claimants.

More information about representatives in the six states is available at the **VA** toll-free number or at:

<http://www.va.gov/vso/>

Pat Broudy - Director - Legislative Affairs - Vice Cmdr.

The **NAAV** November (06) newsletter featuring **Operation "Ivy"** was both interesting and informative. I would like to add my personal recollection of the Air Force's participation in those two test shots.

I was the line Chief for sixteen (**F-84**) air sampler aircraft, stationed at Kwajalein Island, in the Western Pacific. All of the **F-84's** had special air filters installed in the front of each wing tip tank, and the pilots were instructed to fly thru the "atomic" clouds, at 20 minute intervals, for the purposes of collecting radiation samples.

- R. J. Ritter (TX)** Director - Nat. Comdr - 281-481-1357
 - A. P. Broudy (CA)** Director & Vice-Comdr. - 949-661-0172
 - B. E. Clark (OK)** Director & Sec. Treasurer - 918-749-2024
 - W. A. Harper (AZ)** Director-at-Large - 480-895-0676
 - Dr. F. L. Grahlfis (MO)** Director-at-Large - 314-355-2651
 - Col. G. E. Taylor (FL)** Director-at-Large - 904-797-7227
 - D. D. Robertson** - Director at Large - 417-682-8665
- Medical Database Coordinators:**
- R. U. Conant** - 505-877-3707 - **G. D. Howard** - 505-865-8131



**Republic F-84
Thunderjet**

After returning to base, the samples were removed from each wing tank filter, with long tongs, and deposited directly into lead vaults, which were then loaded aboard waiting **DC-6** aircraft and flown to the **D.o.D.** Testing Labs in New Mexico.

The sorties consisted of two **F-84** aircraft, that included the Element Leader and his wingman. All cloud sampling sorties went well, with one exception. The wing man flew into the cloud with his "auto-pilot" engaged, which was contrary to standing orders against the use of the auto-pilot in an extremely turbulent atmosphere. As a result of this oversight, the aircraft went into a tail spin, crashing into the Enewetak lagoon.

The Element leader followed his wingman down and landed on Enewetak, blowing out both of his main tires and, with a mostly empty fuel tank.

The **C-47** aircraft (mentioned in the Operation Ivy article) that went in to search for the downed pilots, was the one we used to carry the two new wheels assemblies, a jack and some fuel to the downed **F-84** pilot on Enewetak Atoll.

Aboard that aircraft was the pilot, co-pilot, flight engineer and radio operator. Other personnel aboard were the **F-84** squadron Engineering Officer and myself.

We soon accomplished the tire repairs and refueling, after which the **F-84** was soon airborne. We then re-boarded the **C-47** and flew back to Kwajalein, where we were met by a radiation monitoring crew. The Geiger-counters went clear off the scale when we were checked for radiation exposure.

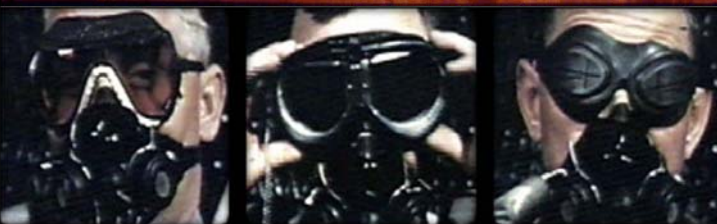
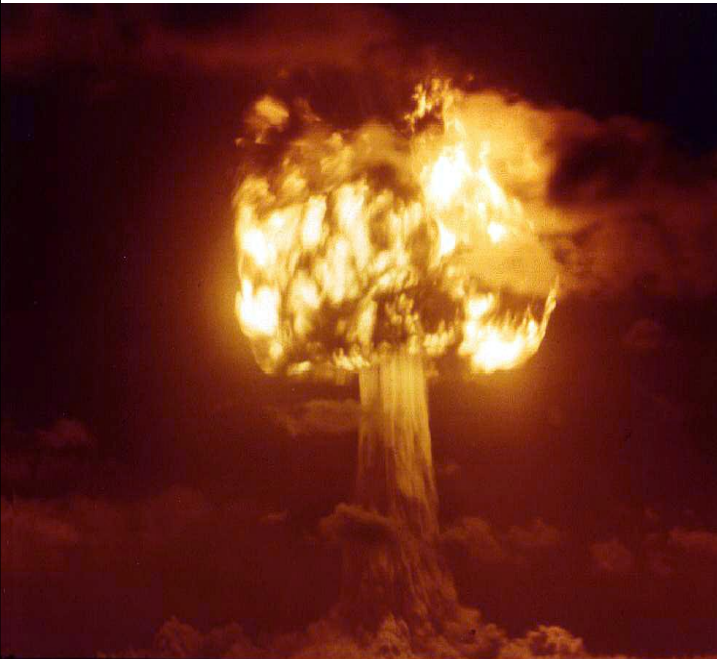
We all had to shower for almost five hours before being allowed to proceed to our quarters. At that time, our radiation badges were collected and never seen again. As an after thought, the **F-84** Engineering Officer died in 1991, and the **C-47** crew chief died in 1997. I am not aware of the current status of any of the other Air Force personnel who were aboard those aircraft.

I have since filed several claims for radiation exposure induced illnesses, which, to date, has only generated a large stack of meaningless paperwork. Many thanks for the excellent and detailed **Operation "Ivy"** article.

A SPECIAL THANKS TO OUR DONORS

A special thanks to those who continue to support **NAAV** with affordable, **tax-exempt** contributions that allow us to continue to properly and adequately represent all of **America's Atomic Veterans**. Your continued assistance is greatly appreciated by those who served our country with great pride and honor. They are getting older by the day, and most have waited more than **50** years for due compensation from our Government.

We also welcome any "**Corporate Sponsor's**" who may wish to help us with the cost's of publishing our periodic newsletters. In addition to special recognition acknowledgments in each (quarterly) issue, our sponsor's would also have access to world wide exposure on our web-site editions, as well.



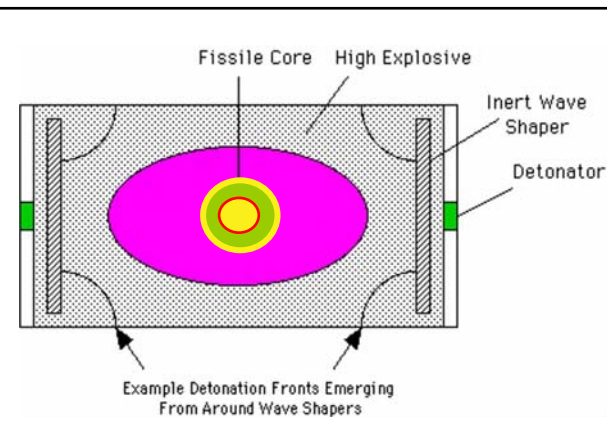
VARIOUS TYPES OF ARE FILTRATION MASKS
WERE FIELD TESTED BY THE MILITARY

Mk-65 (280mm) ATOMIC CANNON - 1953

U. S. Army Field Artillery gunners ushered in the *Tactical-Nuclear Era* in 1953, with the **MK-65 (280mm)** field artillery piece that fired the first (and only) nuclear armed projectile. This **Mobile Atomic Weapon System (MAWS)** was one of several artillery weapons in Gen. Dwight D. Eisenhower's 1953 Presidential Inaugural Parade.

The "**Atomic Cannon**", was the Army's largest artillery gun, and was capable of firing both conventional and "**Nuke**" warheads. With a total weight of **47 tons**, the monstrous field gun was dubbed "**Atomic Annie**", by the gun crew, and required the use of two tractors for proper transport. The drivers of the vehicles communicated with each other by means of a built-in telephone system. This dual-tractor method proved to be

a highly mobile weapons system, adaptable to most severe road conditions. The **MK-9** 280mm (11.02") fission core projectile weighed **803 lb.**, a muzzle velocity of **2060 ft./sec.** and a maximum effective range of **20 miles**. Six years after the development of strategic atomic weapons, this road-transportable cannon gave U.S. land forces a tactical atomic capability, that could be based in



Basic Design of 280mm Nuclear Projectile Warhead

NATO countries. The **Mk-65** was based upon the design of the 280mm (11.02") German **K-5 railroad gun**. The Japanese had made a strong impression when they employed **280mm** howitzers against Port-Arthur during their war against Russia in 1904 - 1905. The French and the Russians collaborated, soon thereafter, to develop a similar and potent weapon.

The task for developing an artillery shell able to carry a viable nuclear payload was assigned to the Picatinny Arsenal in 1949. Basically, this meant scaling a **240mm** shell, which was the Army's largest field artillery shell used in World War II, up to the required **280mm** diameter. The Picatinny Arsenal is located in Morris County, New York, and is the site of the Armament Research, Development and Engineering Center (**ARDEC**), which is responsible for the research, development and engineering of Army ordnance explosives and propellants. The project's entire design team was managed by Robert Schwartz, who completed his preliminary sketches during a period of only 15 days, while confined

alone, in a locked room at the Pentagon. Schwartz sharpened the details in another locked room at Picatinny. The Chief of Staff of the Army at the time, was General J. Lawton Collins, who thought enough of Schwartz's efforts and successes, to cite him in his memoirs over a quarter of a century later. After finalizing his design and calculations, the next problem Schwartz faced was to sell the final product idea to the Pentagon.

This would not have happened, if Samuel Feltman, who was at that time the Chief of the Ballistics Section of the Ordnance Department's R & D Division, had not pushed the project to final approval. This goes a long way to explain why Picatinny has a research building named after Feltman. Then, Schwartz had to rush to procure equipment and assemble a staff of scientists and technicians so as to carry out the three year development effort. The final design prototype was field tests with conventional

projectiles. The final design prototype was field tested with conventional projectiles, after which it was moved to the Nevada Nuclear Testing Grounds. On the morning of 25 May, 1953 a single test shot was fired **5.4 miles** downrange from the initial firing point, at Frenchman's Flat, a part of the Nevada Nuclear Weapons Test site. The total yield of this test detonation was **15 kilotons**.

From a historical perspective, this would be the only live nuclear projectile **Atomic Cannon** test in the entire history of U.S. Army artillery events. This historical event was a part of Operation "**Upshot-Knothole**" test **Grable**.

The main purpose, for this particular test, was to determine the effects of a nuclear explosion on a **B-50** aircraft. There were approx. **21,000** military personnel assigned to participate in the "**Upshot-Knothole**" series of **11** nuclear weapons test detonations. This series of tests were an overall part of the total "**Camp Desert Rock V**" exercise.



Mk-65 Gun Crew scrambling for the safety of a trench, immediately after firing a live 280mm Atomic Cannon projectile.

Mk-65 ATOMIC CANNON - cont:

There were differing views related to the threat of nuclear warfare, in 1953. For example, Maurice Matloff, (in *American Military History*), saw a general threat being offered to Moscow and Pyongyang, North Korea; while Burton I. Kaufman, (in *The Korean War: Challenges in Crisis, Credibility, and Command*), saw no direct threat being made to China; while Timothy J. Botti (in *Ace in the Hole: Why the United States Did Not Use Nuclear Weapons in the Cold War*), 1945 to 1965, saw increased Chinese flexibility at Panmunjom, North Korea, as being "probably influenced by rumors that the current administration, had let circulate around the Far East, that the U.S. was stationing more atomic bombers in Okinawa."

Others saw the stately and visible progress of an **Atomic Cannon** across the Pacific as a crucial influence in preventing Russia from invading any European **NATO** country. It was assumed that Russia would invade a **NATO** country with as many as **1000** Tanks. It was assumed that the use of the **Atomic Cannon** would destroy several dozens of the Soviet tanks and cause the remaining columns to withdraw from the radiation contaminated area of mass destruction.

The first **Mk-65** went into service in 1952, and was later deactivated in 1963. There were only twenty such weapons manufactured for the U.S. Army. Throughout the 1950s, the Army deployed the **Mk-65** in secret locations in and around Europe, even though they were obsolete as soon as they arrived. They were guarded by infantry platoons, who hauled these giant field guns around the forests on trucks, so as to keep the Soviets from guessing their actual location. Weighing **47** tons, the **Atomic Cannon** could not be airlifted and required two tractors to move its road-bound bulk. It was a glamorous weapon, to be sure, but it did not fit into the Pentomic structure of the Army, and it siphoned off precious funding that the Army desperately needed for other weapons modernization purposes.

In June 1995, an Atomic Veteran testified at a personal hearing on service connected disability, for hearing loss, that he worked for three months on an **Atomic Cannon** when he was in the service and when they fired the cannon for several months, (with regular non-nuclear projectiles), every working day and approximately three to four hours a day, sometimes at only five minute intervals.

The veteran indicated that he was never given ear protection while performing his duties as a member of the **Atomic Cannon** gun crew. He stated that he received medical treatment, during his term of service, and was told that his hearing loss and tinnitus "would resolve themselves." The veteran further stated that he has had a "tremendous ringing in both of [his] ears that impairs [his] hearing " since his days in active service. The disposition of his claim is unknown.



Mk-65 280mm Atomic Cannon on display Freedom Park, Junction City, Kansas

Cannon, especially with regards to it's effective range, however; General Collins believed that the threat of its deployment had a major role in bringing about the Korean armistice and did not doubt that " the presence of the **Mk-65**, in Europe, has contributed greatly as a viable deterrent to any threat of an offensive by the Soviets."



Mk-65 280mm Atomic Cannon fired 15 kiloton nuclear projectile that detonated 8 miles downrange at Frenchman Flats, Nevada

National Association of Atomic Veterans, Inc.

MEMBERSHIP APPLICATION

Please complete and mail to: **NAAV** 11214 Sageland - Houston, Texas 77089 - Ph: 281-481-1357
 Include your personal check or money order for membership dues and / or Q-stores (for sale) items

First Name	Initial	Last Name	Spouse			Phone	Date of Birth
Address		City	St.	Zip 5	Zip 4	E-mail address	
Branch of Service	Ship (or) Unit (or) Squadron		Name of Operation or Test			Year	Location

Describe your radiation exposure event: (Atomic test, or Post test assignments, or Depleted Uranium exposure, etc., etc.)

- Notes:
1. Please include, on the back of this application, any other radiation exposure events you may have experienced while in the military, or any illnesses suffered by you, your children, or your grandchildren, if any, and the correct name and address of anyone who might be filling this application for an Atomic Veteran.
 2. Spouses & children of Atomic Veterans, or Veterans who may have been exposed to radiation from Depleted Uranium munitions or armor plate during the Gulf War or any middle east conflict are qualified to be a member of NAAV, Inc.

Date:	Signature	NAAV has my (our) permission to publish this information:	Yes	No
--------------	------------------	--	------------	-----------

NAAV " Q-STORES " ITEMS FOR SALE

Item #	Description	Qty.	\$ ea.	Total \$\$
01-C	4" Round " ATOMIC VETERAN " Auto Decal	_____	5.00	_____
02-C	4" x 5" Rectangle " ATOMIC VETERAN " Auto Decal	_____	6.00	_____
04-S	Four Color " ATOMIC VETERAN " (Inside) Windshield Sticker	_____	5.00	_____
05-C	Four Color " NUCLEAR VETERAN " License Plate	_____	10.00	_____
06-C	4" Round NAAV " ATOMIC VETERAN " Shoulder Patch	_____	10.00	_____
07-C	4" Round NAAV " NUCLEAR VETERAN " Shoulder Patch	_____	10.00	_____
08-C	2" Round NAAV Atomic Bomb Patch (for caps, etc.)	_____	5.00	_____
09-C	Navy Blue " ATOMIC BOMB VETERAN " Baseball Cap	_____	14.00	_____
10-C	1" Red - Blue - Gold NAAV Lapel (Tie) Pin	_____	10.00	_____
12-C	8" x 11" Color " ATOMIC BOMB VETERAN " Certificate *	_____	10.00	_____
13-N	8" x 11" Color " NUCLEAR VETERAN " Certificate *	_____	10.00	_____
14-P	8" x 11" Color " ATOMIC BOMB TEST " Photo **	_____	10.00	_____
15-T	Navy Blue " ATOMIC VETERAN " T-shirt *** Size: _____	_____	14.00	_____
16-J	Navy Blue " ATOMIC VETERAN " Jacket *** Size: _____	_____	40.00	_____

(with 10" NAAV embroidered logo on back)
 " All prices include postage fees. "

Total Stores Purchase: \$ _____

Dues: \$ _____

* Furnish full name, branch of service, ship or unit or squad. Info., and test or operation name (& date) for certificate accuracy. (Tax-exempt) **Donation:** \$ _____

** Furnish Operation or test name for Atomic Test color photo. We will attempt to match your request. **Total Funds Included with Order:** \$ _____

*** Be sure to add correct sizes for T-shirt or Jacket orders (M - L - XL or XXL) Note: XXXL is no longer available.

ANNUAL membership dues are \$20.00 ---- or ---- LIFE membership dues are \$200.00

Note: LIFE dues can be paid in \$25.00 monthly installments within a 12 month period.



Please send money orders or personal checks (only) to:

NAAV 11214 Sageland Houston, Tx. 77089



Also, our web site (www.naav.com) will accept credit cards for dues payments and Q-stores orders.

From: Robert Campbell (Maine) NAAV Consultant

Those who cast doubt on the hazards of nuclear power

and environmental radiation unfortunately overlook data that make debatable the conclusion that in the scheme of things, mining coal and drilling for oil are far more hazardous, and that radiation exposure may possess beneficial effects. One shortcoming reprinted earlier this year, (in our local newspaper), is reliance on yet unsubstantiated findings that **low-level ionizing radiation** is somehow less harmful than large doses.

That account cited findings by the **Radiation Effects Research Foundation** in Hiroshima which found " **324** excess deaths from solid-tissue cancers in excess of what would be expected and a smaller number of leukemias." Unfortunately, the data from Nagasaki / Hiroshima were skewed from the beginning.

As social scientist **Sue Babbitt Roff** revealed in her book "**Hot Spots**," the American team sent to the two cities to measure radiation was still 1,500 miles away on the island of Tinian, when they read the "results" of their study in **Stars and Stripes**, the military newspaper ! **Annette Flanagan**, R.N., MS., editor of the annual radiation issue of the **Journal of the American Medical Association**, stated that the Hiroshima / Nagasaki data was " not generalizable."

In short, radiation exposure data from the August 1945 bombings cannot be used as a benchmark for radiation exposure. **MISSING** from this entire debate is mortality data of American and British atomic veterans, who, according to their respective Governments, received negligible amounts of radiation exposure.

In 1994, I published the first non-government study of the mortality of American atomic veterans (members of the military exposed to radiation during atom-bomb testing during the 1940s and 1950's) and found an average age at death -from all causes - of **58.47** years. A year later, my study was expanded to include British veterans.

Their average age at death, again from all causes, was **53.85 years** ! In 1995, the **Veterans Administration** published its study of participants in 1958 Pacific tests and found an average age at death of 51 years from all causes ! In 1996 **Institute of Medicine**, part of the **National Academy of Sciences**, released it's study of **Operation Crossroads** (Bikini, 1946), finding an average age at death of **58**. Studying death certificates of civilian employees of the Nevada Test Site, I found an average age at death from all causes of **60**.

The cancer death rate for American and British veterans was **75 percent** and **73.3 percent** respectively. As is readily apparent, these average ages at death are far below the average age at death for the general population. While the **I.O.M.** officially recognized my 1994 report, it believed the cancer death rates were too high. To balance the record, my work is an on-going project.

The missing element in this debate is: If low-level radiation is not harmful, then why, as three independent studies conclusively find, are so many men dying prematurely ? The authors of the **V.A.** study noted in their abstract that " most of the cancers suspected of being radiogenic were not significantly elevated among the test participants. Nevertheless, increased risks for certain cancers cannot be ruled out." Key here is " not significantly elevated."

The conclusion then is that certain cancers were elevated. **I.O.M.** officials similarly reported that the deaths of **Crossroads** participants from cancer and leukemia were "slightly higher while "... not statistically significant." These statements raise significant questions which have yet to be answered.

The **I.O.M.** also reported that more than half of the **Crossroads** participants are now deceased and that they will destroy the death certificates in their possession in 1998. The **I.O.M.** study did not compare their death certificates with ships' rosters to determine whether there was a high cancer / leukemia cohort for crews of any particular vessel. The loss of this data is incalculable and has a direct bearing on the effects of low-level ionizing radiation.

With attention now being focused on fallout from the **Nevada Test Site**, it is a matter of record that Chicago received measurable amounts of beta radiation from **Shot "Dog"**, an 81-kiloton device detonated as part of Operation **Greenhouse** at **Enewetak Atoll** in 1951. While the charge of the **National Cancer Institute** was to investigate only the incidence of thyroid cancer, the fact nonetheless remains that radioactive fallout is not limited merely to **Iodine-131**.

Other radioactive elements incident to radiation exposure include **Plutonium-239**, **Cesium-137**, **Strontium-90**, **Cobalt-60**, **Uranium-238** and other lesser-known elements, all of which have the potential to cause fatal harm if inhaled or ingested. A **CRITICAL** aspect of fallout is the size of radioactive particles. Are they small enough to be inhaled/ingested without knowing? In 1995, researchers found a **16 percent** increase in adult cancers and a **32 percent** increase in childhood cancers, but failed to find a specific cause.

The American public deserves unbiased answers to the question of radiation exposure. However, it is doubtful this will occur as long as meaningful data are withheld and the media continue to accept government and pro-nuclear press releases without question.

The Newsletter for America's Atomic Veterans

Published by:

The National Association of Atomic Veterans, Inc.
11214 Sageland Houston, Texas 77089
(National Headquarters)

" We welcome good Samaritan (tax-exempt) contributions, that allow us to continue to assist our fellow Atomic Veterans in need. "

